

Appendix D – Letter to Chief Inspector of Mines June 2002



NANISIVIK MINE

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Mr. Sylvester Wong
Chief Inspector of Mines
Workers' Compensation Board
Northwest Territories and Nunavut
Box 8888
Yellowknife, Northwest Territories
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SENT ELECTRONICALLY TO sylvesterw@wbc.nu.ca

Dear Sylvester:

We are in receipt of a letter from Martin van Rooy asking that we be aware of certain requirements and obligations relative to the closure of Nanisivik Mine and also asking that certain other information be provided to you in anticipation of the closure. I also wanted to take this opportunity to keep you current with respect to last week's discussion about the variance currently in place for shift schedules and shift rotations.

Possibly, it would be best to deal with the issue of the variance first. As you know there was some thought that the Company and the Union would be approaching you jointly, looking for some modest relief from the variance that is currently in place. As it turns out, the union membership could not agree with the recommendation that was being advocated by its executive and no such approach to you was required. We have scheduled our employees in strict compliance with the variance and we believe that this will no longer be an issue.

Turning now to the letter received from Martin van Rooy, there were three issues that he raised.

First, Martin reminded us that even during the closure phase, the Mine Health and Safety Act will continue to apply and we will be required to manage the operation accordingly. We acknowledge that we will continue to be governed by the Act, that any reports will continue to be addressed to Nanisivik Mine (and not a contractor) and that supervisors in place must have the proper accreditation.

Martin then reminded us of our obligations to our employees working underground during the closure phase. Again, you have our commitment that we will fulfill all such obligations imposed under the Act as they apply to refuge stations, Mine Rescue teams and the like.

Third, Martin asked that we provide to you the details of our plans for sealing all mine openings, fall protection in place at open pit and quarry walls, disposal of explosives and areas where mined out areas could break through to surface.

Dealing with those things in the order that they are presented, you should be aware of the following.

1. A table is attached as Appendix "A" to this letter setting out our plans for the sealing of all mine openings.
2. No fall protection will be required at the open pit / quarry walls, as we will limit the final pit wall faces to no more than five meters. To put this in its proper perspective, there are many natural locations in the area where vertical faces exceed five meters.
3. We have reviewed Section 14.60 of the Mine Health and Safety Act Regulations dealing with the disposition of explosives upon the closure of a mine. We propose that surplus explosives will be treated in the following fashion.

(A) All surplus detonators will be destroyed underground through proper detonation.

(B) Cartridge explosives will be burnt in an approved location.

(C) Depending upon its residual economic value, nitrate prill will either be shipped to another of Breakwater's mining operations or mixed with water and discarded in the waste fill underground. There will be no unmixed ANFO.

4. There are no identified areas that could breakthrough to the surface.

Sylvester, I believe that addresses all of the issues raised by Martin as well as concludes the issue that we raised with you last week. If you have any questions or concerns please feel free to call upon me.

Yours truly,

NANISIVIK MINE

Bill Heath
General Manager

cc: Guy Lauzier (Manager of Technical Services)
Wayne Osborne (Manager of Mining)
Murray Markle (Loss Control Coordinator)

