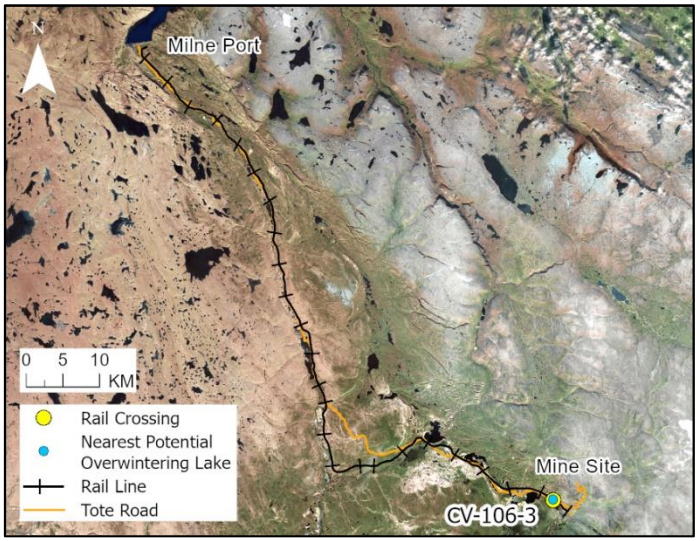
RAIL CV-106-3

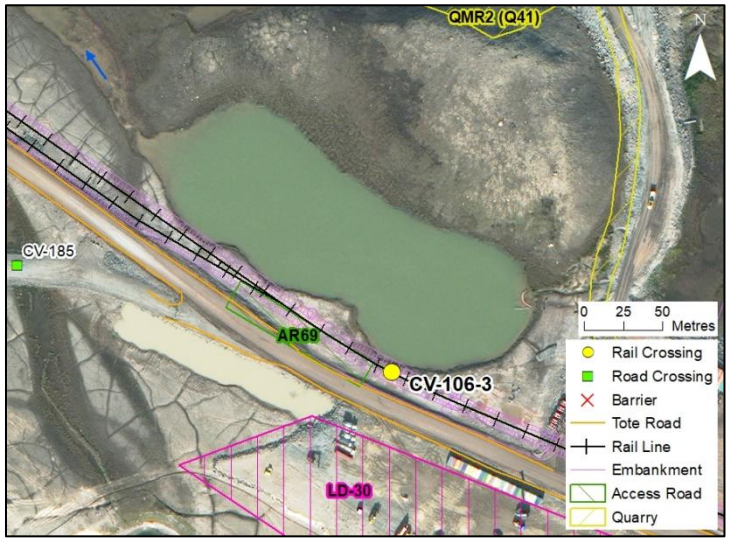
LOCATION AND CROSSING DESCRIPTION

Site ID:	CV-106-3	**Dates Surveyed:**	22-Jun-19; 19-Aug-19	**Waterbody Type:**	Pond
Project Interaction:	Pond Encroachment	**Centreline UTM Coordinates:**	17W 559980 E 7913834 N	**Culvert Length (m):**	N/A
Number of Barrels:	N/A	**Culvert Diameter/Span (mm):**	N/A	**Slope (%):**	N/A

GENERAL PHYSICAL CHARACTERISTICS

Surface Area (m^2):	20,246	**Shoreline Length (m):**	668	**Drainage Basin Area (m^2):**	1.079
Maximum Depth (m):	4.07 (measured)			**Mean Depth (m):**	1.97





SUMMARY

The rail encroaches upon a small lake at site CV-106-3. This lake is part of a system that flows northwest to a larger stream crossed by the rail at CV-104-5 approximately 1.7 km downstream from the centreline. It then flows west to the Tote Road crossing BG-01 and then south to Camp Lake (approximately 2.8 km from CV-105-4). The stream is also crossed by the rail at CV-105-2, 105-3, 105-4, 106-1, 106-1a, and 106-2 (all downstream of this lake).

This lake has sufficient depth to support overwintering for Ninespine Stickleback and possibly also juvenile char. Habitat at the encroachment footprints is <0.20 m deep, with a mixture of small and large cobble.

This pond provides open-water season rearing habitat for juvenile Arctic Char, particularly along the rocky shoreline. The pond may also provide overwintering habitat for juveniles, but does not support spawning for char as adults cannot access the lake from Camp Lake downstream. This pond supports all life history requirements for Ninespine Stickleback.

