

An all-weather airstrip, suitable for small aircraft, will be constructed along the alignment of the main road between the plant site and Roberts Bay. During summer months the site may also be serviced by float planes and for that purpose a dock will be constructed on the shore of Doris Lake. This dock will be linked to the mill site with an all-weather road. During winter months an airstrip capable of handling larger aircraft will be constructed on the ice on Doris Lake and the site serviced from this airstrip.

Mining explosives will be stored in modified explosive magazines constructed from "sea-can" containers to be placed in a specially constructed area northwest of the camp. This facility will be linked to the main mill access road via a short all-weather road extension.

Tailings produced during the milling process will be deposited in Tail Lake about five kilometres from the proposed mill location. Tailings deposition will be sub-aqueous, requiring the construction of two water retaining structures: the North and South Dams. The tailings will be contained in Tail Lake by constructing a low permeability dam across the outlet of Tail Lake to the north and by a second dam constructed across a topographic low point at the south end of the lake. The proposed dams will be constructed as rock fill structures with a geosynthetic clay liner (GCL), filter and transition zones and a frozen key trench founded on non-organic permafrost soils and/or bedrock. The North tailings dam will have an operational spillway on the right abutment excavated in bedrock. The spillway has been sized to pass a 24-hour storm event with a 1:500 year recurrence interval. The spillway will be 20 m wide and will have a constant grade of 2%. Decant from Tail Lake will be achieved through a system of pumps, which will be synchronized to match the annual Doris Lake outflow hydrograph. Flow measurements at the Doris Lake outflow location will be used to trigger the pump(s) that will transfer the appropriate decant volume from Tail Lake to a discharge point approximately 50 m downstream of Doris Lake but upstream of the 4.5 m high waterfall in Doris Creek. An all-weather service road will be constructed along the east side of Tail Lake all the way to its southern end. The tailings pipeline will follow the roadway, and emergency tailings dump ponds will be constructed at strategic locations.

The Project Description that follows is based on the project feasibility study completed in January 2003, with contributions by various parties including Bateman Engineering, SRK Consulting, Nuna Logistics, and Miramar Hope Bay Limited (MHBL) Project personnel. The final project elements are still subject to detailed engineering.

## **2.3 Project Components and Planned Construction Schedule**

The proposed development schedule for the Doris North Project is presented in Table 2.1. The timetable is entirely subject to and dependent upon the timing of the NIRB and permitting processes.

**Table 2-1: Proposed Development Schedule for the Doris North Project**

2006	Q2	Mobilization of key construction equipment and supplies to Roberts Bay by barge
	Summer	Arrival of key construction equipment and supplies at Roberts Bay
	Fall	Equipment and material held in storage until winter
2007	Q1	Construction of winter road from Roberts Bay to minesite
	Q1	Movement of equipment and supplies from Roberts Bay to minesite
	Q1	Start of site development – collaring of U/G adit portal
	Spring	Construction of jetty in Roberts Bay
	Spring	Construction of all weather road between Roberts Bay and mine site
	Spring	Construction of Roberts Bay fuel tank farm
	Summer	Construction of plant site building pads
	Summer	Arrival of mill and first years operating supplies by sealift
	Summer	Assembly of Mill
	Q3	Extraction of first ore from U/G Mine
	Q4	Start of milling
2009	End of Year	Scheduled end of mining and milling
2010	Summer	Commence reclamation of mine site
2011	Summer	Complete reclamation of minesite

This schedule is based on the assumption that the Project receives authorization to proceed to the permitting phase (following environmental assessment) and that the permits, licenses, leases, etc, required to initiate construction are issued in or prior to the 2<sup>nd</sup> quarter of 2006.

Site development is tentatively scheduled to commence in the 1<sup>st</sup> quarter of 2006 with the construction of a winter road from Roberts Bay to the minesite and the collaring of the underground adit portal. Development would continue in the Spring of 2007 with construction of a causeway at the south end of Roberts Bay to accommodate the off-loading of sealift barges. The equipment required for this construction would be shipped to site by sealift in the summer of 2006 and left in storage at the barge offloading site until the 1<sup>st</sup> quarter of 2007. Additional materials would be brought to site by winter airlift (landing strip on Roberts Bay) or brought over the ice from Cambridge Bay.

A rock quarry would be established at the south end of Roberts Bay early in the Spring of 2007 (Quarry #1). Broken rock from this quarry would be used to:

- Construct a rock fill causeway out into Roberts Bay to facilitate the off loading of sealift barges. The rock fill causeway will be constructed once the ice has melted off of Roberts Bay in the spring of 2007;
- Construct the containment berm for a 8 million litre capacity fuel storage tank farm facility to be constructed within a section of this same quarry;
- Construct an equipment and material lay down area adjacent to the fuel storage facility; and
- Provide material for the frozen core of the containment dams;
- Construct an all weather rock fill road to the Doris North Project site, roughly following the former winter road alignment.

All of these facilities will be located near the south end of Roberts Bay. The proposed location of these facilities is shown on Figure 2.1.

