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# Appendix 19A

## Hydrology Baseline Report



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## Hydrology Baseline Report

# Grays Bay Road and Port Project Hydrology Baseline Report

Prepared for:

**West Kitikmeot Resources Corp.**

Prepared by:

**Nunami Stantec Limited**

March 2026

Project No.: 123514868



## Sign-off

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## Abbreviations

Baseline.....	hydrology baseline
ECCC .....	Environment and Climate Change Canada
Ekati .....	Ekati Diamond Mine
ERM .....	Environmental Resources Management
FFA.....	Flood Frequency Analyses
ICP .....	Izok Corridor Project
IK.....	Inuit Knowledge
IS .....	Impact Statement
LAA.....	Local Assessment Area
MMG.....	Minerals and Metals Group
MWCT .....	master watercourse crossing table
NHC.....	Northwest Hydraulic Consultants
NIRB.....	Nunavut Impact Review Board
NT.....	Northwest Territories
Project, the .....	Grays Bay Road and Port Project
QD .....	daily maximum discharge
QP .....	instantaneous peak discharge
RAA .....	Regional Assessment Area
TCWR.....	Tibbitt to Contwoyto Winter Road
WKR.....	West Kitikmeot Resources Corp.
WSC.....	Water Survey of Canada

## Symbols and Units of Measure

km.....	kilometre
km <sup>2</sup> .....	square kilometre
mm .....	millimetre

# 1 Introduction

West Kitikmeot Resources Corp. (WKR) is an Inuit-owned, Inuit-led company focused on the advancement of the Grays Bay Road and Port Project (the “Project”) in the Kitikmeot Region of Nunavut. WKR’s largest shareholder is a wholly-owned subsidiary of the Kitikmeot Inuit Association. The Project is proposed as multi-user, multi-use transportation infrastructure to be located on a combination of Inuit Owned Land and Crown land in the Kitikmeot Region of western Nunavut. Subject to approval, the Project would result in the establishment of the first deep water port in the Canadian Central Arctic at Grays Bay, as well as a 230 kilometre (km) all-season access road between Grays Bay and Jericho Station near Contwoyto Lake. The Project will connect to the already approved Tibbitt to Contwoyto Winter Road (TCWR). The multi-user, multi-use Project would allow for the establishment of shared infrastructure with many potential users including the federal and territorial governments, communities, community members, resource companies, and defence agencies.

The Project has the potential to interact with regional hydrologic conditions during construction and operations of the road and land-cased infrastructure; therefore, surface water quantity forms part of the Water Resources valued component (VC) for the Project Impact Statement (IS). The objective of the Hydrology Baseline Report is to characterize regional hydrologic conditions that pertain to the Project IS, including runoff, peak and low flows, and ice conditions.

## 1.1 Inuit Knowledge, Traditional Knowledge, and Community Knowledge

A considerable amount of Inuit Knowledge has been documented for the Project, which has substantially informed WKR’s understanding of baseline environmental and socio-economic conditions in the PDA area. For the purposes of the IS, focus is placed on Inuit of the Kitikmeot Region, or Kitikmiut. The Project is located wholly within the Kitikmeot Region; as such, the region and its people are where key Project interactions and effects are most likely to occur.

Verified Inuit Knowledge and perspectives considered and integrated in the IS were shared through two primary Project-specific sources.

1. **Naonaiyaotit Traditional Knowledge Project (NTKP):** The Kitikmeot Inuit Association maintains a repository of Inuit Knowledge for the Kitikmeot Region within a Geographic Information System (GIS)-based database called the NTKP. The NTKP contains the collective body of documented and verified Inuit Knowledge of the Kitikmeot Region, including but not limited to knowledge of birds, fish, terrestrial and marine mammals, water quality, travel routes, gathering places, and heritage. The Kitikmeot Inuit Association compiled a Project-specific report called *Kitikmiut Knowledge of the Proposed Kogloktokyoak (Grays Bay) Port and Road Project* (Banci and Spicker 2024), which provides the majority of the Inuit Knowledge shared and integrated in the IS.

- Inuit Advisory Group (IAG):** Initiated in 2018 by the previous Project proponent, WKR re-initiated the IAG in 2025. Through a series of IAG workshops, WKR and Inuit land users, Elders, and Knowledge Holders have met to discuss and document feedback and advice about the Project, including but not limited to dialogue about wildlife, fisheries, land use, archaeology, water, air quality, and access management. Through the IAG, multiple perspectives have been shared, allowing for the integration of knowledge systems (both Inuit Knowledge and western science), resulting in a more informed and sustainable Project. At the time of filing, four IAG workshops had occurred (GBEEC 2018a, 2018b; IAG 2025a, 2025b), with additional workshops planned for the future.

Pertinent baseline information from these sources of Inuit Knowledge is not presented further here; rather, this information is provided in the above-noted reports themselves, the 'Baseline Conditions' sections of each assessment section, and integrated in the Hydrology sections where appropriate. The same process was applied when integrating baseline information associated with applicable Traditional Knowledge and Community Knowledge shared in publicly available literature and through the Project-specific engagement program.

## **1.2 Spatial Boundaries**

Spatial boundaries were selected based on the extent to which project activities will occur and the anticipated extent of potential effects. Grays Bay Port is approximately 180 km east of Kugluktuk, NU. Spatial boundaries, including the PDA, local assessment area (LAA), and regional assessment area (RAA), are shown in Figure 1.1 and Figure 1.2, with a description of these areas presented in Table 1.1. The LAA includes the areas where Project-related effects can be predicted or measured with a level of confidence that allows for an assessment of effects that could be of concern. The LAA includes the proposed PDA and the surrounding area where immediate Project effects on water resources are expected. The RAA includes a larger area encompassing the LAA and including the region where past, present, and reasonably foreseeable activities may overlap with the Project, and are considered for the cumulative effects assessment in the IS.

**Table 1.1 Study Areas for the Hydrology Baseline to Support a Water Resources Valued Component**

Study Area	Description
PDA	<p>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 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 TCWR. For the purposes of the impact assessment, the PDA is the same as the Site Study Area identified in the IS Guidelines.</p>
LAA	<p>The Port portion of the LAA encompasses the area that will be directly disturbed by construction and operation activities, including all Port infrastructure and Aerodrome (e.g., airstrip, laydown and storage areas, landfill, administration offices and accommodations) and includes a 100 m buffer around the Port and Aerodrome PDA, plus an extension to the northwest side of the Kennarctic river west of the aerodrome PDA. (Figure 1.1). The road PDA of the LAA includes the area extending 100 m upstream and downstream of the centerline (i.e., the Road Footprint plus 25 m); at larger, more sensitive watercourses, assessment will include areas up to 300 metres (m) downstream depending on site-specific conditions (Figure 1.2). The LAA around Jericho Station includes a 100 m buffer around the PDA.</p>
RAA	<p>The RAA includes a 10 km land-based buffer around the PDA and extends to include the Kennarctic River watershed and the unnamed watershed that drains to the Arctic Ocean. (Figure 1.1).</p>

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- Local Assessment Area (LAA)
- Regional Assessment Area (RAA)
- ⚓ Grays Bay Port
- Grays Bay Road
- Project Development Area (PDA)**
- Aerodrome
- Port (Landside Infrastructure)
- Port (Marine-based Infrastructure)

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*Project Location* West Kitikmeot Region Nunavut  
 Prepared by DS on 2026-02-02  
 TR by MS on 2026-02-02

*Client/Project* West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_077

*Figure No.* 1.1

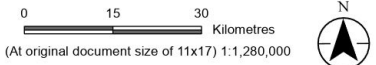
**Hydrology Assessment Areas - Grays Bay Port**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Government of Canada, Stantec, Earthstar Geographics

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- Local Assessment Area (LAA)
- Regional Assessment Area (RAA)
- ⊕ Grays Bay Port
- Tibbitt to Contwoyto Winter Road
- Watercourse



Project Location: West Kitikmeot Region, Nunavut  
 Prepared by SL on 2026-02-02  
 TR by EH on 2026-02-02

Client/Project: West Kitikmeot Resources Corp, Grays Bay Road and Port  
 123514868\_076

Figure No. **1.2**  
 Title **Hydrology Assessment Areas - Grays Bay Road**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Government of Canada, Stantec, Earthstar Geographics

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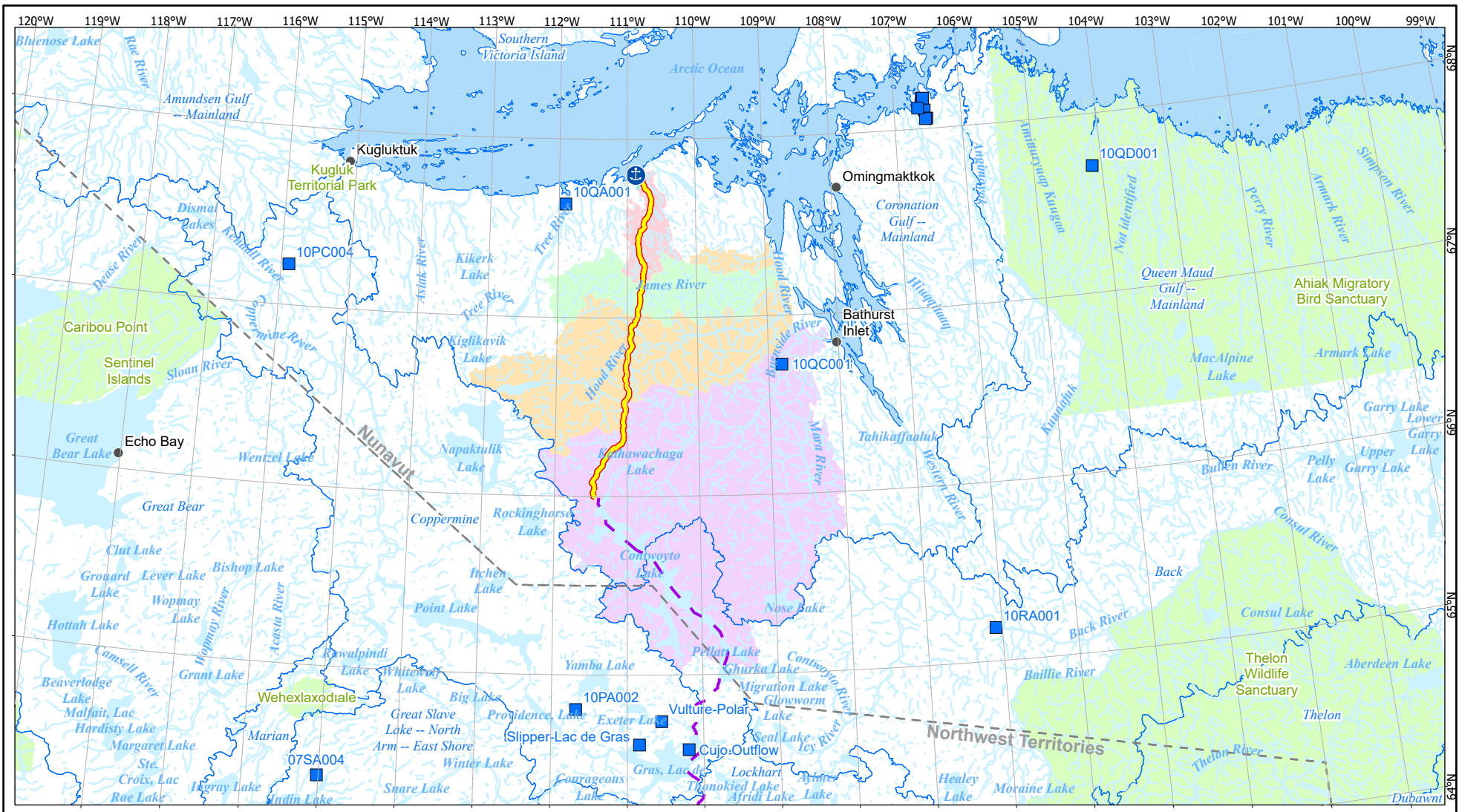
## 1.3 Regional Setting

The Project lies within the tundra of the continuous permafrost zone of the Canadian Arctic. This region is characterized by long, cold winters and short, cool summers and a dry climate. During the summer, the active layer is thin and allows for minor infiltration of precipitation. The topography of the region is generally undulating to moderately rugged. The treeless, barren tundra is sparsely covered with shrubs, lichen and herbs (Sabina 2015a; Wolfden 2006).

