

MEMORANDUM

To: GNWT DOT
From: CZN
Date: November 3, 2016
Subject: Haulage Rate on Nahanni Access Road and Liard Highway (7)

This memo is in response to comments made in GNWT’s response to the Review Board’s IR2 #21 regarding traffic forecast for Prairie Creek Mine road usage on the Nahanni Access Road and Liard Highway 7.

Operations

In 2015, CZN commissioned a report from Allnorth, entitled *Prairie Creek Mine Concentrate Transportation Analysis*. The following information is partly based on that report.

The Allnorth report proposes two options of concentrate haulage equipment. Dimensions of the standard highway tractor-trailer units are as follows:

Conventional Transportation Class 8 Tandem Tractor Super B Trailer

Length (metres)	23.79
Width (metres)	2.6
Gross Vehicle Weight (tonnes)	63.5
Tare Weight (tonnes)	21
Payload (tonnes)	42.5

The above units are assumed to comply with all existing regulations regarding road use.

As an alternative, Allnorth proposes a higher-tonnage unit, usable by agreement with the NWT and BC governments, as follows:

Convey-Ore Transportation System

Length (meters)	24.79
Width (meters)	2.59
Gross Vehicle Weight (tonnes)	72.3
Tare Weight (tonnes)	22.0
Payload (tonnes)	50.3

Hauling will be seasonal, dictated by the Liard River crossing; approximate dates are as follows:

January 1-April 15	Winter haul, ice bridge on Liard River
April 15-June 30	Break-up of ice bridge and period of highway weight restrictions
July 1- October 24	‘Summer’ haul, barge on Liard River
October 25-December 31	Freeze-up of ice bridge

Hauling is therefore restricted to about 218 days per year.

Planned concentrate production is 123,000 metric tonnes. Daily haulage rates from the Mine to Fort Nelson will average:

<i>GVW</i>	<i>Loads per year</i>	<i>Loads/day</i>
72.3	2,440	11.1
63.5	2,900	13.3

A more detailed estimate of loads is provided in a letter previously submitted to the Review Board ([PR#176](#)). This indicates that the number of loads may periodically be up to 20 per day.

The concentrate trucks will be used to backhaul inbound supplies to the extent possible, such as fuel, mill supplies and reagents. However, payloads will be lower. Some inbound freight cannot, however, be hauled in this way, examples being isotainers of bulk emulsion explosives, cement and foodstuffs. These could add up to another 500 loads per year – 2-3 loads per day.

Mine and All Season Road Construction

Mine construction traffic will precede production traffic. Mine reconstruction will require 500-600 loads. Construction materials would be staged through Fort Nelson, and would entail 300 loads per season in a ~3-month winter road season, 100 loads per month, 3-5 loads per day (and return).

All season road construction will mainly be completed in winter using winter roads for access. The approximate schedule is as follows:

Year 1

Winter: Subgrade KP 174 to Liard R, Liard R Ice Bridge, Barge Ramps, Subgrade Liard R to Grainger G, Surfacing KP 174 to Liard R, Winter Road to Mine (Mine construction)

Fall: Surfacing Liard R to Grainger G

Year 2

Winter: Liard R Ice Bridge, Winter Road to Mine (equipment in), Subgrade Grainger G to KP 102 and KP 95-59, Install major crossings to KP 87

Summer: Surfacing Grainger G to KP 102, Subgrade KP 28 to Mine, KP 102-95, Install KP 23.5 and 25.3 crossings

Fall: Surfacing KP 102-86, Sundog Creek Realignment

Year 3

Winter: Liard R Ice Bridge, Winter Road to Mine, Subgrade KP 59-39, Install remaining major crossings

Summer: Surfacing KP 86-39

Therefore, we envisage a winter construction season in Year 1, a fall-winter construction season in Year 1-2, a summer-fall-winter construction season in Year 2-3, and a final summer construction season in Year 3. These four construction seasons will entail mobilization and

demobilization of equipment. We envisage the movement of ~60-80 pieces of plant over several weeks at the beginning and end of each season. Construction work would be sustained by bringing in materials and food, and crew changes, likely averaging ~1 load/day.