The pad for the tank farm will be constructed of "clean" quarried rock. "Clean" quarried rock is defined as rock that has been certified through testing as having low acid generation potential and low metal leaching potential. Crushed rock will then be used to prepare a base and containment berm for installation of a low permeability HDPE liner, to be laid on top of a geotextile fabric within the tank farm.

Collaring of the portal will occur in the 1<sup>st</sup> quarter of 2007, using a minimal amount of mine development equipment that will be transported to site in the 2006 sealift. Mine development and construction crews will be based at the existing Windy Exploration Camp during the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2007 and transported by helicopter to the Doris North decline site (portal collaring and initial drifting) and to Roberts Bay (causeway construction). This will make it unnecessary to build a temporary camp at either site.

The major pieces of construction, mining and milling equipment will be shipped to Roberts Bay by sealift barge, with the barge(s) scheduled to arrive in September 2007. This shipment will deliver all of the remaining mobile heavy equipment needed for site construction, underground development, mining, and surface operations; the modular ore processing plant; power generating facilities; the accommodation camp, and all other equipment and bulk supplies required for site construction and for the first year of operations. These barge(s) will be offloaded at the new rock fill causeway constructed in the southern end of Roberts Bay. The equipment and supplies will be held in storage until they can be moved to the Doris North Project site over the new all-weather road.

The major pieces of equipment to be shipped to site on the 2006 and 2007 sealifts will include:

- 1 portable crushing plant
- 4 Cat 773 (50t) diesel haul trucks
- 2 Cat 988 front-end loaders
- 2 Cat D-8 dozers
- 1 Cat 330 excavator
- 1 Ingersoll Rand production blasthole drill
- 2 Double boom electric/hydraulic jumbo drills
- 3 Single boom electric/hydraulic jumbo drills
- 3 3 m<sup>3</sup> Scooptrams
- 4 1.5 m<sup>3</sup> Scooptrams
- 2 20 tonne underground diesel haul truck
- 2 Diesel powered portable air compressor units
- 1 UG scissors lift truck
- 4 Four underground equipped pick up trucks
- 1 Cat 966 Front-end loader
- 5 Surface crew cab pickup trucks
- 1 20 person capacity minibus
- 1 24 X 36 portable jaw crusher
- 1 Cat 14G grader

- 1 Service / fuel truck
- 1 5000 l capacity fuel tank truck
- 1 Plow truck
- 3 Portable lighting plants
- 7 Portable heating units
- 1 4.0 MW power plant consisting of 4 X 1.0 MW diesel electric generators
- 1 Pre-fabricated steel frame shop/warehouse building
- 2 Sprung type shelter buildings for the ore processing plant (mill and crushing plant)
- 1 175 person camp with attached kitchen, first aid, and office facilities
- 1 Modular mill with prefabricated, skid mounted processing circuits including pre-fabricated leach tanks
- 1 Gold smelting furnace
- 1 Modular Cyanide Detoxification unit.

Bulk supplies to be shipped for the first year of construction, mine development and production include:

- 8 million litres of diesel fuel
- Cement and aggregate for use in making concrete to be used in construction
- 500 tonnes of ammonium nitrate packaged in one tonne tote bags to be used in the manufacture of ANFO explosives (construction quarrying and mining)
- 60 tonnes of packaged high explosives for use in construction and in the first year of underground mining
- Reagents and mill supplies for the first year of ore processing, including:
  - 240 tonnes of sodium cyanide in 1 tonne tote bags;
  - 48 tonnes of sodium hydroxide (caustic) in 1 tonne tote bags;
  - 25 tonnes of copper sulphate in 1 tonne tote bags;
  - 21 tonnes of frothing agent (for flotation) in drums;
  - 4 tonnes of 3418A promoter in 1 tonne tote bags;
  - 21 tonnes of Potassium Amyl Xanthate (PAX) collector in drums;
  - 60 tonnes of hydrogen peroxide and 44 tonnes of sulphuric acid delivered in either 1000 litre bulk tanks or 208 litre drums for use in making Caro's Acid for cyanide detoxification;
  - 46 tonnes sulphuric acid in drums;
  - 262 tonnes of steel grinding media (steel balls) in barrels;
  - 50 tonnes of activated carbon shipped in 1 tonne tote bags;
  - 6 tonnes of smelting flux (borax, sodium nitrate, silica sand) in 1 tonne tote bags; and
  - 1 tonne of steel wool cathodes.

Construction of the underground access ramp would continue through the remaining summer, fall and winter of 2007.

Site development will continue with the establishment of a second rock quarry to be located near the proposed accommodation camp at the Doris North Project site (Figure 2.2). This quarry will be used to obtain broken rock for use in the construction of the rock fill pads required for project infrastructure, buildings, laydown areas and for construction of the access road to Tail Lake. Typically, coarse broken rock will be placed directly onto the existing frozen tundra.