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BARRIERS

Upstream/ Downstream	UTM		Barrier Type			Height (m)	Gradient (°)	Description	Site Label
	Easting	Northing	1	2	3				
Inflowing Stream	NO BARRIERS								
Outflowing Stream	NO BARRIERS								

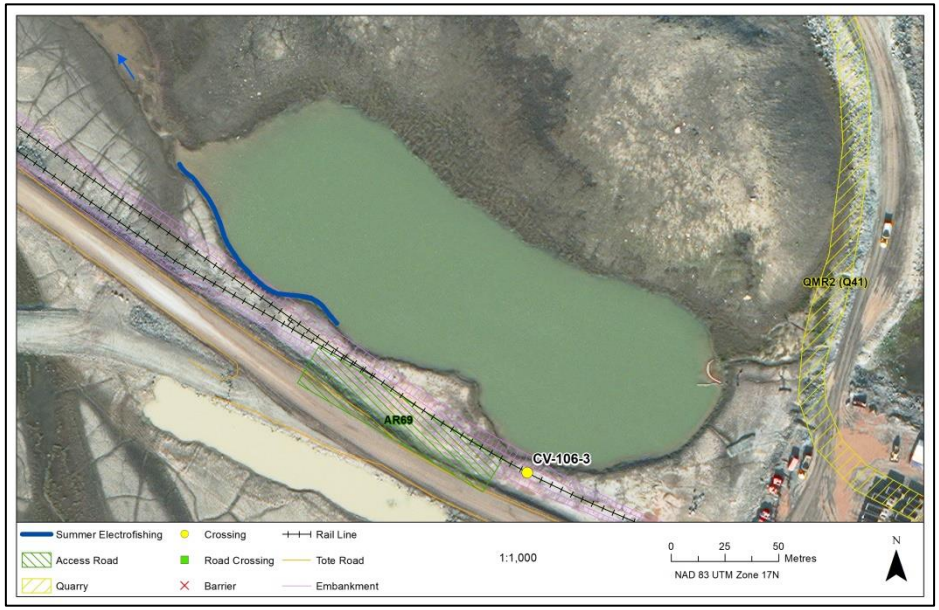
FISH HABITAT POTENTIAL

Nearest Potential Overwintering Habitat - ARCH: This site/Camp Lake **Distance to Nearest Potential Overwintering Habitat - ARCH (km):** 0/2.8 km

Overwintering Habitat Upstream of Site - ARCH (Y/N): No

Species	Spawning	Overwintering	Rearing	Adults Present
ARCH	N	P	Y	N
NNST	Y	Y	Y	Y

FISHING SITES



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FISHERIES DATA

Date: 22-Jun-19 **Temperature (°C):** NR **Gear Used:** Visual

Distance Fished (m): N/A **Duration Fished (seconds):** N/A

Species	Season	Reach	Effort (Seconds)	Fish Captured	Fish Observed	CPUE (No. Fish/60 Seconds)	Length Range (mm)
ARCH	Spring	-	-	0	0	-	-
NNST	Spring	-	-	0	several	-	-

Date: 19-Aug-19 **Temperature (°C):** 14.0 **Gear Used:** Backpack Electrofisher/Visual

Distance Fished (m): 100 **Duration Fished (seconds):** 381

Species	Season	Effort (Seconds)	Fish Captured	Fish Observed	CPUE (No. Fish/60 Seconds)	Length Range (mm)
ARCH	Summer/Fall	381	1	0	0.16	130 (measured)
NNST	Summer/Fall	381	23	0	3.62	22 – 75 (measured)

ENCROACHMENT HABITAT

Habitat Use – ARCH: Juvenile rearing & overwintering **Habitat Use – NNST:** Rearing; Spawning; Overwintering **Maximum Water Depth (m):** 0.20

Area	Fines (%)	Gravel (%)	Small Cobble (%)	Large Cobble (%)	Boulders (%)
Nearshore	0	0	80	20	0
Offshore	60	0	30	10	0

OTHER NOTES/OBSERVATIONS

Stickleback were evenly distributed in the surveyed nearshore habitat in 2019 at all encroachment sites. Similar results were noted during the 2018 survey. Only one juvenile char was captured/observed in 2019; none were captured/observed in 2018. Char may primarily move back and forth from Camp Lake downstream. This lake was surveyed for bathymetry and substrate in 2018.

RAIL CV-106-3

22-JUN-19 & 19-AUG-19

A

B

C

D

Photos 1. Photos taken of: (A) across the pond during spring; (B) encroachment habitat during spring; and (C,D) encroachment habitat during summer/fall.

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LAKE BATHYMETRY AND SUBSTRATE