

2.11 Transportation

The following section outlines existing and proposed transportation corridors that permit access to the Wolverine Project. The project is approximately 280 km east-northeast of Whitehorse, 170 km northwest of Watson Lake and 140 km east-southeast of Ross River (Figure 2.1-1).

2.11.1 Existing Access and Roads

Site access is currently via charter aircraft to the 800 m airstrip located near the headwaters of Go Creek, or by helicopter (Figure 2.11-1.) The airstrip will be maintained during the life of the project, and utilized to transport personnel and for the transport of camp and mine supplies as required. Aircraft and helicopters will be used in the event of a medical emergency.

Figure 2.11-1 Mine Access Road Route (Vol. 2)

When required to haul in supplies and equipment during previous exploration campaigns, a winter road paralleling Wolverine Lake then heading northward to the Robert Campbell Highway (RCH) has been used.

Current onsite activities are supported by roads as shown in Figure 1.2-3. These roads were initially constructed to provide access around the site for light vehicle traffic supporting drilling activities and the test mining program. Once the construction camp is constructed, the road connecting the mine area and the airstrip will be the primary road used in the latter part of the construction phase and in the operations phases. This section of road has a running surface that is 8 to 12 m wide and as such upgrading is not anticipated. The waste rock pad access road will also continue to be used.

2.11.2 Proposed Mine Access Road

The proposed all-weather mine access road route runs from the all-weather RCH near Frances Lake generally southwest then northwest to the airstrip, a distance of 25.2 km (Figure 2.11-1). Preliminary assessments of the mine access road alignment were conducted in 2005 (Section 2.2: Project Alternatives). Activities in 2005 also included biophysical and archaeological assessments as described in Section 7.

Detailed alignment layout and engineering is proposed in late 2005 to early 2006 with construction commencing in August 2006.

2.11.2.1 Mine Access Road Design

Key design parameters to be incorporated into the final design are as follows:

- user safety
- haul speed up to 60 km/h
- minimizing cut and fill slopes to reduce road footprint and construction costs
- environmental considerations

- daily usage of up to 26 concentrate haul trucks (13 round trips) plus ancillary traffic
- road life of approximately 20 years

The access road will be an all-weather 10 m wide gravel road, with sections reduced to 6 m wide across difficult terrain. Passing bays will be incorporated at key intervals as determined by line of sight. The RCH access location and road design parameters will be in accordance with Yukon Highways and Public Works requirements.

Materials for road construction will generally be sourced from sites along the road route. During the detail road route layout, the potential for road cuts to expose sulphide bearing mineralization will be assessed (Section 2.4: Rock Characterization). Based on a helicopter reconnaissance by a geochemical consultant in 2005, the only mineralized outcrop observed was located more than ~1500 m upslope of km 13.

2.11.2.2 Crossing Structures and Water Management

There are five stream crossings along the proposed route that will require culverts: Pitch Creek (km 3.0), Light Creek (km 3.1), Bunker Creek (km 10.7), Chip Creek (km 15.2), and Hawkowl Creek (km 22.9) (Figure 2.11-1). All other surface drainages encountered during assessment activities were observed to have undefined channels. These surface drainage and overland runoff will be controlled with ditches along the upslope side of the road that will connect culvert installed at regular intervals. Culverts will be sized for a 1:100 year flood event and will consider factors such as icing potential to ensure that culverts are not under-sized. Culvert sizing will also incorporate the requirement to permit fish passage at the five stream crossing locations. Additional environmental requirements are presented in Section 2.11.4.

2.11.2.3 Staging and Authorized Access

A fenced staging yard will be constructed at the north end of the access road near the RCH. The staging yard will provide a double-gated system to control access onto the mine road. The first gate will control access from the RCH into the staging yard. The second gate will control access on to the mine access road from the staging yard. The road will be classified as a private mine road with no public access. Vehicles will be equipped with radios to permit access, and to arrange for safe passing with oncoming vehicles at desired passing points. Priority will be given to loaded concentrate haul trucks.

2.11.2.4 Site Protection Plans

To ensure road construction and road maintenance activities have minimal impact on the environment, these activities will follow best management practices outlined in Section 9.2: Environmental Protection Plan. In areas where culverts will be installed, best management practices will include but not be limited to the following:

- Culvert installations at fish-bearing streams will be conducted during the instream work window.
- Heavy machinery will operate from the stream bank and in a manner that minimizes disturbance to the banks and bed of the creek crossing.
- Machinery will be clean and well maintained (i.e., free of fluid leaks).
- All machinery will carry emergency spill kits in case of a fluid leak or spill.

- Fuel, machinery and other materials will be stored away and equipment refueled away from watercourses to minimize the potential for the release of a deleterious substance downstream.
- Riparian vegetation removal will be minimized.
- All exposed areas will be revegetated and/or measures to control erosion will be installed.

In addition to the implementation of these best management practices, procedures outlined in the Wildlife Protection Plan (Section 9.5) and Archaeology Contingency Plan (Section 9.6) will apply to all project phases.

2.11.3 Concentrate Haulage Route

YZC proposes to use transport trucks with four pots on a Super-B train trailer to transport concentrates to the Robert Campbell Highway and beyond. The pots are covered containers that prevent the loss of product and the potential for metal contamination along haulage corridors.

All concentrate trucks will proceed from the mine access road to Watson Lake, approximately 200 km southeast via the RCH (Highway 4). From Watson Lake, the trucks will proceed southwest via Highway 37 to the deep-sea port at Stewart, BC, approximately 780 km from Watson Lake. Haulage trucks may also go from Watson Lake ~ 475 km southeast via Highway 97 to Fort Nelson, BC to a Canadian National railhead. The direction from Watson Lake is dependent on smelter contracts that will not be in place until 2006-7.

The Robert Campbell Highway is currently being upgraded and based on discussions between YZC and the Yukon Highways and Public Works, improvements to the road subgrade will likely reduce the six week spring axle weight restriction period currently in place.

2.11.4 Decommissioning Plans

Currently, there are no plans to decommission the airstrip, site roads or the mine access road. The airstrip and site roads were constructed in the mid 1990s and will remain in place and be maintained for regional and local exploration activities as required, and will be decommissioned as required by permits obtained for exploration purposes (e.g., Mining Land Use Permit).

Based on preliminary discussions with the Ross River Dena Council, the mine access road will likely be controlled, maintained and used as private road by the RRDC and its members. Additional consultation will be conducted to determine access and maintenance requirements post-closure, and if deemed necessary, decommissioning requirements.