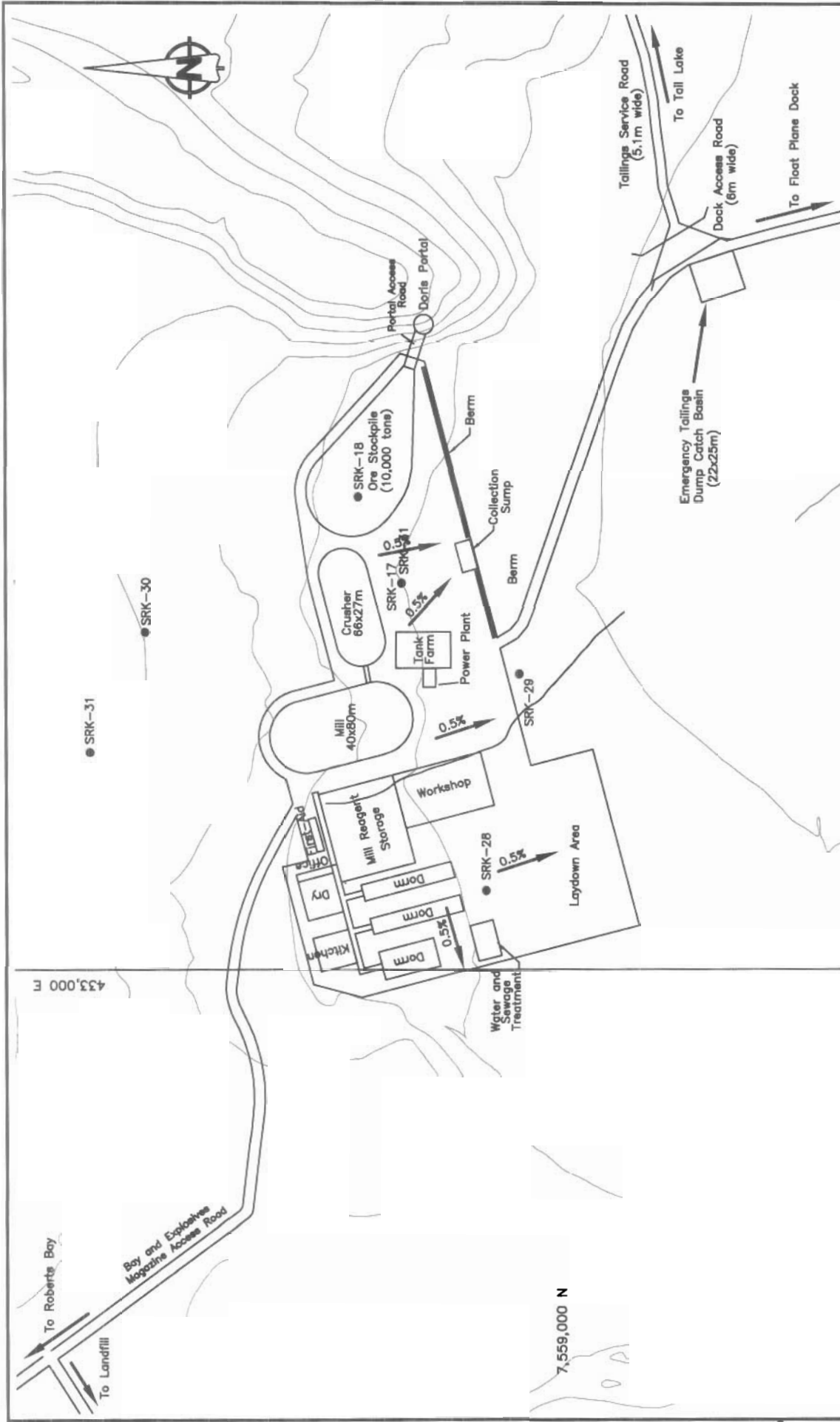
The underlying vegetation and soil in the area of the infrastructure pads and road alignments typically will not be removed. The intent is to minimize disturbance of the natural ground to prevent permafrost degradation and resultant generation of mud and sediments that could impact surface waters.

The major proposed construction components and activities include:

- Development of a rock quarry adjacent to the new barge landing area at the south end of Roberts Bay
- Construction of a 103 m long rock fill causeway into the southern end of Roberts Bay to facilitate offloading of sealift barges during construction and operations
- Construction of a rock fill lay down area (approximately 60m x 100m) near the south end of Roberts Bay to store equipment and materials arriving at site by barge while awaiting transfer to the Doris North Project Site
- Construction of a 8 million litre capacity fuel storage tank farm (5 x 1.6 million litre tanks) in the rock quarry to be developed near the south end of Roberts Bay and a shore manifold and delivery piping system located near the south end of Roberts Bay (tank farm 71 m x 71 m)
- Construction of a 4.8 km long all weather access road from the south end of Roberts Bay to the Doris North Project site; the proposed road will generally follow the previous winter road alignment to the Doris North Project site
- Construction of a 914 m long gravel airstrip runway and associated apron area along the all weather road between Roberts Bay and the Doris North Project area
- Construction of a rock fill pad c/w safety berm at the end of a small spur road adjacent to the all-weather road, over the ridge west of the accommodation camp, to act as the explosives storage area (explosives magazine)
- Installation of pre-fabricated explosives (powder) and detonator storage magazines (approximately 2.44 x 24.4 m and 2.44 x 2.2 m respectively) (sea-can container storage units)
- The construction of an all-weather road to the shore of Doris Lake as access to the freshwater pump intake and float plane dock
- Development of a second rock quarry near the Doris North Project site to provide broken rock for construction of roads and building pads (Quarry 2)
- Construction of a 0.5 million litre capacity fuel storage tank farm (using self contained EnviroTanks) at the Doris North Project plant site
- Construction of rock fill pads to accommodate various infrastructure components, including the camp, mill, mine site lay down area and ore stockpiles (approximately 41,613 m<sup>2</sup>)
- Development of the Doris North underground mine with access via a decline ramp from surface including construction of three ventilation raise that will come to surface
- Construction of the ore processing plant (two Sprung style steel frame, insulated fabric cover buildings housing pre-fabricated modular skid mounted ore processing units, including a cyanide detoxification circuit)
- Installation of modular power generator units (4 sea-can containers)
- Construction of a workshop building (a steel frame building)
- Installation of a waste oil burner unit c/w storage tank within the shop building to facilitate the disposal of waste hydrocarbons and in the process, to generate heat for this area
- Construction of a 175-person accommodation camp with attached offices and change house (dry) facilities (primarily composed of modular trailer units)

- Installation of a packaged potable water treatment plant
- Installation of a packaged primary sewage treatment plant with the treated wastewater being pumped to the ore processing plant to be combined with the mill tailings slurry for discharge to Tail Lake
- Installation of incinerator units to burn all kitchen and combustible waste generated by the camp
- Construction of a float plane and boat dock (approximately 40 m x 10 m) on the northwest shore of Doris Lake
- Construction of a potable water supply pump intake on the north end of Doris Lake and installation of a fresh water pipeline to the water treatment plant at the camp and to the mill
- Installation of a freshwater storage tank and distribution piping adjacent to the mill
- Construction of a rock fill all-weather road (length approximately 5.9 km) to the south end of Tail Lake including a clear-span bridge crossing over the outlet creek from Doris Lake
- Development of a third rock quarry on the east side of Tail Lake to provide broken rock for construction of roads and the tailings dams (Quarry 3)
- Installation of a tailings pipeline along the side of the road to the south end of Tail Lake and the construction of four tailings pipeline dump catch basins at strategic points along the pipeline
- Installation of a reclaim water pump in Tail Lake and a pipeline along the Tail Lake road to reclaim water back to the ore processing plant for use in milling
- Construction of low permeability dams at the north and south ends of Tail Lake to create the tailings containment area
- Installation of a pumping system and pipeline to manage periodic release of excess water from within the Tail Lake tailings containment area into the Doris Lake outflow creek
- Construction of a non-hazardous solid waste disposal site (approximately 100 m x 100 m) within the quarry to be located northwest of the Doris North Project site camp (Quarry 2).





MIRAMAR HOPE BAY LIMITED

DORIS NORTH PROJECT  
Surface Infrastructure Preliminary Design

### Detailed Plan Layout of Mill/Camp

PROJECT NO.	DATE	APPROVED	FIGURE
1CM014-01	Oct. 2003	D.B.M.	2.3



Contour Interval = 1m  
UTM Projection: NAD83 Zone 13

Development of the underground mine will begin in the 1<sup>st</sup> quarter of 2007, with collaring of a portal near the plant location, and development of a ramp to access the ore. Extraction of the first ore is estimated to be in the 3<sup>rd</sup> quarter of 2007.

The ore will be processed on site using a small modular mill, processing a nominal 690 tonnes of ore per day. The mill will be assembled following the 2007 sealift and will begin production in the 4<sup>th</sup> quarter of 2007. Full production is expected in early 2008 when sufficient ore supply is available from the underground development.

The Doris North Project will be operated by a work force of approximately 150 persons. Most of the work force will work on a 14 day on-site and 14 day off-site rotational basis. All personnel on site will work 12 hours per day, seven days per week for the duration of the roster rotation.

## **2.4 Geology of the Ore Deposit**

The Doris North Project area is on the north end of the Hope Bay greenstone belt. The geology in the area of the Doris North Project contains a system of quartz veins more than 2 km in length. The Doris Hinge occurs where the Doris Central and Doris Lakeshore veins meet in a zone of mineralization four to five metres wide with a varying thickness from mere centimetres to over 40 m. It is visible at surface as a quartz outcrop and is at least 600 m long, plunging North at a gentle 10° and is truncated by a cross cutting diabase sill. The basaltic host rock of the Hope Bay belt is folded in a shallow, north-south trend that also plunges to the north. Younger diabase dykes and sills of Proterozoic age have intruded the basalt host rock. These dykes and sills cut across the zones of mineralization throughout the Hope Bay belt. In the Doris Vein System these range from 1 to 6 m thick. Most of the gold mineralization is hosted in quartz vein systems. Sulphide content in the veins is generally low, averaging < 2% pyrite.