### 1.3.1 Regional Watersheds

The Project crosses five main watersheds, all draining to the Arctic Ocean: Burnside River, Hood River, James River, Kennarctic River, and an unnamed watershed that drains to the Arctic Ocean (Figure 1.3). From south to north, the watersheds are:

- *Burnside River*: Headwaters for the Burnside River originate at Contwoyto Lake near Jericho Station and generally flow northeast, draining into the Arctic Ocean at Bathurst Inlet. The Burnside River watershed encompasses the southern 65 km of the road, as well as the Tibbitt to Contwoyto Winter Road to the NT/NU border, with a total drainage area of approximately 25,000 km<sup>2</sup>.
- *Hood River*: The Hood River watershed spans the middle 70 km of the road, with a drainage area of approximately 10,200 km<sup>2</sup>. The river generally flows east for 200 km before meandering northward for 80 km near Bathurst Inlet and emptying into the Arctic Ocean.
- *James River*: James River watershed drains approximately 4,000 km<sup>2</sup> in the north-central 30 km from approximately 135 km to 165 km along the road. James River flows easterly for approximately 200 km until its confluence with Hood River, where it flows a further 30 km north before reaching the Arctic Ocean.
- *Kennarctic River*: The Kennarctic River watershed drains the northern 65 km of the road with a total drainage area of 1,400 km<sup>2</sup>. Kennarctic River flows north to the Arctic Ocean with a river length of approximately 150 km.
- *Unnamed Watershed to the Arctic Ocean*: The northern 6 km of the road drains directly to the Arctic Ocean, with a drainage area of approximately 25 km<sup>2</sup>.



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**Watersheds (Stantec)**

- Arctic Ocean
- Burnside River
- Hood River
- James River
- Kennarctic River
- Watershed (Water Survey of Canada)
- Hydrometric Station
- Community

- Grays Bay Port
- Grays Bay Road
- Territorial Boundary
- Tibbitt to Contwoyto Winter Road
- Watercourse
- Ocean
- Protected Conserved Area
- Waterbody

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Project Location: Kitikmeot Region, Nunavut  
Prepared by DSPRY on 2026-02-02  
TR by SL on 2026-02-02

Client/Project: 123514868\_049

West Kitikmeot Resources Corp  
Grays Bay Road and Port

Figure No.

**1.3**

Title

**Regional Watersheds and Hydrometric Stations**

**Notes**  
1. Coordinate System: WGS 1984 UTM Zone 12N  
2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd

### 1.3.2 Available Regional Hydrologic Data

Regional hydrologic data are available from hydrometric stations operated by the Water Survey of Canada (WSC) and from regional mining projects at the Ekati Diamond Mine (Ekati) and Hope Bay Project (Table 1.2, Figure 1.3). The selected hydrometric data sets were analyzed to characterize the regional surface water hydrology near the PDA, including seasonal distribution of flows, peak flows and 7-day low flow conditions.

MMG (2013) also summarizes hydrologic studies for the Izok Lake area (2002, 2003, 2007, 2008, 2012) and High Lake (2004, 2005, 2012) with hydrologic-focused studies first completed in 2002. Streamflow data collected and summarized in MMG (2013) provides contextual hydrologic information on crossings in the PDA which was used to inform portions of this Baseline report.

**Table 1.2 Regional Water Survey of Canada Stations and Relevant Regional Mines**

Station ID	Station Name	Drainage Area (km <sup>2</sup> )	Latitude	Longitude	Period of Record
WSC 07SA004	Indin River above Chalco Lake	1,520	64°23'15" N	115°01'18" W	1977-2023
WSC 07SA008	Snare River above Indin Lake	7,886	63°58'26" N	115°25'59" W	1999-2023
WSC 10RA001	Back River below Beachy Lake	19,600	65°11'14" N	106°05'09" W	1978-2023
WSC 10PC004	Coppermine River Above Copper Creek	46,200	67° 13' 42" N	115° 53' 20"	1987-2021
WSC 10QA001	Tree River near the Mouth	5,810	67°38'06" N	111°54'08" W	1969-2024
WSC 10PA002	Yamba River below Daring Lake	2,010	64°48'24" N	111°40'41" W	2000-2022
WSC 10QC001	Burnside River near the mouth	16,800	66°43'34" N	108°48'47" W	1976-2022
WSC 10QD001	Ellice River near the mouth	16,900	67°42'30" N	104°08'21" W	1993-2011
Ekati Mine	Slipper-Lac de Gras Stream	185	64°36'33"N	110°50'27"W	1995-2023 excluding 2022
Ekati Mine	Vulture Polar	7	64°44'24"N	110°32'56"W	1997-2014 excluding 2012, 2014
Ekati Mine	Cujo Outflow	3	64°34'52"N	110°11'38"W	1999-2023
Hope Bay Mine	Windy Outflow	14	68° 06'61"N	106°38'36"W	2004-2015; 2019-2023
Hope Bay Mine	Patch Outflow	32	68°02'78"N	106°31'77"W	2004-2015; 2019-2023
Hope Bay Mine	Po Outflow	35	68° 3'27.11"N	106°31'0.85"W	2004-2015; 2019-2023
Hope Bay Mine	Ogama Outflow	75	68° 6'14.25"N	106°32'51.70"W	2004-2015; 2019-2023
Hope Bay Mine	Doris Creek TL-2	90	68° 8'29.91"N	106°35'13.95"W	2004-2015; 2019-2023
Hope Bay Mine	Roberts Hydro-2	98	68°10'13.19"N	106°33'39.38"W	2004-2015; 2019-2023
Hope Bay Mine	Little Roberts Outflow	194	68°10'11.92"N	106°34'38.56"W	2004-2015; 2019-2023

WSC stations in watersheds near to, or overlapping the RAA were analyzed, with drainage areas from 1,520 km<sup>2</sup> to 46,200 km<sup>2</sup>. Hydrometric stations at Ekati and Hope Bay were installed on smaller streams with drainage areas of 3 km<sup>2</sup> to 194 km<sup>2</sup>.

Typical hydrologic conditions are presented as the average of the included hydrometric stations, along with a range of values to characterize the potential differences along the PDA. Unit discharges (i.e., discharge divided by drainage area, L/s/km<sup>2</sup>) are provided to allow for comparisons of hydrologic parameters in watersheds with different watershed areas.

### **1.3.3 Hydrological Processes**

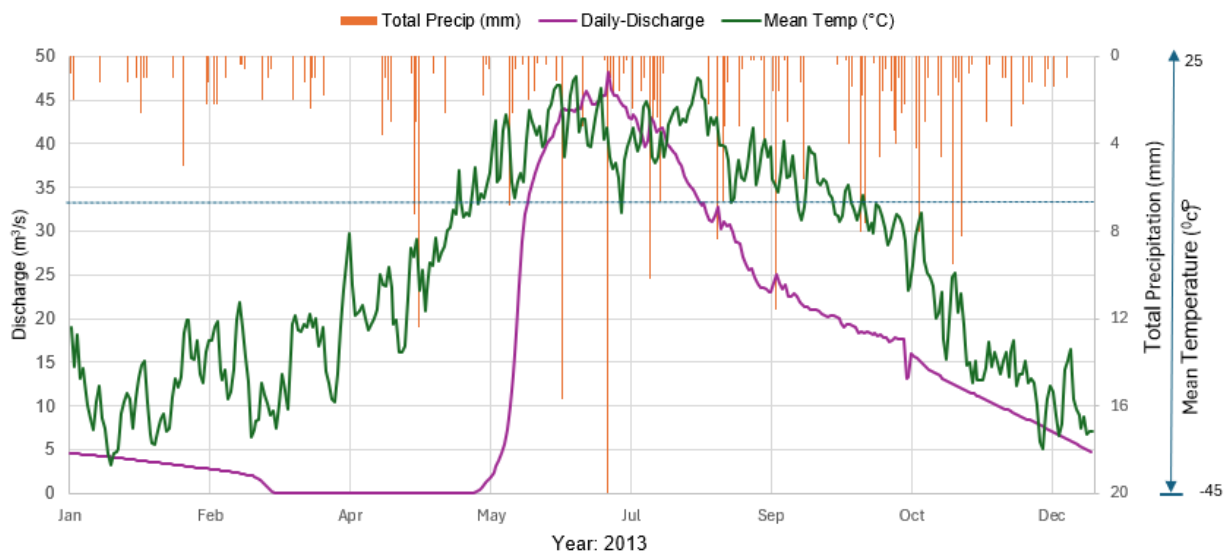
Large areas of the regional arctic watersheds along the PDA are low gradient and underlain by permafrost. Extensive permafrost and bedrock in the region contribute to increased surface water storage and poor drainage conditions with high surface runoff and limited ground infiltration (MMG 2013; Sabina 2020). As such, ponds, lakes and wetlands are widely distributed throughout the region. Irregular channels with scattered boulders connect many of these waterbodies to each other, with water flowing in some streams only during the short summer runoff period. In small channels, high flows may only last days, whereas in larger channels, high flows can persist for several weeks (Wolfden 2006).

The watersheds intersected by the Project exhibit a nival flow regime with peak annual flows generally occurring during freshet in response to snowmelt. Streamflow during freshet typically rises rapidly when temperatures rise consistently above 0°C and the snowpack melts resulting in a transition to the high flow period. In rivers draining large watersheds, the peak flows can be delayed compared to smaller watersheds as streamflow is attenuated in ponds and lakes. Large summer precipitation events can produce notable increases in stream flows but are generally lower than freshet flows.

Following freshet (typically in June), streamflow recedes through the summer and fall (a typical arctic nival flow regime). Although most of the annual precipitation occurs during the summer period (June to September), the influence of continuous permafrost and a high runoff response during snowmelt causes the peak annual flow to occur during the freshet period. Permafrost watersheds have higher peak flows and lower base flows than southern temperate watersheds (Kane et al. 2003).

During the early snowmelt period, melt water collects in ponds before contributing to increased runoff in creeks (Kane et al. 2003). Similarly, minor summer precipitation events may not correspond to a hydrologic response in creeks as runoff is stored in waterbodies (Sabina 2015b). The nival flow regime typical of the watercourses along the road corridor is illustrated in the 2013 hydrograph from WSC Station 10PA002 (*Yamba River below Daring Lake*) (Figure 1.4). This station has a drainage area of 2,010 km<sup>2</sup> and is located approximately 80 km west of the TCWR. The drainage is comparable to the range of drainage areas for the crossings along the road corridor and is anticipated to experience similar climatic conditions (i.e., temperature and precipitation) as meteorological monitoring station Ekati A (ECCC Climate ID: 220N001), located 50 km east of station 10PA002.

**Figure 1.4 WSC Station 10PA002 Yamba River below Daring Lake 2013 Hydrograph with Air Temperature and Precipitation**



Several factors characterize the timing, distribution and magnitude of the annual flow regime in permafrost-dominated watersheds, including:

- Snowpack – the snowpack depth (and corresponding snow-water equivalent) that has accumulated prior to each year’s freshet.
- Meteorological conditions – temperatures above freezing, rapid rise in the temperature and the duration that temperatures remain above freezing affect the timing and rate of snowmelt in the watershed. Precipitation, sun exposure, elevation, and wind also affect evapotranspiration and sublimation rates.
- Flow routing – the complexity of streamflow to reach the river in the watershed influences the delay to the annual flow during freshet. Watersheds with a complex network of ponds, wetlands and lakes, and interconnected channels influence the delay from the onset of melting to the peak freshet flow.
- Storage deficit – ponds, wetlands and lakes, and soil within the watershed must fill up or reach saturation prior to discharging water during the freshet. A previous dry year and low snowpack can take additional time to recharge before snowmelt begins to contribute to runoff. The runoff from summer rainfall events can be greatly reduced by large soil moisture deficits in the watershed (Favaro and Lamoureux 2014).

Following the snowmelt, summer runoff and streamflow rate is governed by rainfall, evaporation, melting of the active permafrost layer and the release of stored water from waterbodies (Sabina 2015a, 2015b). As with snowmelt during the freshet, rivers draining larger watersheds exhibit a slower, attenuated response to rainfall. Additionally, antecedent conditions to summer rainfall events can cause a large soil storage deficit.