APPENDIX "A"
MINE ACCESS CLOSURE PLAN

ENTRANCE LOCATION / NAME	DESCRIPTION OF ENTRANCE	RECOMMENDED REMEDIAL ACTION
The <u>Lower Adit</u> is the main access to the underground crusher and fine ore bin as well as a secondary access to the main mine.	The adit was originally cut at 3.0m by 5.5 m and contains the feed belt from the fine ore bin to the DMS plant and mill in a covered galley way. The collar of the adit was cemented resulting in a 5.0m by 3.0m opening with a 1.0m thick cover of cement and 0.25m thick walls inside the solid rock and up to 0.5m thick outside the solid rock. The cement roof outside of the solid rock is supported with steel beams fixed to the walls. The area above the cement will subsequently filled with fine, non-acid generating material.	☐ Removal of all exterior fine ore transporting infrastructure and galley way. ☐ Filling the adit to 2.25m above the opening to prevent entry (non-acid generating material).
The <u>00 Portal</u> is the principal access at the western extremity of the mine.	The portal measures 5.0m by 5.0m in cross-section and currently has an automatic roll-up rubber door installed for ventilation control. As a further safety measure, a fenced, catch-berm was installed 4.0m above the opening. The four 75hp fans are mounted in a steel bulkhead on a pad approximately 18m wide and 12m high and extending 10m into the underground side of the opening. The frozen pad is constructed of mine waste and shale and the size of the bulkhead is 22m by 4m. A 4m fenced, catch-berm is located above the opening for further safety.	☐ Backfilling to 1.0m above the opening. ☐ Removal of the fence above the portal. ☐ Final contouring, filling & general clean-up (1.25m cap). ☐ Removal of the ventilation fans.
The <u>01 Portal</u> houses the main ventilation fans.	Backfilling the area under the brow with waste material. Final filling and contouring (1.25m cap).	☐ Backfilling the area under the brow with waste material. ☐ Final filling and contouring (1.25m cap).
The <u>09 Portal</u> is a culverted entryway giving access to the main mine on the south side of 09 Block.	The culvert is round with a diameter of 5m and a length of 28m. The bottom of the culvert is filled to provide a smooth floor. The culvert extends 13m inside the solid shale of 09 south drift, leaving 15m exposed on surface.	☐ Crush the culvert and backfill with waste to 1m above the top of the opening. ☐ Final contouring with 1.25m of non-acid generating material to prevent entry. ☐ Removal of all trash and unused materials.
The <u>17 North Portal</u> is a culverted entryway giving access to the main mine and the former compressor room on the north side of 16 block.	The 17 North Decline is 5m by 5m in cross-section and the culvert is half round with a diameter of 5m and a length of 28m. The culvert is supported by a concrete retaining wall (0.25m thick by 2m high) on either side and extends 5m inside the solid dolostone of the drift. A 23m section remains exposed to the surface.	☐ Crush the culvert and backfill with waste to 1m above the opening. ☐ Final contouring with 1.25m of non-acid generating material. ☐ Removal of all trash, outbuildings and scrap steel.

The <u>39 Portal</u> was the main access into the east end of the main mine for much of the mine life.	The removal of material in the rib between the mine and the East Open Pit has resulted in an opening of 50m wide by 12m to 15m high. The brow varies from 3m to 8m in height and is partially fenced. The opening is currently backfilled with mine waste in order to seal the opening.	☐ Backfilling with waste to 1.0m above the opening. ☐ Removal of all trash, outbuildings, fencing and scrap steel. ☐ Final filling and contouring (1.25m cap).
The <u>88 Portal</u> is the travelway at the east end of the lower lenses of the mine.	The 88 Portal has a cross-section of 5m by 5m and the 3.5m brow over the portal is fenced for additional safety.	☐ Backfilling with waste to 1.0m above the opening. ☐ Final contouring with a 1.25m cap of non-acid generating material. ☐ Removal of all trash, fencing and scrap steel.
The <u>K Baseline Portal</u> is a culverted entryway formally used to access the K Baseline orebody.	The K Baseline decline is 5m by 5m in cross-section and the culvert is half round with a diameter of 5m and a length of 28m. The culvert is supported by a retaining wall (1m wide by 2.4m high) on either side and extends 3m inside the solid dolostone of the drift. Of the remaining 25m, all but approximately 5m have been covered with waste material. The portal has been inactive for a period of nearly 10 years and ice has completely filled the access to a point 20m inside the culvert.	☐ Crush the portion of the culvert that is still accessible. ☐ Backfilling with waste to 1.0m above the high spot in the culvert. ☐ Final contouring with a 1.25m cap of non-acid generating material. ☐ Removal of all trash, fencing and scrap steel.
The <u>Ocean View Portal</u> is a bare rock entrance into the north side of the Ocean View underground workings.	The Ocean View Portal has a cross section of 5m by 5m. The 5m brow above the portal is fenced for additional safety. The portal has been inactive for a period of over seven years and has completely filled with ice.	☐ Backfilling with waste to 1.0m above the opening. ☐ Final contouring with a 1.25m cap of non-acid generating material. ☐ Removal of all trash, outbuildings, fencing and scrap steel.
The <u>Area 14 Portal</u> provided access to Area 14 underground workings.	Mining activities in Area 14 ceased 15 years ago and the portal was backfilled with waste then and covered and contoured with shale in 1987 and 1988.	☐ No further remedial measures are required in this area.
The <u>Shale Hill Raise</u> – this raise to surface from the underground workings of the Shale Hill Zone provided ventilation for the area.	The top of the 3m diameter by 47m raise is sealed with an old steel tank (2.5m diameter) with its bottom cut out and with two adapters for 36" ventilation fans. The tank was fixed to a cemented collar at the top of the raise. The steel tank is in place, but the fans have been removed. The last work done in this area was in the mid 1990's and the raise remains open its entire length. Heavy frost build-up does occur in the tank during the winter but melts in the summer.	☐ Removal of the steel tank (summer months only). ☐ Backfilling with dolomite and / or shale to the original surface elevation. ☐ Cover the raise with a further layer of 3m of non-acid generating waste.
The <u>Ocean View West Raise</u> is located near the west end of the Ocean View underground workings.	The 3m-diameter raise is 26m deep and provided ventilation for the Ocean View workings. The raise is covered by a steel enclosure with a locked wooden cover. Due to the long period of inactivity, ice has filled the raise to just below the surface level.	☐ Removal of the steel enclosure and backfilling of the remaining opening with waste rock to the original surface elevation (summer months only). ☐ Non-acid generating waste (3m) will be put over the raise.