## **2.5 Mining Method**

Underground mining will be carried out by a combination of mechanized cut and fill and open stoping, assuming a minimum mining width of 2.5 m and external dilution averaging 17% at zero grade. Mine engineering has been advanced to a point well beyond what is considered normal for a feasibility study. The entire deposit has been planned and scheduled, all required waste and on-ore development has been laid out and individual stopes engineered with ore and grade release schedules. Costs and productivity estimates utilize experience from Miramar's Yellowknife operations, adjusted to site-specific conditions.

A full spectrum of mining methods was considered. One of the most important aspects to consider was control of excavation geometry as this is a very high-grade deposit with variable and narrow geometry. Mining methods selected were, open stoping (drilling with electric hydraulic jumbo drills and jacklegs) and mechanized cut and fill. Mining methods were assigned to portions of the deposit based on shape of the mining solid and apparent vein variability defined by drilling. The selected methods are described below:

### **2.5.1 Open Stopping**

Open stoping was chosen for all of the hinge area. It is a top-down mining method where the majority of the drilling will be done by electric-hydraulic jumbos using 4 m steel. A 3 m by 3 m



pilot drift will be driven in ore, following the hanging wall near the apex of the hinge, and the ore along the sides will be slashed into the drift. Ground support, will be installed and the floor will be benched by drilling and blasting to recover all the ore.

The design allowed for a maximum of 20% in-stope-ramp grade on the hanging wall and footwall. Where the hinge plunged more steeply than could be followed with an in-stope-ramp at 20% grade, waste mined to maintain the 20% was included in the mining solid as internal dilution.

### **2.5.2 Mechanized Cut and Fill**

Mechanized cut and fill using development waste for fill, was chosen for the remaining portions of the deposit. This method is highly flexible and will allow for dealing with irregularities in structure or grade.

A drift is driven along the ore structure at a planned width of 2.5 m. As it is an ore extraction drift, and not a travel way there is no legal minimum clearance required beyond the width of the equipment. Rock bolting is done along the ribs where necessary, and then a 3 lift is slashed down from the back, either by horizontal breasting, or by using uppers. Ground support is installed in the new back and ribs, and then the broken ore is mucked out using a scoop tram.

The initial access from the haulage system to a cut and fill stope is driven at minus 15% gradient and results in a decrease in elevation of 7.5 m. After each lift of ore is mucked out from the stope, the back of the access ramp is slashed and the broken muck is used to fill the ramp to provide level access to the stope at the elevation of the top of the next lift of fill (an increase of 3 m in elevation).

Waste rock is then placed in the stope, filling it to within 3 m of the new back, and the next lift is mined. When successive lifts have been mined to the point that the access ramp has increased in gradient to plus 15% a new access to the ore is driven at a gradient of minus 15%. In this way, the accesses to each stope will be spaced 15 m vertically apart.

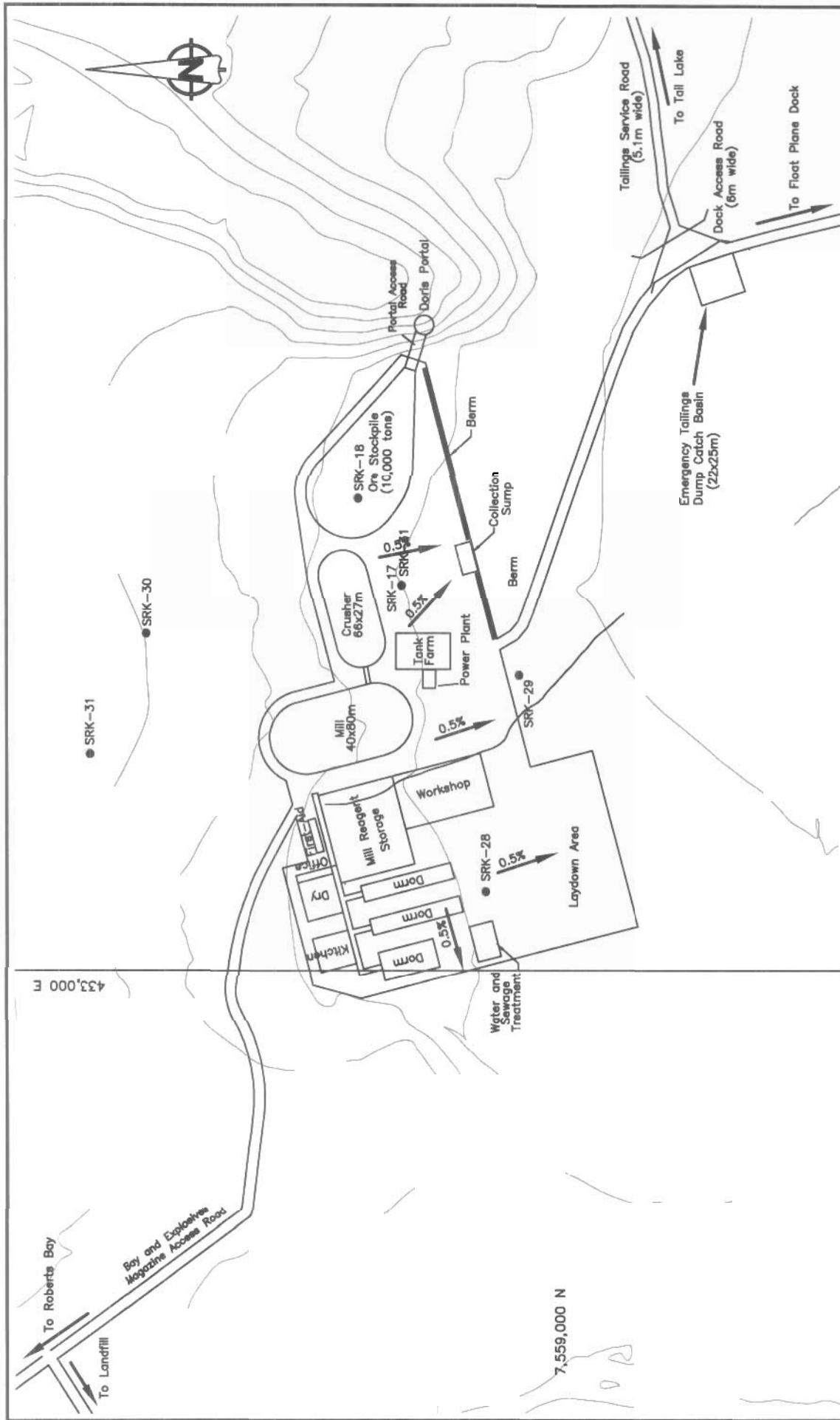
Underground mining for the Doris Hinge ore zone will commence with construction of a 4 m high by 5 m wide portal, collared at surface near the mill. It will access the northeast trending ore zone by way of a decline ramp going down to the 2,991 m level (a vertical depth of approximately 36.5 m). The ramp will have a 10% slope and be approximately 900 m in length.