Freeze-up processes begin late-October to early November, with smaller drainages freezing to bed in the winter with no flowing water. Rivers with very large watersheds and lake-fed rivers may be sufficiently large to maintain year-long streamflow without freezing to the channel bottom (Sabina 2020). The extensive permafrost in the study area limits groundwater flows into streams, resulting in low baseflow conditions, and most creeks and small rivers freeze to the bottom during the winter. Winter ice on lakes can reach up to 3 m thick (Wolfden 2006).

### 1.3.4 Watercourse Crossing Data

Previous hydrologic studies conducted as part of the Izok Corridor Project (ICP) included an inventory of stream crossings along a proposed road alignment from the Izok mine site north to the Grays Bay Port (NHC 2012; BGC 2013). The ICP crossing inventory has been leveraged to develop the master watercourse crossing table (MWCT) for the RAA.

Watercourse crossings have been compiled into a MWCT and mapped to identify watercourse crossings within the RAA. The initial compilation resulted in inclusion of hundreds of streams over a large geographic area. Watercourses have been grouped by watersheds from North to South: Unnamed Watershed Draining to the Arctic Ocean, Kennarctic River, James River, Hood River, and Burnside River. These crossings were reduced to 127 watercourse crossings which were considered relevant to the Project as they were within the Port and Road LAAs. Of these 127 watercourse crossings, four are located within the unnamed watershed that drains to the Arctic Ocean, 53 within the Kennarctic River watershed, eight within the James River watershed, 36 within the Hood River watershed, and 26 within the Burnside River watershed (Figure 1.3). The drainage areas for streams were classified from Small to Large (Table 1.3). Watercourse crossings along the LAA and details on each identified crossing, including coordinates, stream classification, and drainage area are also included in Appendix A.

**Table 1.3 Summary of Stream Drainage Areas within the LAA**

Catchment Basin	Road Kilometre Points (kilometres + metres)		Small Drainage Area	Large Drainage Area	Undefined
	Start	End	(< 50 km <sup>2</sup> )	(> 50 km <sup>2</sup> )	
Burnside River	1095+108	1160+652	15	5	6
Hood River	1152+950	1232+580	28	3	5
James River	1232+580	1259+652	7	1	-
Kennarctic River	1257+365	1326+398	39	4	10
Unnamed Watershed that drains to Arctic Ocean	1324+385	1331+711	3	-	1
<b>Total</b>	-		<b>92</b>	<b>13</b>	<b>22</b>

## 2 Methods

### 2.1 Annual Runoff and Seasonal Distribution

Hydrologic analyses were completed using data from WSC and regional mine hydrometric stations (Ekati and Hope Bay). WSC stations with less than 10 years of data and those downstream of lake outlets were excluded from the analysis. Hydrometric data from seven WSC hydrometric stations (07SA004, 07SA008, 10RA001, 10QA001, 10PA002, 10QC001, 10QD001), three available Ekati mine stations and seven available Hope Bay mine site stations were used in the runoff analysis (Table 1.2). WSC Station 10PC004 (Coppermine River Above Copper Creek), was excluded from the analysis due to its drainage area (46,200 km<sup>2</sup>) being much larger than other watersheds along the road alignment. Annual datasets with more than 15 cumulative daily gaps in the data set were excluded from the analysis. The average annual runoff (in millimetres, mm) was calculated for each station using the mean annual flow and the corresponding watershed area for the WSC stations listed in Table 1.2.

The seasonal distribution of flows was analyzed for all WSC stations and two Ekati mine stations (Slipper-Lac de Gras Stream and Vulture Polar). Cujo Outflow station at Ekati was excluded as it is downstream of a lake and the Hope Bay mine stations were excluded because of data unavailability. The monthly distribution of the annual runoff (in percent) was calculated to determine the timing of flows at each of the selected stations. Data from a range of watershed sizes were used in the seasonal analysis to provide an understanding of seasonal variations and making the data less sensitive to short-term fluctuations.

### 2.2 Peak Flows

Peak annual flows were determined using historical reported maximum daily open water flows for four WSC stations (07SA004, 07SA008, 10QA001, 10PA002) and one Ekati Mine site station (Vulture Polar). WSC data from stations with watershed area greater than 15,000 km<sup>2</sup> were excluded as large watersheds tend to attenuate peak flows as water takes longer to travel through the watershed and contributions from various sub-watersheds are staggered. As such, peak flows from sub-watersheds do not coincide, leading to a more distributed and less pronounced peak. Small watersheds tend to respond quickly to precipitation, resulting in sharper peak flows. Hope Bay mines were excluded from the analysis due to data unavailability. Annual summer (June to September) time series more less than five daily gaps were excluded from the analysis due to potentially missing the peak flow.

Peak flows are estimated for the 1:2-year event (50% likelihood of estimated flow occurring in a given year), 1:5-year, 1:10-year, 1:20-year, 1:50-year and up to a 1:100-year event. Peak flows were estimated using a single station flood frequency analysis (FFA) with HYFRAN-PLUS (v2.2) software. Statistical tests on the stationarity (Kendall test), homogeneity (Wilcoxon test) and independence (Wald-Wolfowitz test) of the datasets were tested in HYFRAN-PLUS.

Complete data sets of peak instantaneous peak open water discharges were not available for any of the stations, whereas daily maximum discharges were. As such, the annual ratio between daily maximum discharge ( $QD$ ) and instantaneous peak discharge ( $QP$ ) during open water conditions for the same hydrologic event were used for estimating the station-specific scaling factor. Years when the peak daily

discharge and instantaneous peak discharge occurred during different events (timings) were excluded from the average. This annual ratio was used to estimate the station-specific scaling factor ( $a$ ) for the period of record when both data sets overlapped:

$$QP = a * QD$$

A station-specific scaling factor was used to scale up the peak daily discharges to peak instantaneous flows. A linear regression was used to estimate the station-specific scaling factor.

## 2.3 Low Flows

A low-flow analysis was completed using the same seven WSC stations, the three Ekati mine stations and seven Hope Bay mine site stations used in the annual runoff analysis. WSC typically gauges large watersheds (relative to most crossings along the road alignment) that do not typically freeze to bed. During the open water period from June to September, low flow conditions provide a characterization of the ability of the water crossing to support aquatic species. The minimum average flow over a 7-day period from June to September was calculated for each year within the dataset. A data quality threshold of fewer than five daily cumulative data gaps in each annual open water season (June to September) time series was used for the data to be used included in the analysis.

## 2.4 Ice Conditions

Available data from regional mine sites and the ICP study (MMG 2013) were reviewed to characterize ice cover conditions. In 2012, ice thickness measurements were collected at eight lakes near the north end of the road alignment, and at an additional six locations south of the proposed road alignment near Izok Lake. Selected lake ice thickness measurements were also available from the Hope Bay annual monitoring reports (ERM 2024a). The timing of measurements in late spring were scheduled to capture the annual maximum ice thickness. No riverine ice thickness measurements were available in the RAA.

### 3 Results

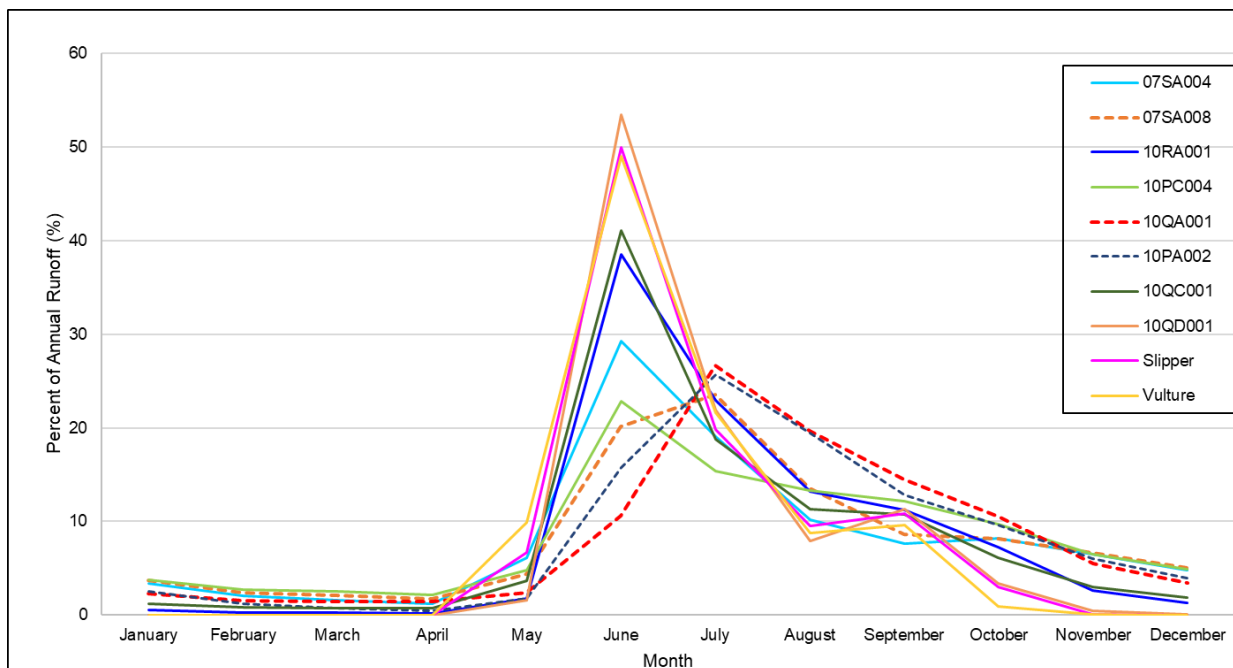
#### 3.1 Annual Runoff and Seasonal Distribution

Annual average runoff values for the selected WSC and regional mine site stations ranged from 115 mm at Ogama outflow to 264 mm at WSC Station 10QC001. For stations with drainage areas comparable to those encountered along the road corridor (up to 4,513 km<sup>2</sup>) annual average runoff values range from 115 mm to 244 mm (Table 3.1).

Monthly runoff distribution generally follows a typical nival flow regime at the selected hydrometric stations, with the majority of annual runoff (approximately 64 to 95%) occurring in the summer period of June to September (Table 3.2, Figure 3.1). At seven of the selected hydrometric stations, the highest monthly runoff occurs in June during the spring freshet shortly after air temperatures reach above freezing, followed by a steady recession through summer, occasionally augmented by summer rainfall to seasonal low flows just prior to freeze-up (Table 3.2).

Three of the selected hydrometric stations (WSC Stations 07SA008, 10QA001, 10PA002) suggest the influence of a different hydrologic regime with the peak runoff occurring in July, potentially due to a delay caused by retention of meltwater as it is routed through the watershed, an increased role of summer rainfall events or a delayed onset of the freshet due to climactic conditions.

**Figure 3.1 Monthly Distribution of Annual Runoff at Selected Hydrometric Monitoring Stations**



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**Table 3.1 Mean Annual Runoff and 7-Day Low Flow at Selected Hydrometric Monitoring Stations**

Station ID	Station Name	Drainage Area (km <sup>2</sup> )	Mean Annual Discharge (m <sup>3</sup> /s)	Mean Annual Runoff (mm)	Minimum Annual Runoff (mm)	Maximum Annual Runoff (mm)	Median Summer 7-day Low Flow (L/s/km <sup>2</sup> )
07SA004	Indin River above Chalco Lake	1,520	7.8	162	52	307	2.8
07SA008	Snare River above Indin Lake	7,886	31	122	48	196	2.2
10RA001	Back River below Beachy Lake	19,600	105	169	100	261	3.2
10QA001	Tree River near the Mouth	5,810	41	221	140	388	5.2
10PA002	Yamba River below Daring Lake	2,010	16	244	130	417	5.2
10QC001	Burnside River near the mouth	16,800	141	264	162	359	6.0
10QD001	Ellice River near the mouth	16,900	85	159	127	201	1.9
Ekati	Slipper-Lac de Gras <sup>1</sup>	185	0.71	121 <sup>1</sup>	28 <sup>1</sup>	298 <sup>1</sup>	2.2 <sup>2</sup>
Ekati	Vulture Polar <sup>2</sup>	7	0.03	147	n/a	n/a	1.5
Ekati	Cujo Outflow <sup>1</sup>	3	0.01	127	27	261	n/a
Hope Bay <sup>3</sup>	Windy Outflow	14	0.06	129	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Patch Outflow	32	0.12	121	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Po Outflow	35	0.16	140	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Ogama Outflow	75	0.27	115	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Doris Creek TL-2	90	0.37	130	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Roberts Hydro-2	98	0.41	133	n/a	n/a	n/a
Hope Bay <sup>3</sup>	Little Roberts Outflow	194	0.73	118	n/a	n/a	n/a

