

## DAILY REPORT #53 – DORIS NORTH INFRASTRUCTURE/ NORTH DAM

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<b>Reviewed by:</b>		<b>Project #:</b>	1CH008.058.0320
<b>Role</b>	<b>Company</b>	<b>Personnel – Position</b>	<b>On Site</b>
Client	Hope Bay Mining Limited (HBML)	Angela Holzapfel – ESR Compliance Manager David Vokey – ESR Coordinator Don Ethelston – HSLP Advisor Dean Wold - Safety Jill Turk – ESR Coordinator Katsky Venter – ESR Manger Michelle Tanquay – ESR Site Manager Stirling Kelly – HSLP Advisor	No In Yes No No In Yes No
	JDS	Lloyd Jackson – Mechanical Superintendent Doug Fielding – Construction Manager Ishan Fechter – Construction Coordinator Jerry Graham – Construction Manager Kevin Whieldon – Project Coordinator Mark Valeriote – Construction Manager	Yes Yes No No Yes In
Engineering Design Consultants	SRK Consulting (Canada) Inc.	John Kurylo – Site Engineer Megan Miller – Site Engineer Lawrence Borowski – Site Engineer Murray McGregor – Site Engineer Iozsef Miskolczi – Site Engineer Lowell Wade	No No Yes Out Yes In
	EBA Engineering Consultants Ltd.	Jeff Orr – Project Manager Jennifer Stirling – Geologist Thomas Bradshaw – Junior Engineer Ernest Palczewski – Geologist	Yes No Yes No
Earthworks Contractor	Nuna Logistics	Bradford Watkin – QC Manager Doug Haverland – Area Superintendent Gary Sodhi – Field Engineer Georges Cornelissen – Survey Manager Jeff Roberts - Surveyor Jim Cardinal – Foreman Jordan Gunter – Foreman Kevin Oakes – Project Engineer Kevin Kozdrowski – Foreman Kyle Kuntz – Project Engineer Margaret Caley – Surveyor Matt McKay – Civil Supervisor Mike MacMaster – Surveyor Mike Price – Field Engineer Nick Stoneberger – Superintendent Rick Peter – Foreman Ron MacMaster – Surveyor Simon Chipper – Civil Supervisor	No No No Yes No Yes Yes No No No No Yes Yes Yes Yes Yes No No No
<b>External Distribution List:</b>	SRK: Maritz Rykaart, Lowell Wade, Seema Kang, Silkie Wong EBA: Robert Zschuppe Nuna: Chris Petrovic JDS: Bob Prince-Wright, Calvin Goldschmidt HBML: Dave Power, Gerry Benson		
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## WEATHER (ROBERTS BAY)

<http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=INUNAVUT3>

Temperature/Wind Chill (°C)	6AM: -35C/-35C	12PM: -29C/-29C	6 PM: -28C/-28C	12 AM -35C/-35C
Precipitation (mm)	<b>Rain:</b> None		<b>Snow:</b> None	
Conditions	<b>Day Shift:</b> Clear, calm to light wind..		<b>Night Shift:</b> Cold. Clear sky. Calm to moderate wind.	
Daily norms (°C)	24 hour high: -26C		24 hour low: -35C	

## HEALTH, SAFETY AND ENVIRONMENT

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## COMMENTS, CORRESPONDENCE AND ACTIVITIES

### DAILY MEETING WITH NUNA AND HBML TEAM:

- The daily meeting was attended by Newmont [Don Ethelston], JDS [Doug Fielding, Kevin Whieldon] Nuna [Nick Stoneberger] and SRK [Iozsef Miskolczi, Lawrence Borowski, Jeff Orr, Thomas Bradshaw]

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> <li>Safety: Worker felt discomfort in his lower back after his shift and in the evening. Worker had been shovelling gravel and snow at the diversion berm.</li> <li>Minor spill with stacker</li> <li>No ESR representative.</li> </ul>
North Dam	<ul style="list-style-type: none"> <li>Placed FCM to elevation 31.35, from Sta. 0+103 to Sta 0+73</li> <li>Placed 150 mm test section from Sta 40 to Sta 70.</li> <li>Freeze back achieved on test section during the night shift.</li> <li>No freeze back on normal placement (Temp. 0C at end of night shift)</li> <li>Core taken on test section. Clearly there was no bond between layers in this section.</li> <li>Discussed the test section. No more thin lifts will be attempted.</li> <li>During the mid to late afternoon and throughout the night shift ROQ was removed from the HDPE liner starting at the north end and working south.</li> </ul>
Water Management Structures	<ul style="list-style-type: none"> <li>No work on sumps.</li> <li>Layfield placed additional geomembrane over the ROQ.</li> <li>Layfield placed final geomembrane over the HDPE liner.</li> <li>Work on sumps to resume Tuesday.</li> </ul>
General	<ul style="list-style-type: none"> <li>Continued working on ice road.</li> </ul>