Initial ventilation of the ramp development will use two 45 kW (60 HP) high pressure fans with 1.2 m (48") diameter vent tubing supplying the required 21 m<sup>3</sup>/s (45,000 cfm) to 4 pieces of equipment: one 2-boom jumbo, one 3 m<sup>3</sup> load hull dump (low profile underground front end loader (LHD), one 30 tonne truck, and one utility vehicle.

When the main ramp reaches the orebody, approximately 500 m ramp length from surface, a temporary ventilation raise/escapeway (Vent #1) will be driven to surface. At the top of the vent raise a large diameter low pressure 45 kW (60 HP) main fan will be installed to force 47 m<sup>3</sup>/s (100,000 cfm) up the main ramp. The auxiliary fans used for development will then be relocated to the bottom of the vent raise.

As the ramp development reaches the northern and southern extents of the mine, two additional ventilation raises/escapeway (Vent #2 and Vent #3) will be driven to surface. The temporary raise (Vent #1) will then be sealed off and the two new raises (Vent #2 and Vent #3) will each have a low pressure large diameter 45 kW (60 HP) fan mounted on top of them. The fan, which will have a total capacity of 85 m<sup>3</sup>/s (180,000 cfm), will be adjusted to force a total of 70 m<sup>3</sup>/s (150,000 cfm) through the ramp system and up to surface, sufficient to accommodate the mobile equipment which will be in use at that time, as required by the NWT/Nunavut Mine Safety Act and Regulations. Fresh air will be drawn off the main ramp with auxiliary fans and forced into the working stopes. This configuration will remain in place until the ore body is mined out.

The location of the ramp portal (Doris Portal) is shown in Figure 2.3. The 3 dimensional cross-section of the proposed Doris North underground mine is shown in Figure 2.4. (looking northwest) and in Figure 2.5 (looking southwest). It should be noted that all of the underground workings required to mine the Doris Hinge zone will be to the north of Doris Lake; none of the mine workings will extend underneath Doris Lake. Consequently groundwater inflow from Doris Lake is expected to be minimal. The mine workings for the Doris North Project are located within permafrost and are sufficiently distant from Doris Lake that groundwater inflow is not expected to be significant (i.e., based on geotechnical investigations conducted in 2002/2003, it is believed that the talik zone caused by Doris Lake is limited to the perimeter of the lake – see section 5.4 in SRK 2003 (b), Support Document A4 of the November 2003 FEIS).



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DORIS NORTH PROJECT  
Surface Infrastructure Preliminary Design

## Detailed Plan Layout of Mill/Camp

Contour Interval = 1m  
UTM Projection: NAD83 Zone 13



PROJECT NO.	DATE	APPROVED	FIGURE
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Doris Mine Final EIS - Project Description