Notes:

<sup>1</sup> Ekati Annual Report (ERM 2024b)

<sup>2</sup> Back River Project (Sabina 2015a)

<sup>3</sup> Hope Bay Project (ERM 2024a)

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**Table 3.2 Seasonal Runoff Distribution (%) at Selected Hydrometric Monitoring Stations**

Station ID	Station Name	Drainage Area (km <sup>2</sup> )	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
07SA004	Indin River above Chalco Lake	1,520	3.4	2.1	1.6	1.2	6.2	29.2	19.1	10.2	7.6	8.2	6.4	4.8
07SA008	Snare River above Indin Lake	7,886	3.7	2.4	2.1	1.7	4.4	20.2	23.5	13.5	8.6	8.2	6.7	5
10RA001	Back River below Beachy Lake	19,600	0.5	0.3	0.2	0.2	1.8	38.5	22.9	13.2	11.3	7.2	2.6	1.3
10QA001	Tree River near the Mouth	5,810	2.3	1.5	1.5	1.4	2.4	10.6	26.7	19.6	14.5	10.5	5.6	3.4
10PA002	Yamba River below Daring Lake	2,010	2.5	1.2	0.7	0.5	1.8	15.8	25.7	19.4	12.8	9.6	6.0	4.0
10QC001	Burnside River near the mouth	16,800	1.2	0.8	0.8	0.7	3.6	41.1	18.8	11.3	10.7	6.1	3.0	1.9
10QD001	Ellice River near the mouth	16,900	0.0	0.0	0.0	0.0	1.5	53.4	21.9	7.9	11.3	3.4	0.5	0.1
10OPC004	Coppermine River Above Copper Creek	46,200	3.8	2.7	2.5	2.1	4.7	22.3	15.4	13.2	12.2	9.7	6.5	4.9
Ekati	Slipper-Lac de Gras Stream	185	0.0	0.0	0.0	0.0	6.7	50.1	19.8	9.5	10.8	3	0.1	0.0
Ekati	Vulture-Polar	7	0.0	0.0	0.0	0.0	10	49	21.6	8.8	9.6	0.9	0.1	0.0

## 3.2 Peak Flows

Peak flows were estimated using flood frequency analysis for selected return periods (1:2-year, 1:5-year, 1:10-year, 1:20-year, 1:50-year and up to a 1:100-year event). Data from two of the Ekati mine sites (Slipper-Lac de Gras and Cujo Outflow) were excluded from the peak flow analysis as they did not pass statistical tests, potentially due to being partially regulated flows at the mine site. The Slipper Lac de Gras station failed the stationary test (Kendall) and the homogeneity test (Wilcoxon). Cujo Outflow station failed the independence, stationarity, and homogeneity tests.

The relationship between drainage area and peak instantaneous flows scaled to a unit discharge ( $L/s/km^2$ ) shows a strong inverse correlation, with smaller drainage areas (i.e., Vulture-Polar drainage area of  $7.0 km^2$ ) producing the highest peak unit discharge for all return periods.

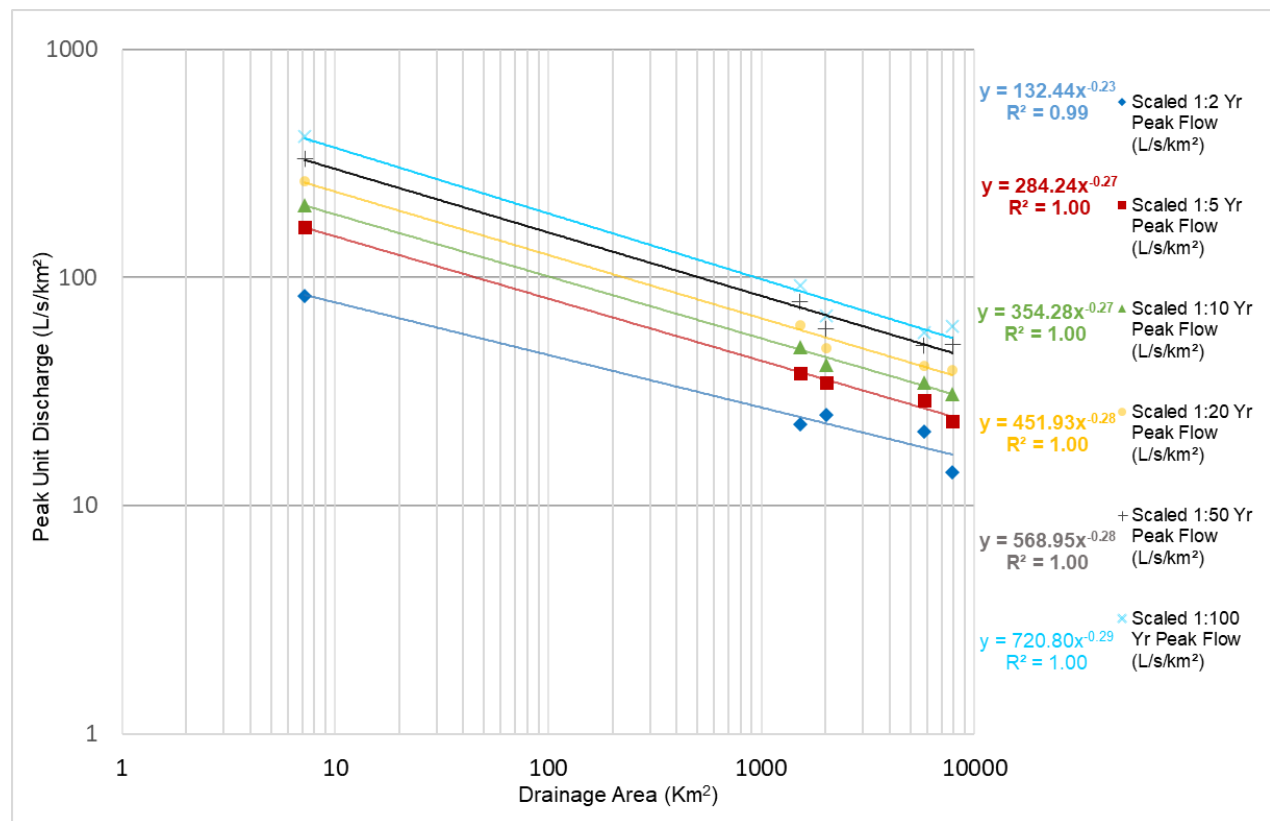
WSC Station-specific scaling factors for scaling up peak daily discharges to peak instantaneous discharges ranged from 1.01 to 1.03. For the Vulture-Polar station, data from the Sabina Back River project was used which applied a scaling factor of 1.2 to convert the maximum daily discharge to peak instantaneous flow.

**Table 3.3 Estimated Peak Instantaneous Unit Flows at Selected Hydrometric Monitoring Stations**

Station ID	Station Name	Scaling Factor	Peak Instantaneous Flow ( $m^3/s$ )					
			1:2-year	1:5-year	1:10-year	1:20-year	1:50-year	1:100-year
07SA004	Indin River above Chalco Lake	1.01	35	58	76	94	119	140
07SA008	Snare River above Indin Lake	1.01	111	186	244	309	402	482
10QA001	Tree River near the Mouth	1.03	123	168	202	238	291	336
10PA002	Yamba River below Daring Lake	1.03	50	70	84	98	119	137
Ekati	Vulture-Polar	1.20	0.6	1.2	1.5	1.9	2.4	3.0

The regression equations provided in Figure 3.2 include the peak unit discharge flows for the stations listed in Table 3.3.

**Figure 3.2 Regional Regression Analysis - Peak Unit Discharge (L/s/km<sup>2</sup>) and Drainage Area**



### 3.3 Low Flows

Watercourses connected to small watersheds in the arctic typically freeze to the bottom during the winter period, with channel freeze-up occurring in late October to early November. During the open water summer period (June to September) the median 7-day low flows for seven WSC stations and two Ekati mine sites were calculated (Table 3.1). The median 7-day low flows range from 1.5 L/s/km<sup>2</sup> at Vulture-Polar to 6.0 L/s/km<sup>2</sup> at Burnside River Near the Mouth.

### 3.4 Ice Conditions

Baseline hydrology data collection for the ICP (MMG 2013) included lake ice thickness measurements at eight lakes adjacent to the proposed road alignment, and an additional six measurements south of the proposed alignment on Izok Lake, Iznogoudh Lake and Itchen Lake. Ice thicknesses ranged from 1.25 to 2.05 m (Table 3.4). A maximum expected ice thickness of 2 m was used for the Back River mine site project area (Sabina 2015a). From the Hope Bay project ice thicknesses were measured at eight lake locations in April 2023, with thicknesses ranging from 1.67 m to 1.93 m (ERM 2024a).

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At the Snap Lake project, the timing of ice-off and ice-on dates for Snap Lake were recorded from 2008 to 2022, with ice-off occurring in early to mid-June and ice-on dates of mid-October to early November (De Beers Group 2023).

**Table 3.4 Lake Ice Thickness Measurements**

Project / Source	Site Name	Measurement Date	Northing (m)	Easting (m)	Ice Thickness (m)	Distance from Proposed Road Alignment (km)
Izok Corridor Project	Lake Site 1	May 9-10, 2012	7509953	504954	1.84	253
	Lake Site 2		7508056	505805	1.88	253
	Lake Site 3		7500893	505638	2.00	790
	Lake Site 4		7497382	506194	2.05	1050
	Lake Site 5		7496214	506090	1.96	541
	Lake Site 6		7488224	507053	1.91	523
	Lake Site 7		7487108	507229	1.68	790
	Lake Site 8		7485738	507424	1.63	1,314
	Iznogoudh Lake	May 14, 2012	7281925	415040	1.25	746
	Iznogoudh Lake		7281408	414908	1.35	746
	Izok Lake		7280435	417643	1.52	484
	Izok Lake		7280345	417489	1.39	484
	Itchen Lake		7280373	419799	1.28	470
	Itchen Lake		7279278	419460	1.50	1,003
Hope Bay AEMP	Windy Lake	April 21, 2023	7553269	431630	1.85	683
	Glenn Lake	April 20, 2023	7560337	430183	1.69	176
	Patch Lake	April 21, 2023	7549739	434660	1.79	178
	Imniagut Lake	April 21, 2023	7551490	433559	1.82	180
	Po Lake	April 24, 2023	7549393	436576	1.91	431
	Ogama Lake	April 24, 2023	7553517	436148	1.80	430
	Doris Lake	April 24, 2023	7558222	433815	1.67	683
	Little Roberts Lake	April 20, 2023	7562826	434665	1.93	925

## **4 Summary**

A review and analysis of available surface water data in the Kitikmeot Region of Nunavut was completed with available hydrometric data. Streamflow data was analyzed, and key hydrological parameters were calculated including runoff, peak flows, low flows, and ice depth conditions using hydrometric data from WSC stations and regional mine sites at the Ekati Diamond Mine and Hope Bay Mine over the past 30 years. Stations were chosen for each analysis based on their size, peak flow occurrence criteria, and data quality thresholds.

Regional data gathered by the WSC, along with information collected at Ekati and Hope Bay, supplemented by hydrometric monitoring data within the LAA and RAA, characterizes the hydrologic regime to support the Impact Statement for the Project.