### SURVEY:

<b>Required</b>	<ul style="list-style-type: none"> <li>FCM placed February 26th</li> </ul>
<b>Data Received</b>	<ul style="list-style-type: none"> <li>Cross sections of work in progress at the north dam.</li> <li>Frozen core volumes</li> </ul>
<b>Outstanding</b>	<ul style="list-style-type: none"> <li></li> </ul>
<b>Upcoming</b>	<ul style="list-style-type: none"> <li>Survey of FCM after placement (ongoing).</li> <li>Survey of Doris North Diversion berm (ongoing).</li> </ul>

### NORTH DAM/FROZEN CORE PLANT PAD:

**Multi-Bead Thermistors**

- Thermistor strings at Sta. 1+75 and 1+60 were downloaded. All strings are working as intended.
- One thermistor connector is severely broken and will need to be changed, although readings could still be taken with some effort to match the pins.

**Frozen Core Plant***Dayshift*

- No activity

*Nightshift*

- The plant was started up around 9PM and ran until 12:30 when the north area of placement (see Figure 2) was completed.
- The plant was restarted at 2 AM, once freezeback was observed in the inflection line area, and run until the end of the nightshift.
- Production ran smoothly throughout the night.
- The south bay door got stuck open towards morning, but it did not hinder production. Core material temperature was slightly increased to compensate for the low ambient temperature in the plant.
- Hot change was made between nightshift and dayshift.

**Dam Shell***Dayshift*

- No activity.

*Nightshift*

- No activity.

**Key Trench/ Central Core***Dayshift*

- Removal of the 5/8 clear crush continued along the upstream side of the key trench.
- HDPE liner was rolled back to expose the GCL. Exposed areas of GCL were blown clear with the air compressor.
- Single bead thermistor was monitored for freeze back all day. Freezeback did not occur during the day shift.
- Wall at the ROQ face excavated during the night shift was vertical. During the day shift the wall was sloped back to a safe angle.
- Patches placed as required on exposed GCL.

*Nightshift*

- Core material was placed in three distinct areas: the extreme north end of the key trench, the narrow strip along the exposed GCL, and the low area near the inflection line respectively.
- The extreme north received a full lift over the entire area, to reach the elevation of 34.75
- The small ditch along the GCL/frozen core contact was filled in from about Sta 1+30 to the north end of the key trench.
  - The last two beads of thermistor string ND-HTS-175-33.5 were buried. The bentonite water stop was placed on the cable, and the beads were surveyed before being covered. The last bead moved about 5 cm in south direction due to the core material being pushed rather than dropped over the cable.
  - Some additional cleaning was required before placement could proceed.
  - The 10 T compactor was used in the wide area in the extreme north end of the key trench, while the small hand compactor was used on the narrow strip along the GCL.
  - Quality of the mixed core material was good, although the very first load was dryer than usual.
  - A sheen of water was observed developing on the surface subsequent to compaction.
  - First the Diesel compactor was used, but it sunk in the wet core material. The smaller gasoline

powered compactor was used subsequently, with good results.

- A full lift of 250 mm was placed in the inflection point tapered off at the edges.
  - The 2.5H:1V upstream slope was created using the jig with the builder's level. Material was spread and shaped by manual labor, using shovels and rakes.
  - The core material was a bit wet, and water was pooling on the surface following compaction.
  - All compaction tests were acceptable.
- Two single bead thermistors were installed, one in the strip along the GCL around Sta. 1+74 and the second one at Sta. 0+91, near centerline.
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### **Field Geotechnical Testing, Laboratory and Sampling**

#### **SINGLE BEAD THERMISTOR STATUS**

Installed Today			Active			Destroyed / Abandoned		
ID	Station	U/S, D/S, CL	ID	Station	U/S, D/S, CL	ID	Station	U/S, D/S, CL
SB28	1+74	U/S	SB19	0+45	D/S	SB15	0+80	U/S
SB20	0+91	CL						

- A summary of today's material testing progress is presented in the tables below.