Doris North Hinge Zone  
Looking North West

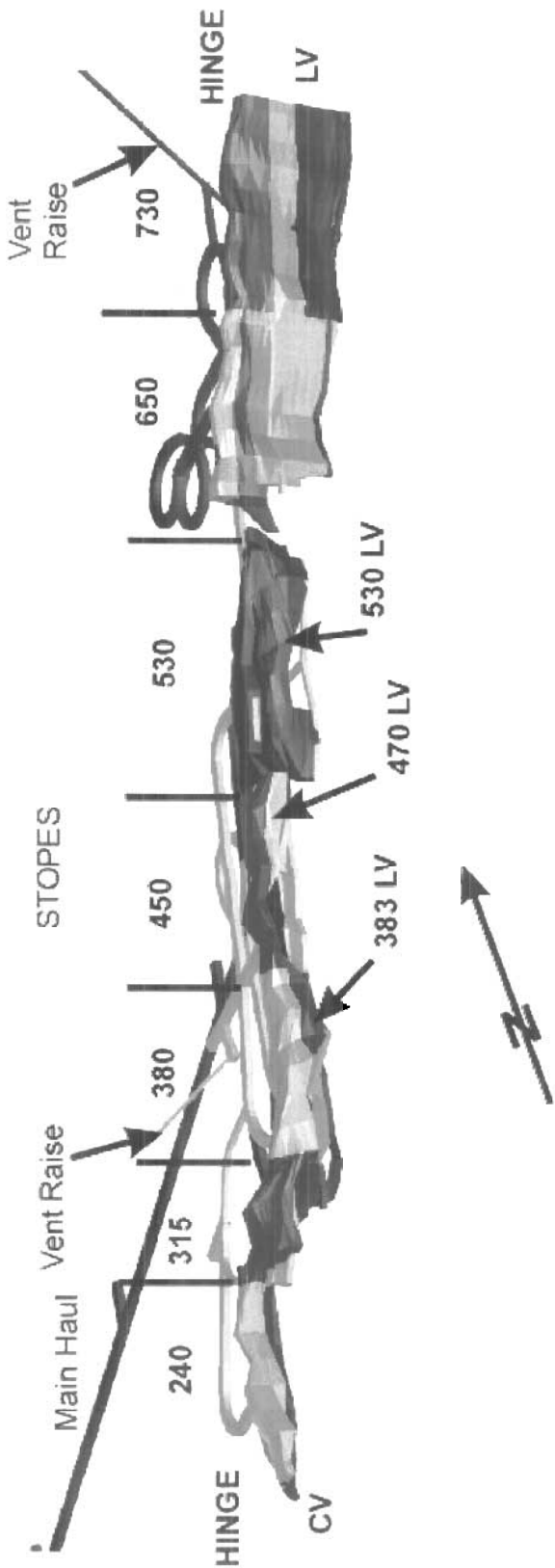


Figure 2.4 Doris North Hinge Zone Mine Design Looking North West

## Doris North Final EIS - Project Description

### Doris North Hinge Zone Looking South East

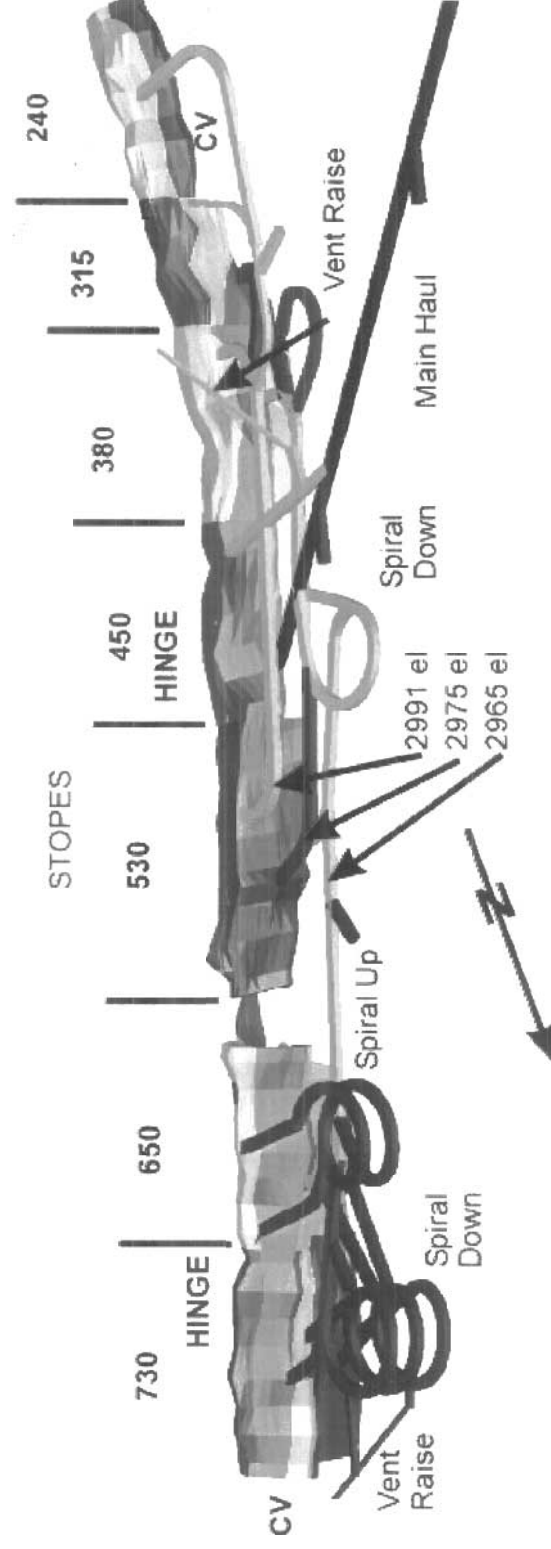


Figure 2.5 Doris North Hinge Zone Mine Design Looking South East

Water for drilling and dust suppression will be supplied from sumps and re-cycled to them. Due to the freezing conditions a brine solution will be used. The sumps will be charged by a 50 mm (2") line from the mill. Once a sump is full the pumping will stop and the line blown clean with compressed air to eliminate freeze-up. Potable water will be supplied in bottles.