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## **Appendix A      Stream Crossing Inventory**

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Appendix A: Stream Crossing Inventory  
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**Table A.1 Stream Crossing Inventory**

Crossing ID	Catchment Basin	NHC Location (NAD 83, UTM ZONE 12N)		NHC Drainage Area (km <sup>2</sup> )	BGC Stream Class
		Easting	Northing		
5	Burnside River	478180	7328959	0.19	Ephemeral
7	Burnside River	478516	7327933		Ephemeral
8	Burnside River	479098	7327280		Intermittent
48	Burnside River	478928	7320906		Intermittent
49	Burnside River	479123	7321723		Intermittent
60A	Burnside River	480972	7332094		Ephemeral
61A*	Burnside River	481250	7334150		Ephemeral
62 (BURNSIDE)	Burnside River	481385	7335613	654	Large Permanent
63	Burnside River	484853	7340163	203	Large Permanent
65	Burnside River	485318	7341732	0.26	Ephemeral
66A	Burnside River	486784	7343983	0.72	Ephemeral
67	Burnside River	488949	7346909	5.11	Small Permanent
68	Burnside River	490338	7348989	302	Large Permanent
69	Burnside River	491807	7350255	7.58	Small Permanent
70	Burnside River	494634	7351559	3.85	Ephemeral
71	Burnside River	495088	7351872	75	Large Permanent
72	Burnside River	497044	7353694	26.85	Large Permanent
73	Burnside River	497523	7355268	0.06	Ephemeral
74	Burnside River	497915	7357930	5.86	Ephemeral
76	Burnside River	497386	7361149	5.5	Ephemeral
77	Hood River	497012	7365616		Ephemeral
78	Burnside River	497206	7366643	0.63	Ephemeral
79	Burnside River	497602	7367808	2.88	Small Permanent
80A	Hood River	498203	7371074		Boulder Field
81	Hood River	498792	7372006	1.67	Small Permanent
81A	Hood River	498786	7371918	1.67	Small Permanent
81B	Hood River	498802	7371948	1.67	Small Permanent
81C	Hood River	498819	7371983	3.64	Small Permanent
81D	Hood River	498823	7371992	3.64	Small Permanent
82	Hood River	499039	7374322	1.27	Ephemeral
83	Hood River	498895	7374956	0.24	Boulder Field
84	Hood River	498608	7375529	0.14	Ephemeral
85	Hood River	498373	7376285	5.11	Small Permanent
86	Hood River	498326	7379172	3.57	Boulder Field
87	Hood River	499820	7387654	17.54	Large Permanent

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Crossing ID	Catchment Basin	NHC Location (NAD 83, UTM ZONE 12N)		NHC Drainage Area (km <sup>2</sup> )	BGC Stream Class
		Easting	Northing		
88	Hood River	499188	7392265	10.05	Large Permanent
88A	Hood River	498694	7393185	3.04	
89	Hood River	498824	7393601	0.44	Ephemeral
89A	Hood River	499396	7393537	0.54	Ephemeral
90	Hood River	499672	7397662	16.42	Ephemeral
92A	Hood River	499242	7401310	2.1	Ephemeral
93	Hood River	500576	7406490	2.98	Ephemeral
94 (HOOD)	Hood River	500228	7408343	4513	Large Permanent
95B	Hood River	500511	7408943	8.23	Intermittent
97	Hood River	500840	7410264	1.5	Ephemeral
98	Hood River	501278	7410612	3.25	Ephemeral
99	Hood River	503130	7413826	12.57	Ephemeral
100	Hood River	502022	7417395	0.07	Ephemeral
101	Hood River	502793	7421129	21.98	
103	Hood River	502260	7424220	1.59	Small Permanent
104 (FRAYED KNOTS)	Hood River	502804	7425638	786	Large Permanent
105	Hood River	504624	7427498	140	Large Permanent
106A	Hood River	505840	7430017	1.37	Small Permanent
107	Hood River	506549	7432201	0.3	Ephemeral
108	James River	506613	7432579	0.35	Ephemeral
109	James River	507823	7439177	9.91	Intermittent
111A	James River	508050	7444861	8.67	Ephemeral
113A	James River	507858	7445898	0.22	Ephemeral
114	James River	509035	7450356	0.19	Ephemeral
115 (JAMES)	James River	509616	7451367	1561	Large Permanent
116	James River	509859	7452611	0.09	Ephemeral
117A	James River	509817	7453103	1.7	Intermittent
118	Kennartic River	510263	7459707	0.59	Intermittent
121	Kennartic River	510345	7465085	0.06	Ephemeral
122A	Kennartic River	509876	7465439	0.14	Ephemeral
123	Kennartic River	509267	7466964	17.43	Large Permanent
124	Kennartic River	508850	7467617	0.34	Ephemeral
125	Kennartic River	508724	7468024	2.58	Ephemeral
126	Kennartic River	507573	7470737		
126A	Kennartic River	507525	7470960	0.72	Intermittent
127A	Kennartic River	507468	7471113	132	Large Permanent

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Crossing ID	Catchment Basin	NHC Location (NAD 83, UTM ZONE 12N)		NHC Drainage Area (km <sup>2</sup> )	BGC Stream Class
		Easting	Northing		
130A	Kennartic River	507467	7472144	0.21	Ephemeral
133B	Kennartic River	506778	7478142	7.57	Small Permanent
133C	Kennartic River	506740	7477559	0.73	Ephemeral
133D	Kennartic River	506803	7477239	>20	Boulder Field
133D1	Kennartic River	506803	7477188	24.73	Boulder Field
133D2	Kennartic River	506799	7477209	24.73	Boulder Field
133D3	Kennartic River	506794	7477229	12.37	Boulder Field
133D4	Kennartic River	506787	7477268	12.37	Boulder Field
133E	Kennartic River	506918	7476503		Ephemeral
133F	Kennartic River	506985	7476199	0.32	Ephemeral
133G	Kennartic River	507150	7475562	0.09	Ephemeral
133H	Kennartic River	507200	7475288		Ephemeral
133I	Kennartic River	507438	7474048	3.72	Ephemeral
133J	Kennartic River	507412	7473157		Ephemeral
148B	Arctic Ocean	506263	7519520		Ephemeral
1002	Burnside River	479339	7325844	160	Large Permanent
D1	Arctic Ocean	506283	7519995	0.71	Ephemeral
D2	Arctic Ocean	507267	7519635	16.06	Small Permanent
D4	Arctic Ocean	507627	7519183	0.33	Ephemeral
D5	Kennartic River	509893	7518651	0.68	Small Permanent
D6	Kennartic River	509239	7519299		Small Permanent
D11	Kennartic River	510301	7514326		Ephemeral
D12	Kennartic River	510665	7513137	2.37	Ephemeral
D14	Kennartic River	511991	7511275	18.66	Small Permanent
D15	Kennartic River	512821	7510490	23.87	Small Permanent
D16	Kennartic River	514298	7508740	1.01	Ephemeral
D19	Kennartic River	515041	7504764	1.12	Intermittent
D20	Kennartic River	514585	7501369	4.94	Small Permanent
D39	Kennartic River	513348	7495701	1.3	Ephemeral
D41	Kennartic River	510124	7486994	2.46	Small Permanent
D42	Kennartic River	510173	7487062	85	large permanent
D43	Kennartic River	508837	7485880	0.75	Ephemeral
D43A	Kennartic River	510027	7486826	2.46	
D44 (KENNARCTIC)	Kennartic River	508140	7485446	452	Large Permanent
D45	Kennartic River	507779	7482819	0.01	Ephemeral
D46	Kennartic River	507589	7482764	0.07	Ephemeral

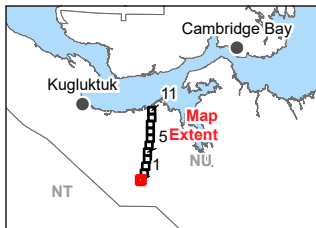
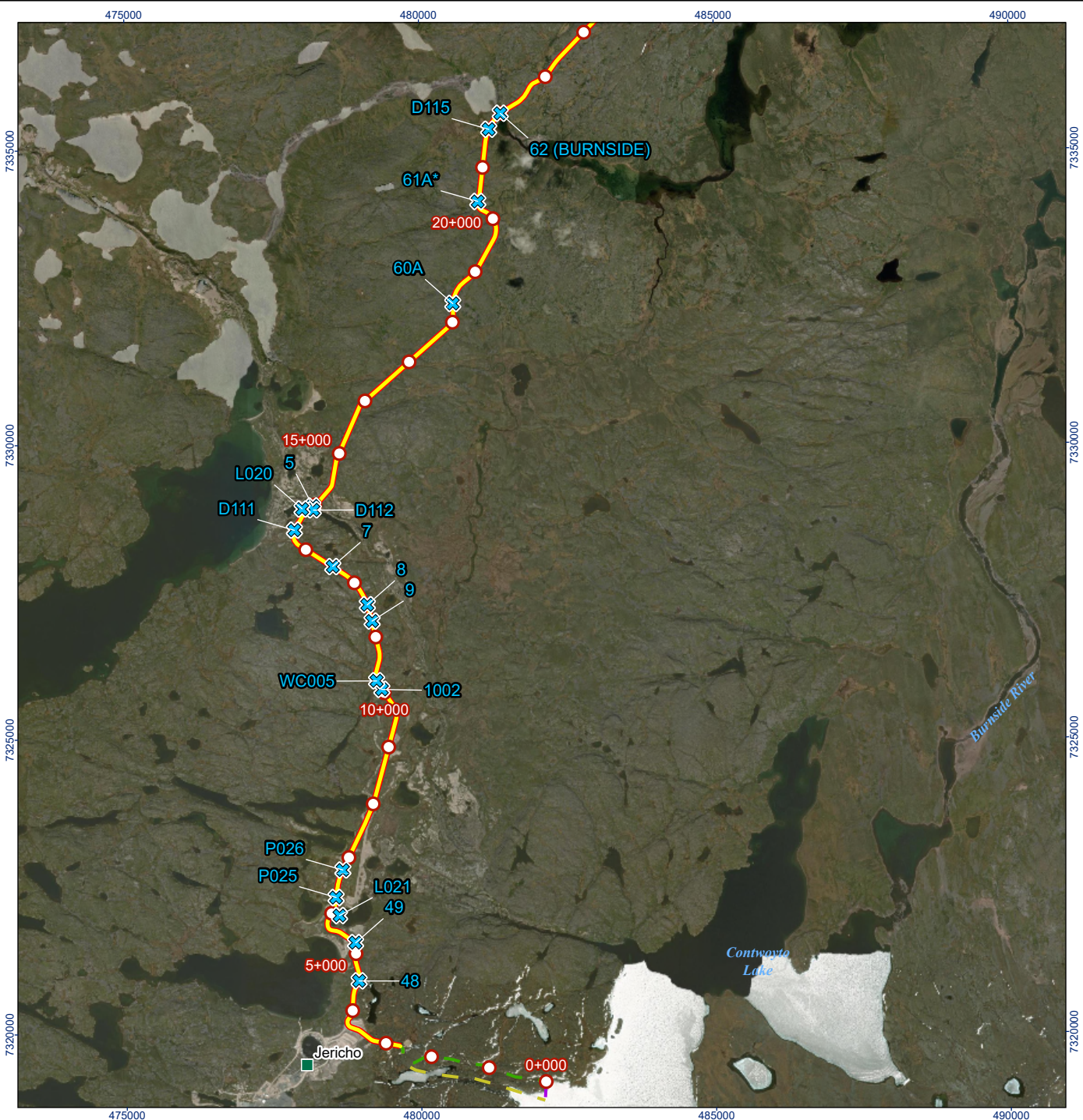
**Grays Bay Road and Port Project  
Hydrology Baseline Report**

Appendix A: Stream Crossing Inventory  
March 2026

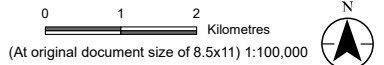
Crossing ID	Catchment Basin	NHC Location (NAD 83, UTM ZONE 12N)		NHC Drainage Area (km <sup>2</sup> )	BGC Stream Class
		Easting	Northing		
D47	Kennartic River	507541	7482737	1.49	Ephemeral
D48	Kennartic River	507284	7482374	0.03	Ephemeral
D50	Kennartic River	507214	7482246	0.08	Ephemeral
D51	Kennartic River	507197	7482209		Ephemeral
D52	Kennartic River	506964	7481267	0.85	Ephemeral
D53	Kennartic River	506888	7480866		Ephemeral
D54	Kennartic River	506951	7480324	0.37	Ephemeral
D55	Kennartic River	506964	7478588	0.22	Ephemeral
D56	Kennartic River	506967	7476303	0.32	Ephemeral
D60	Kennartic River	509945	7465534		Ephemeral
D61	Kennartic River	510917	7462436	0.06	Ephemeral
D66	Hood River	502144	7423703		Ephemeral
D67	Hood River	502299	7422999	0.22	Ephemeral
D68	Hood River	503074	7413920		Ephemeral
D70	Hood River	499493	7399255		Ephemeral
D111	Burnside River	477939	7328556	0.66	Ephemeral
D112	Burnside River	478191	7328892	0.05	Ephemeral
D115	Burnside River	481159	7335332	2.25	Small permanent
DM2 (KENNARTIC)	Kennartic River	514132	7497789	792	Large Permanent
DM3	Kennartic River	507265	7482346	0.03	Ephemeral