The <u>Ocean View East Raise</u> is located at the extreme east end of the Ocean View underground workings.	The 4m by 4m raise is 10m deep and provided ventilation for the workings. The raise is currently covered with a wooden wind deflector with a locked door. Access was blocked by snow at the time this summary was prepared, but it is anticipated that due to the length of inactivity this raise will be filled with ice. The Area 14 Raise has a cross-section of 5m by 5m and depth of 8m. Mining ceased in this area 15 years ago and the raise was completely backfilled to the floor of the underground workings with waste and then covered and contoured with shale in the summers of 1987 and 1988.	☐ Removal of the wooden wind deflector. ☐ Backfilling of the remaining opening with dolomite and / or shale to the original surface elevation (summer months only). ☐ Cover the raise with a further layer of 3m of non-acid generating waste.
The <u>Area 14 Raise</u>.		☐ No further remedial measures are required in this area. ☐ Filling along the highwall is currently underway.
The <u>West Pit Highwall</u> is the surface expression of the limits of open pit mining carried out over the years.	The West Pit highwall has a total extent of 188m and varies in height. The area between 00 Portal and 01 Portal has been backfilled to within 2m to 4m of the brow above. A safety berm (average width of 3m) exists on the longer, uphill side of the high wall.	☐ The remaining backfilling operations will be completed with waste, approved solid refuse and reject material from the DMS plant. ☐ Final filling and contouring will be carried out using a 1.25m cap of non-acid generating material. This will be done to limit any vertical face to a maximum of 5m. ☐ Backfilling of the highwall is currently underway.
The <u>East Pit Highwall</u> is the surface expression of the limits of open pit mining carried out over the years.	The East Pit highwall has a total lateral extent of 163m and varies in height. The top of the highwall is fenced for additional safety. The bottom of the pit has been silled out to the East Lower Lens underground workings.	☐ The East Lower Lens sill area in the center of the pit will be filled with waste material to the ultimate pit elevation. ☐ Filling and final contouring against the highwall and the mine openings will be done at the natural angle of repose (35°) and to a height that will limit any vertical face to a maximum of 5m., using a cap of 1.25m. ☐ Backfilling of the opening will be carried out using reclaimed rock from around the pit.
The <u>East Trench Highwall</u>.	The East Trench highwall is 24m wide by 75m long and 20m deep at the west end.	☐ Final contouring and filling will be done with a 1.25m cap of non-acid generating material. This will be done to limit any vertical face to a maximum of 5m.
The <u>Ocean View Pit Highwall</u>.	The Ocean View Pit highwall is the surface expression of the limits of open pit mining carried out recently to the east of the Ocean View underground workings. The highwall has a total lateral extent of 300m and averages 4m in height. There is an additional wide cut (4m deep by 5m wide) within the limits of the overall pit.	☐ Backfilled with mine waste and final contouring will be done with overburden material removed from the pit. ☐ Given the gentle slope of the local topography and the shallow nature of the pit, no vertical drops from the highwall will remain.