A leaky feeder system will provide communication for the entire underground mine. The system will also allow radio contact directly to the maintenance shops. A second communications line (emergency phones) will be installed directly to the underground safety station and to an appropriate location on surface such as the security desk, the first aid room, or the surface mine rescue station.

Underground trucks will haul the ore from the underground mine to a stockpile located on surface near the ore processing plant.

The mining rate will be nominally 668 tonnes per day, with 467,000 tonnes of ore being extracted over the 24-month operating life. Mining is projected to be complete in the fourth quarter of 2009. The underground mine workforce is expected to consist of approximately 85 persons. The breakdown of the projected underground labour force is presented in Table 2.2.

**Table 2-2: Projected Underground Workforce**

Mine Operations	Contractor	Owner	From Nunavut*
Mine Superintendent		3	
Miners		24	8
Mucker/Equipment Operator		24	8
Nipper		4	2
Timberman		2	
Tech Services Underground		18	8
Mechanics		6	2
Mechanics Helpers		4	2
Total	0	85	30
<b>Note:</b> * Staffing levels from Nunavut are estimates only. Actual numbers will depend upon availability of qualified personnel.			

The major pieces of mobile equipment required for mine operations (mining and surface) will consist of:

- 2 double boom electric/hydraulic jumbo drills
- 3 single boom electric/hydraulic jumbo drills
- 3 - 3 m3 scooptrams
- 4 - 1.5 m3 scooptrams
- 2 - 20 tonne underground diesel haul truck
- 2 diesel powered portable air compressor units
- 1 scissors lift truck
- 4 underground equipped pick up trucks
- 1 966 Front-ed loader
- 1 road grader
- 1 20-person capacity minibus.



### 2.5.3 Waste Rock Management

Broken rock excavated by development of the ramp will be used in construction along with additional material quarried specifically for that purpose. Wall rock from near the ore zones, which is carbonate altered, will be selected for construction of a carbonate rich pad of rock to be placed beneath the surface ore stockpile area. This carbonate rich material was selected to provide a material that has the capacity to neutralize any acidic drainage that may be generated by the ore stored on the stockpile pad. Significant test work was completed to determine the acid rock generating and metal leaching potential of the rock to be disturbed by underground mining. Almost all of the rock outside the mineralized zones has low acid generating potential and is not expected to be a source of acid rock drainage or other metal contaminants.

A total of 60,000 tonnes of waste rock will be produced from collaring and development of the access portal to the ore reserves. This waste rock will be used as construction material for the infrastructure components described in this report. As mining progresses it is expected that all development waste rock will be used internally as backfill within the mine workings. If required any excess non-PAG (Potentially Acid Generating) waste rock will be hauled to the rock quarries where it will be stockpiled to use as final cover for the solid waste disposal facility operations. If there is excess waste rock at any time it will be stored directly onto the tundra immediately downslope of the ore stockpile. The majority of waste rock generated during mine development will not come from within the mineralized sections of the ore body and based on acid-base accounting (ABA) test work this rock is unlikely to be potentially acid generating. MHL will use the following process to verify that all development rock brought to surface from the underground mine is appropriately characterized as to its acid rock drainage (ARD) potential and segregated where appropriate:

- The mine geologist will inspect the face of all development rounds prior to blasting to identify the rock lithology of the material to be mined by that round. The geologist will classify the rock as being likely PAG or non-PAG material based on type of rock and relative amount of sulphide mineralization present. This finding will be logged into the daily geological records for future reference. The type of information recorded will be as follows:
  - Date and time of the inspection, location of the face inspected (i.e. distance down the ramp or location on the level, rock lithologies present in the face, relative proportions of each lithology if more than one are evident, presence or absence of visible sulphide mineralization, type of sulphide and the estimated amount of sulphide mineralization present.
  - For non-PAG material (i.e., where sulphide mineralization is not evident) the geologist will take no further action outside of recording his findings in the daily geological log;
  - Where sulphide mineralization is present the geologist will make a visual inspection to determine whether the relative amount of sulphide mineralization is likely to exceed 0.30 wt%. For material where the evident sulphide mineralization is under the 0.30 wt% then the material is likely non-PAG and no further action will be taken. For material where the evident sulphide mineralization is greater than 0.30%, the mine geologist will arrange with the mining crew and their supervisor to either:
    - Have the material declared PAG and placed on surface in the stockpile area designated for temporary storage of PAG rock pending its subsequent placement as backfill underground; or