## **Appendix B      Watercourse Crossing Figures**

\\Ca0002-ppfs05\geomatrics\Clients\Nunami\_Stantec\GBRP\Figures\123514868\_051\_Watercourse\_Align\_Crossings\_Along\_Alignment.pagx Revised: 2026-02-04 By: dcspry



- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Closed Mine Site
- Tibbitt to Contwoyto Winter Road



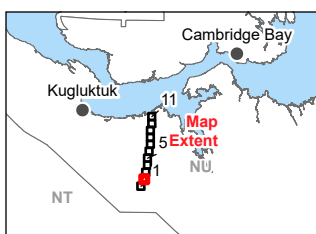
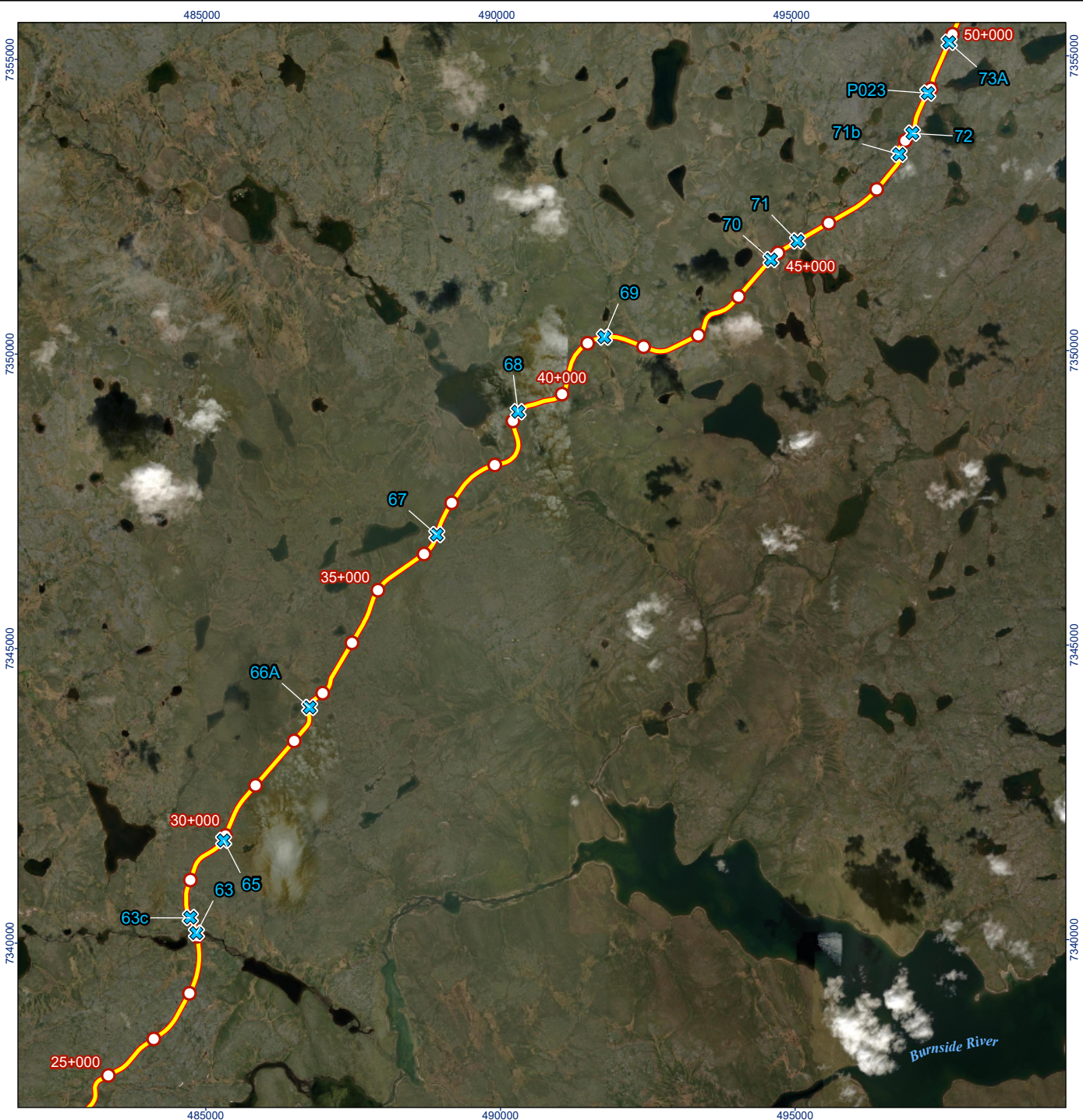
Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

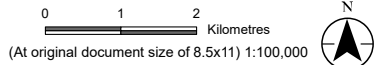
Figure No. **Appendix B: Page 1 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

\\Ca0002-ppfs05\geomatics\Clients\Nunami\_Stantec\GBRP\Figures\123514868\_051\_Watercourse\_Alignments\_Crossings Along Alignment.pagx Revised: 2026-02-04 By: dcspry



- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



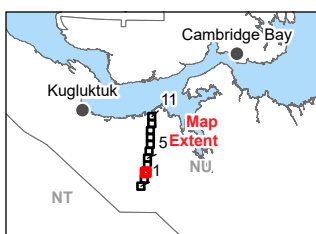
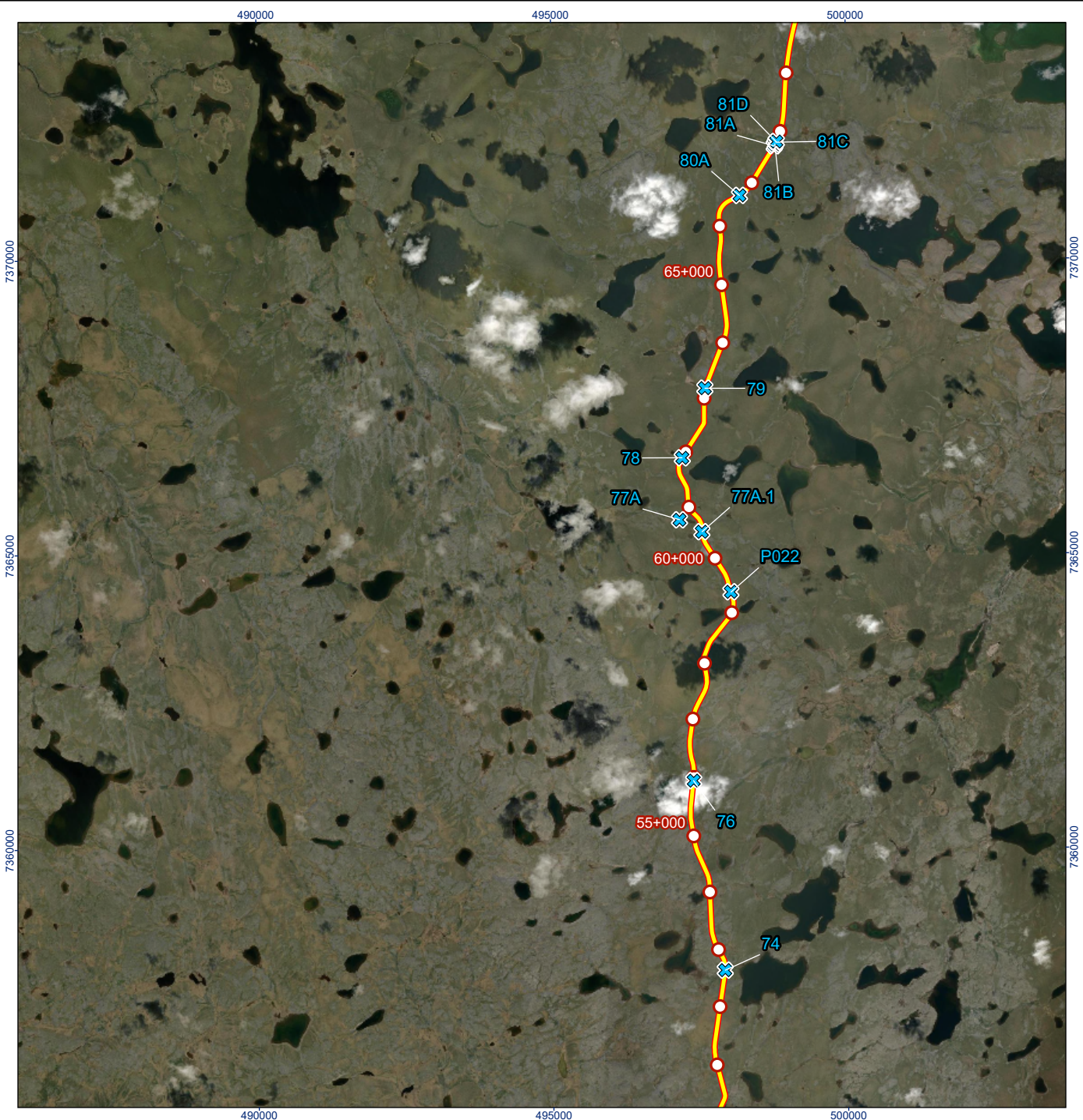
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 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

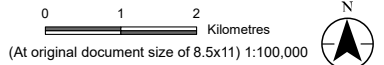
Figure No.: **Appendix B: Page 2 of 11**  
 Title: **Watercourse Crossings Along Road Alignment**

**Notes**  
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 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

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- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



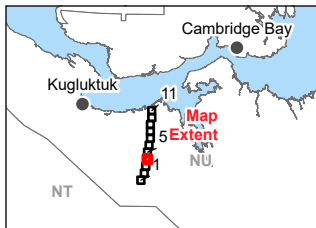
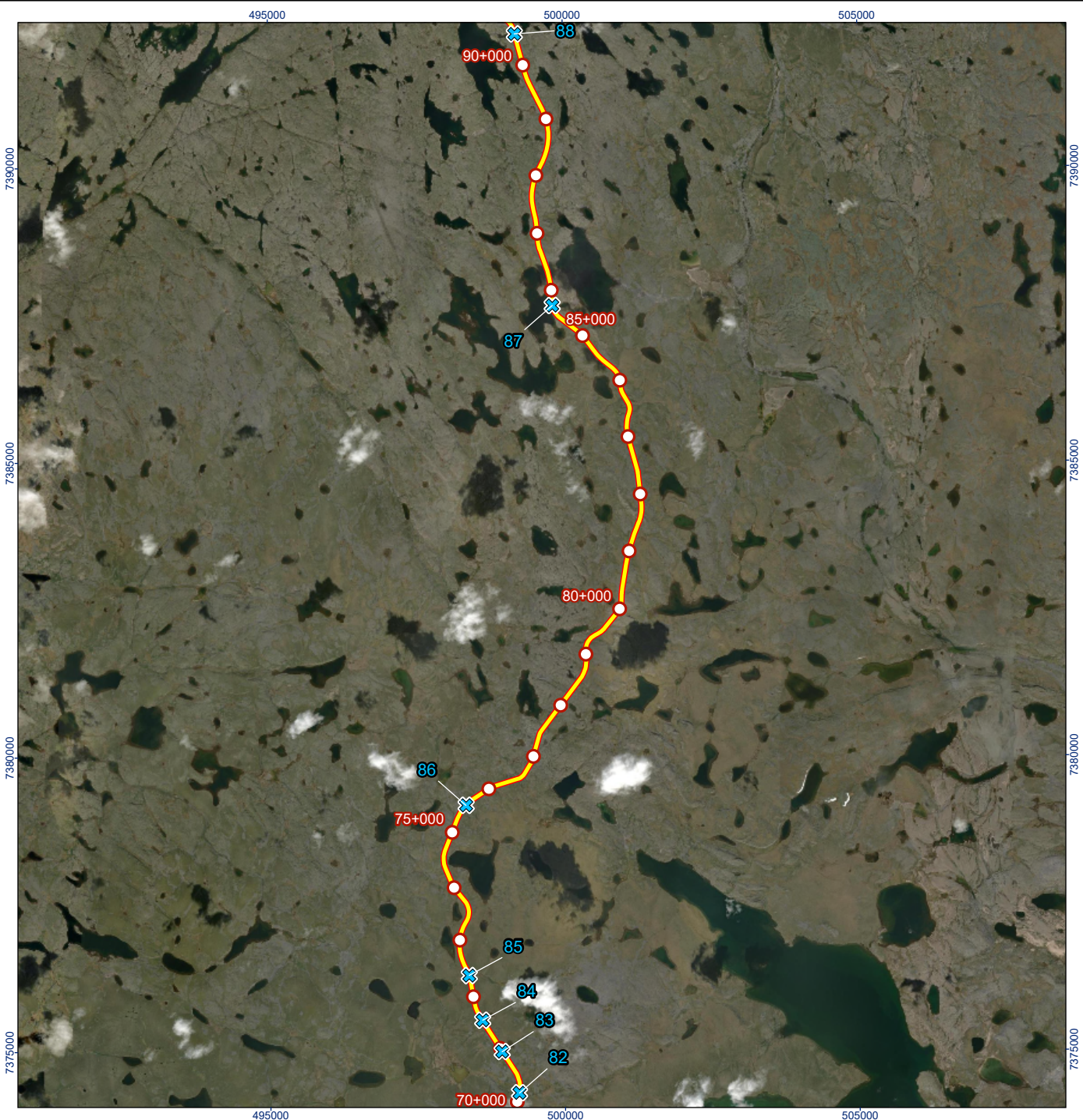
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 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp, Grays Bay Road and Port  
 123514868\_051

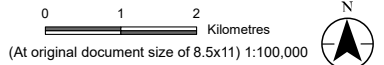
Figure No. **Appendix B: Page 3 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

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- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 123514868\_051

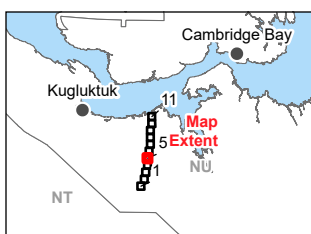
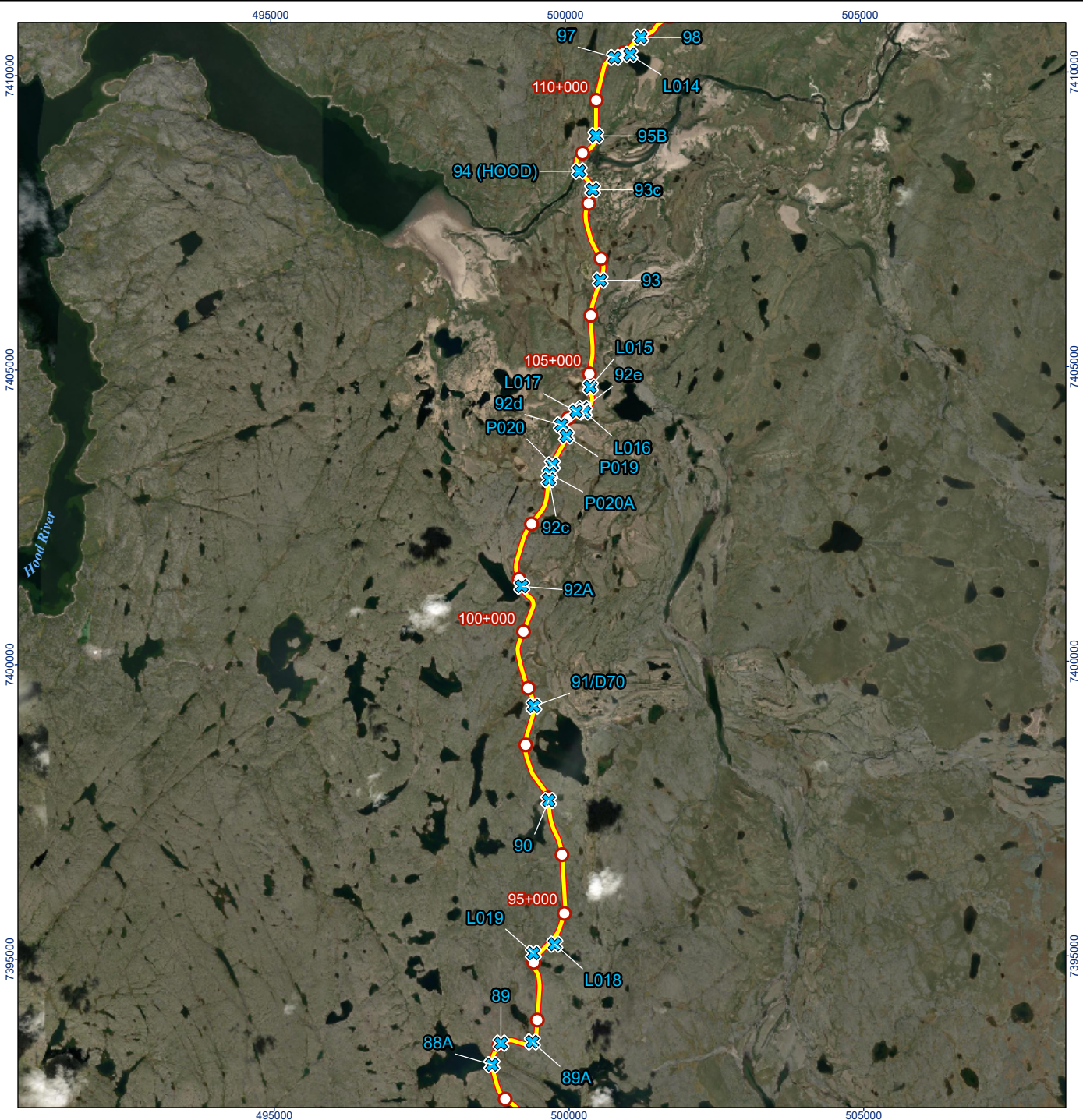
Grays Bay Road and Port

Figure No. **Appendix B: Page 4 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

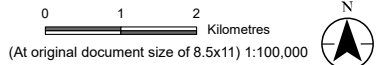
- Notes**
1. Coordinate System: WGS 1984 UTM Zone 12N
  2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd
  3. Service Layer Credits: Earthstar Geographics

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- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



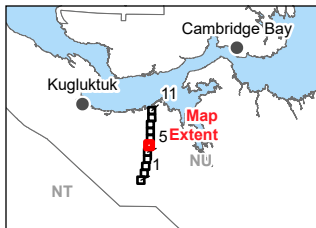
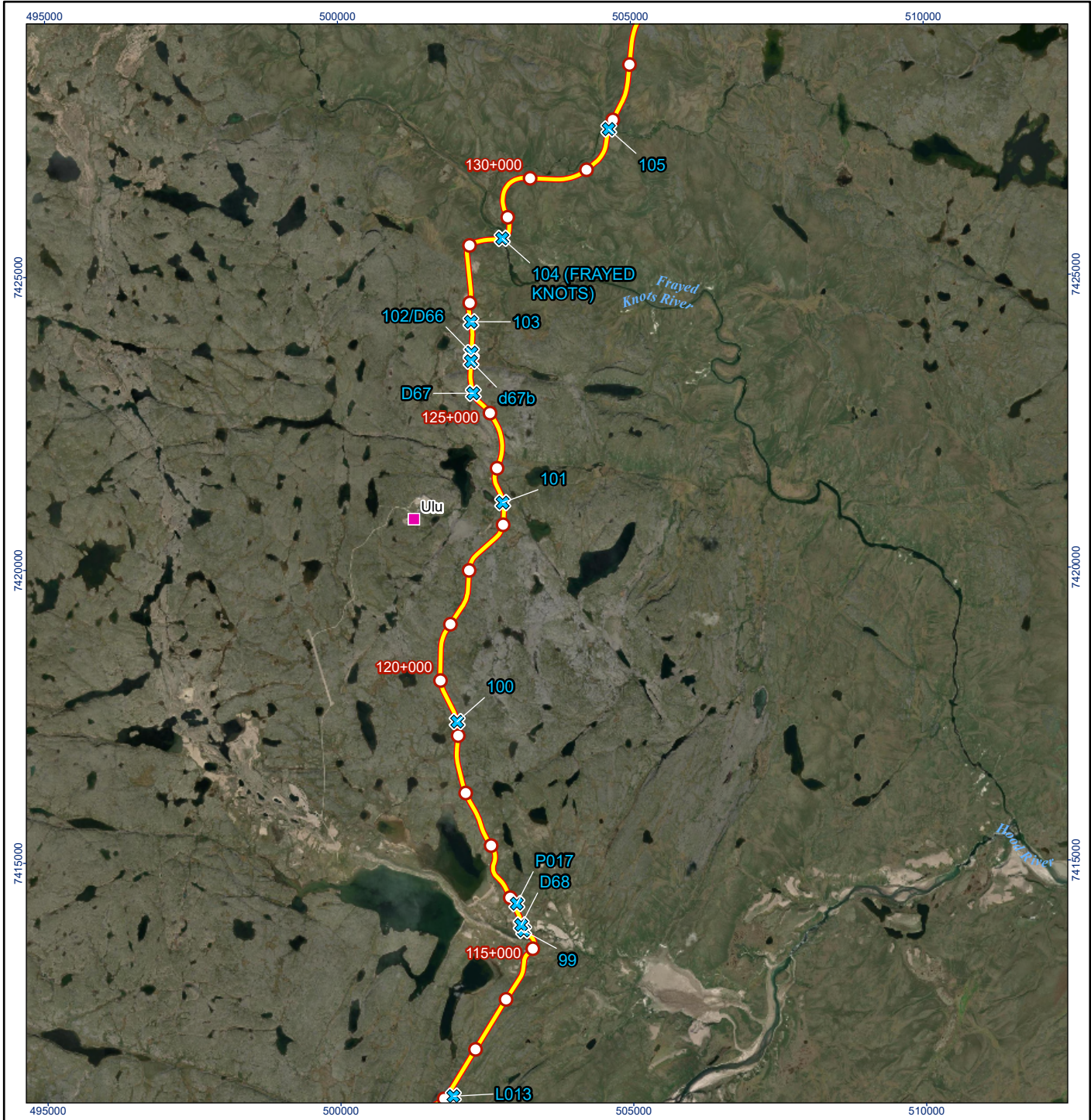
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 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

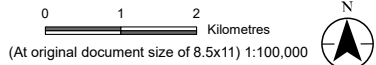
Figure No. **Appendix B: Page 5 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

- Notes**
1. Coordinate System: WGS 1984 UTM Zone 12N
  2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd
  3. Service Layer Credits: Earthstar Geographics

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- X Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Advanced Mineral Exploration Site
- Tibbitt to Contwoyto Winter Road



Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

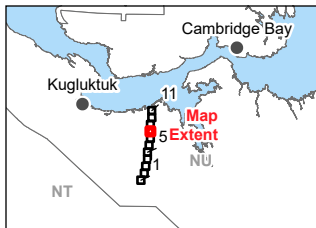
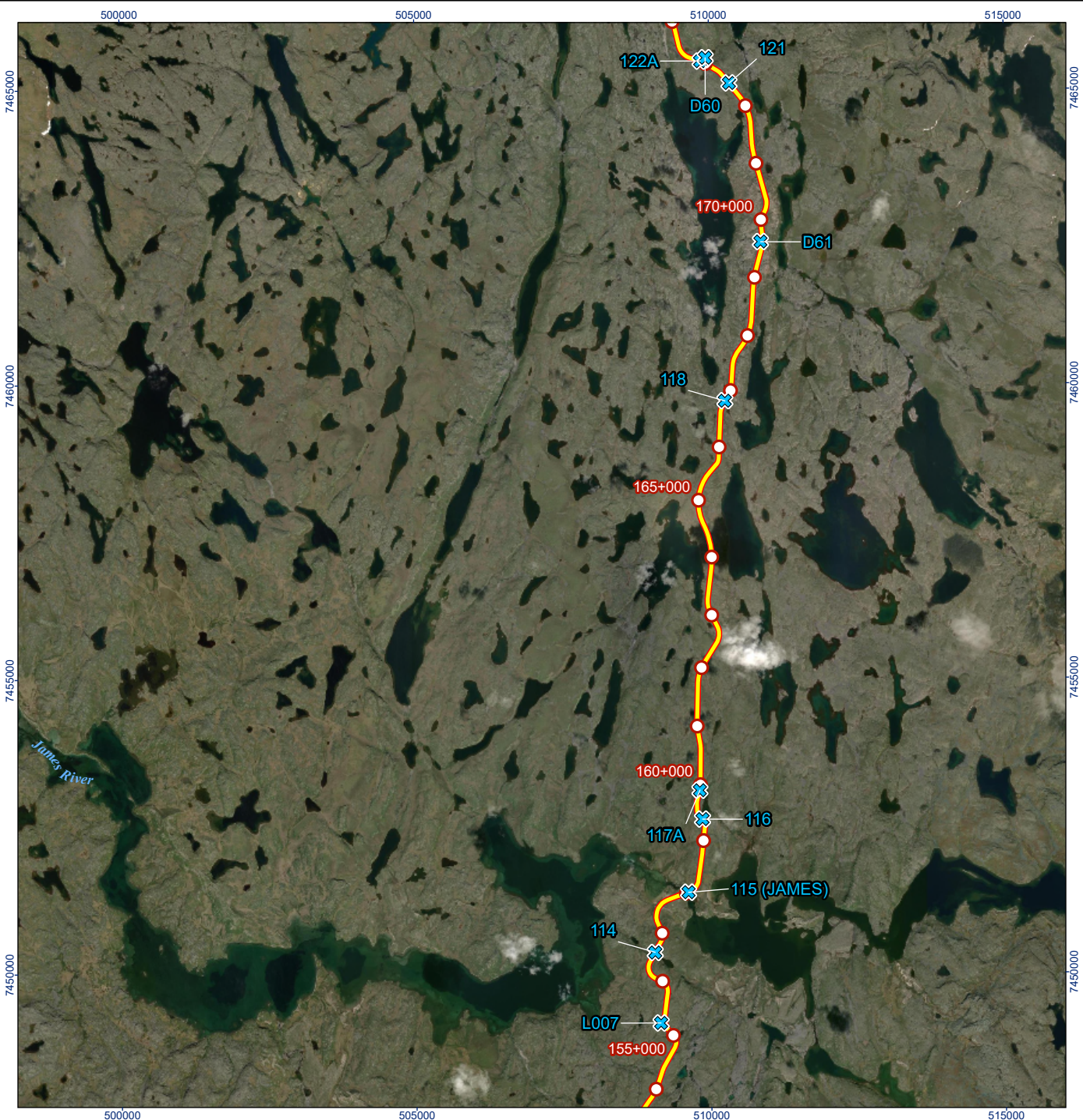
Figure No. **Appendix B: Page 6 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

**Notes**  
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 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

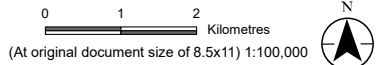
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- Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



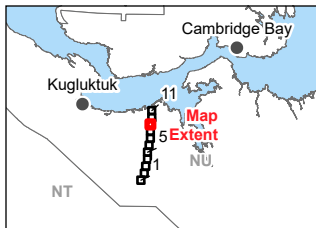
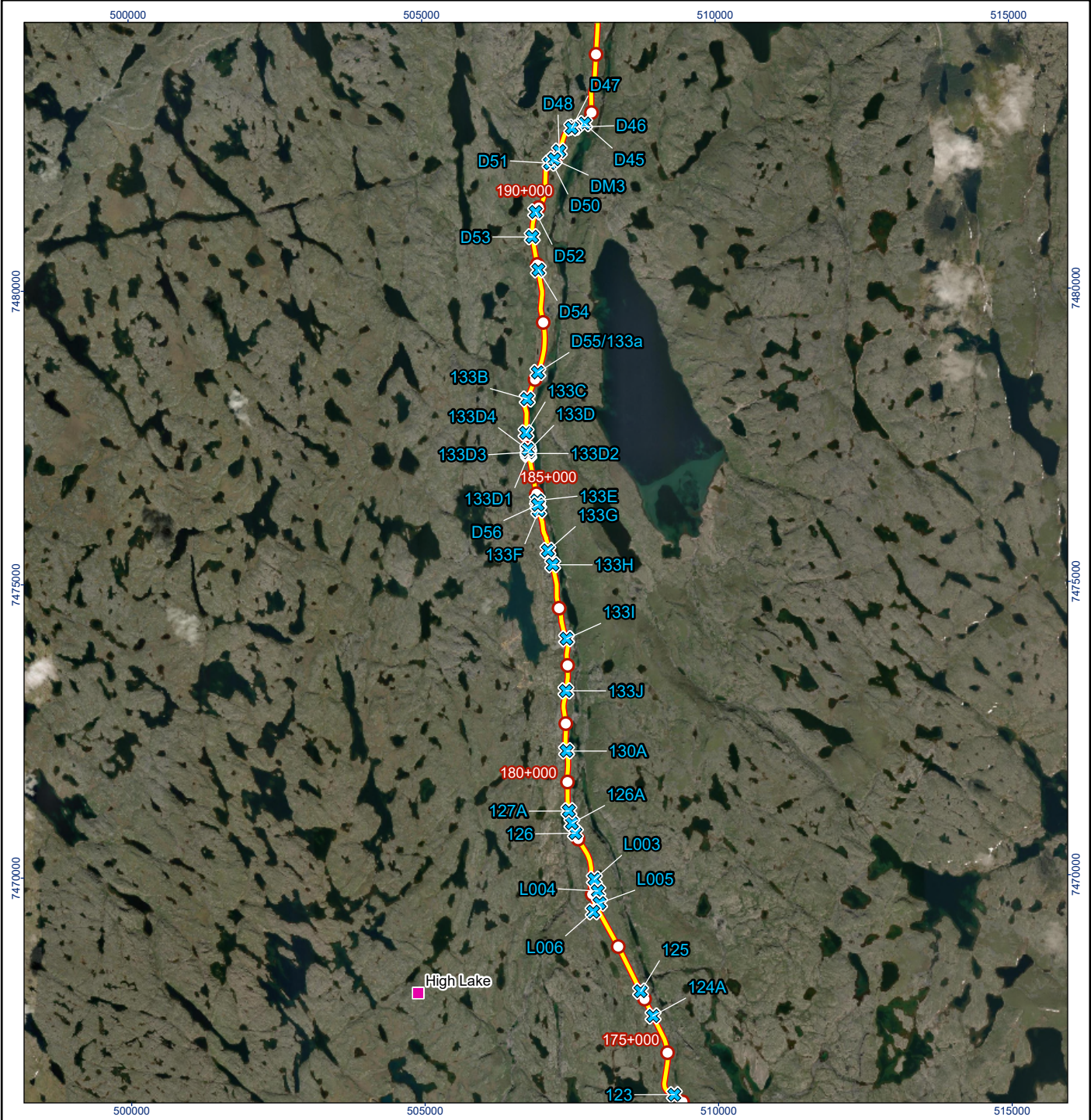
Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

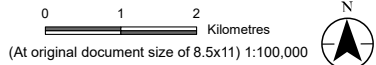
Figure No. **Appendix B: Page 8 of 11**  
 Title **Watercourse Crossings Along Road Alignment**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

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- ✕ Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Advanced Mineral Exploration Site
- Tibbitt to Contwoyto Winter Road



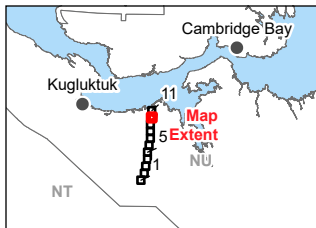
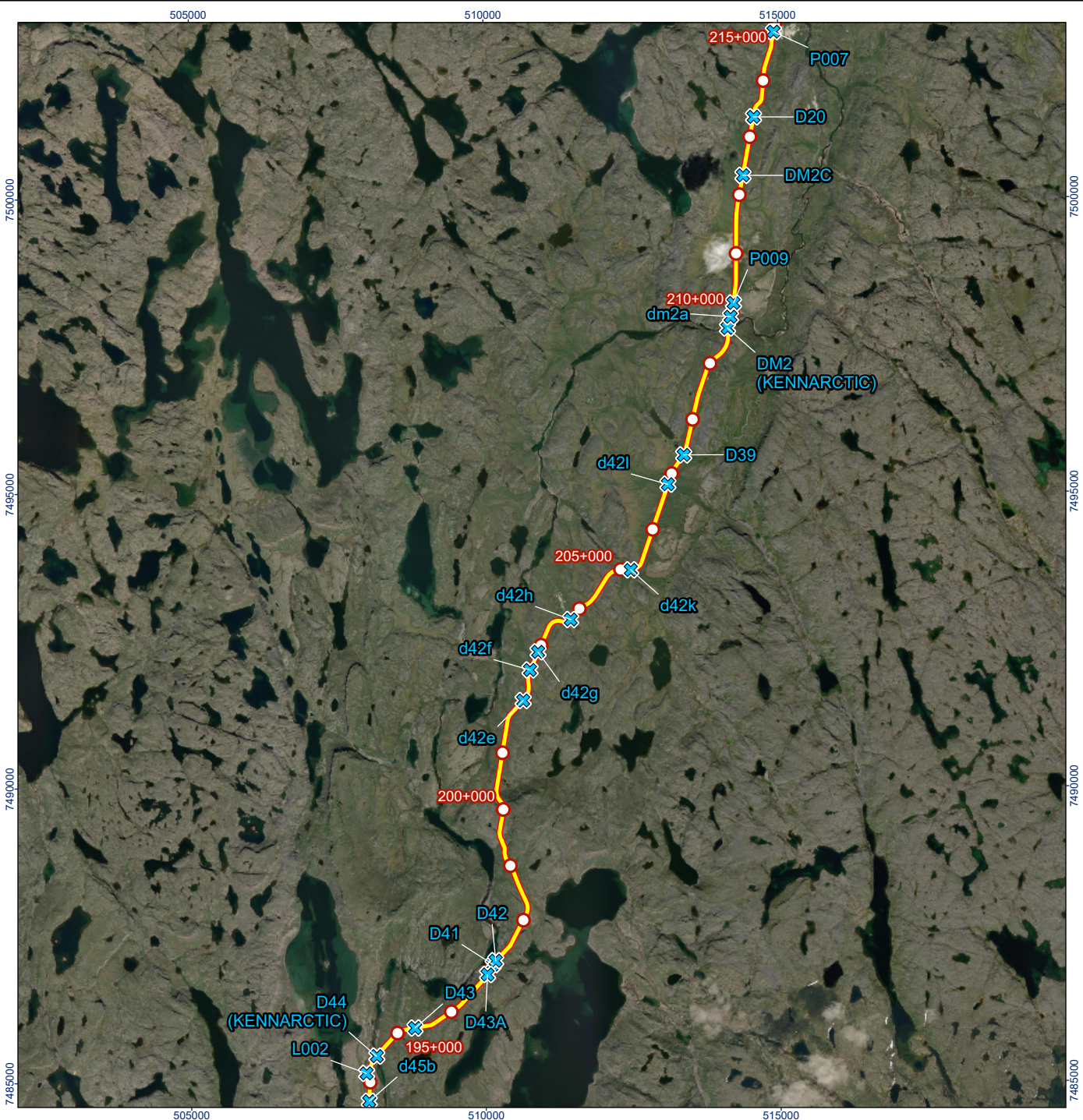
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Client/Project: West Kitikmeot Resources Corp, Grays Bay Road and Port. Reference: 123514868\_051

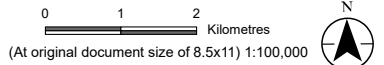
Figure No. **Appendix B: Page 9 of 11**  
 Title: **Watercourse Crossings Along Road Alignment**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
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- ✕ Watercourse Crossing
- Kilometre Marker
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



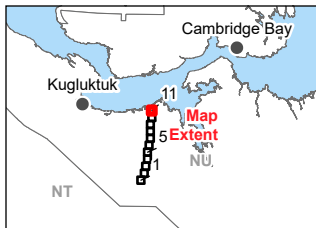
Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp, Grays Bay Road and Port  
 123514868\_051

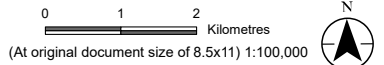
Figure No.: **Appendix B: Page 10 of 11**  
 Title: **Watercourse Crossings Along Road Alignment**

**Notes**  
 1. Coordinate System: WGS 1984 UTM Zone 12N  
 2. Data Sources: Governments of Canada and Northwest Territories, Stantec Consulting Ltd  
 3. Service Layer Credits: Earthstar Geographics

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- Watercourse Crossing
- Kilometre Marker
- Grays Bay Port
- Grays Bay Road
- Grays Bay Winter Road
- Grays Bay Winter Road Optional Alignment
- Tibbitt to Contwoyto Winter Road



Project Location: West Kitikmeot Region, Nunavut  
 Prepared by DSPRY on 2026-02-04  
 TR by SL on 2026-02-04

Client/Project: West Kitikmeot Resources Corp  
 Grays Bay Road and Port  
 123514868\_051

Figure No.: **Appendix B: Page 11 of 11**  
 Title: **Watercourse Crossings Along Road Alignment**

**Notes**  
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