#### **PARTICLE SIZE DISTRIBUTION SUMMARY**

Collected	Testing In Progress	Completed
None	None	HB12-ND-CORE-PSD56-QA-20120226 HB12-CR-CORE-PSD57-QA-20120226

#### **MOISTURE CONTENT SUMMARY**

Collected	Testing In Progress	Completed
HB12-FCP-CORE-MC212-QA-20120227	HB12-FCP-CORE-MC212-QA-20120227	HB12-FCP-CORE-MC204-QA-20120226
HB12-ND-CORE-MC213-QA-20120227	HB12-ND-CORE-MC213-QA-20120227	HB12-ND-CORE-MC205-QA-20120226
HB12-FCP-CORE-MC214-QA-20120227	HB12-FCP-CORE-MC214-QA-20120227	HB12-ND-CORE-MC206-QA-20120226
HB12-ND-CORE-MC215-QA-20120227	HB12-ND-CORE-MC215-QA-20120227	HB12-ND-CORE-MC207-QA-20120226
HB12-FCP-CORE-MC216-QA-20120227	HB12-FCP-CORE-MC216-QA-20120227	HB12-FCP-CORE-MC208-QA-20120226
HB12-ND-CORE-MC217-QA-20120227	HB12-ND-CORE-MC217-QA-20120227	HB12-ND-CORE-MC209-QA-20120226
HB12-FCP-CORE-MC218-QA-20120227	HB12-FCP-CORE-MC218-QA-20120227	HB12-FCP-CORE-MC210-QA-20120226
HB12-ND-CORE-MC219-QA-20120227	HB12-ND-CORE-MC219-QA-20120227	HB12-ND-CORE-MC211-QA-20120226
HB12-ND-CORE-MC220-QA-20120227	HB12-ND-CORE-MC220-QA-20120227	

#### **DRILLED CORE**

Collected	Testing In Progress	Completed
HB12-ND-CORE-DC57-QA-20120227	HB12-ND-CORE-DC57-QA-20120227	HB12-ND-CORE-DC56-QA-20120226

### **DORIS NORTH DIVERSION BERM:**

- The following north diversion berm status was confirmed as follows:
  - Trench excavation complete from Sta 0+400 to 0+687
  - ROQ complete Sta 0+400 to 0+687
  - Crush complete Sta 0+400 to 0+687

- Bentonite placed Sta 0+400 to 0+687
- 100 mm underliner crush placed 0+440 to 0+687
- Geotextile/HDPE/geotextile complete Sta 0+580 to 0+687
- Layfield continued placing HDPE liner during the day up to Sta 0+400
- Trench crew continued placing bentonite from 0+400 west.
- Survey continued to pick up as-builts for liner, crush, key-trench and bentonite fill.

**DORIS SUMPS:**

- No activity

**QUARRY #2:**

- Crusher continued re-crushing  $\frac{3}{4}$  inch into new FCM until breakdown after ~ 40 buckets. Restart after being down 7 hours.
- Crusher ran all nightshift. One sample was collected.

**GENERAL:**

- Building of the snow road across Doris Lake continued using a water truck, grader and a Snow Cat.

## PHOTOS:



**Photo 1:** Progress photo of North Dam from photo point 3. ~NE view



**Photo 2:** North east corner after cleaning with air compressor.





**Photo 3:** Excavator reshaping ROQ slopes and cleaning above GCL at north end.



**Photos 4:** ROQ removed from top of HDPE facing south (morning view)



**Photo 5:** Excavator cleaning banks facing north-afternoon view.



**Photo 6:** labourers patching GCL north end.





**Photo 7:** Sump 1



**Photo 8:** Sump 2



**Photo 9:** HDPE liner placement



**Photo 10:** Layfield placing HDPE





**Photo 11:** Broken thermistor connector.



**Photo 12:** Last 2 beads of ND-HTS-175-33.5 before being buried in frozen core material.



**Photo 13:** Small compactor being used on the core material.



**Photo 14:** The 2.5H:1V slope being finished using rakes and shovels.

## FIGURES:

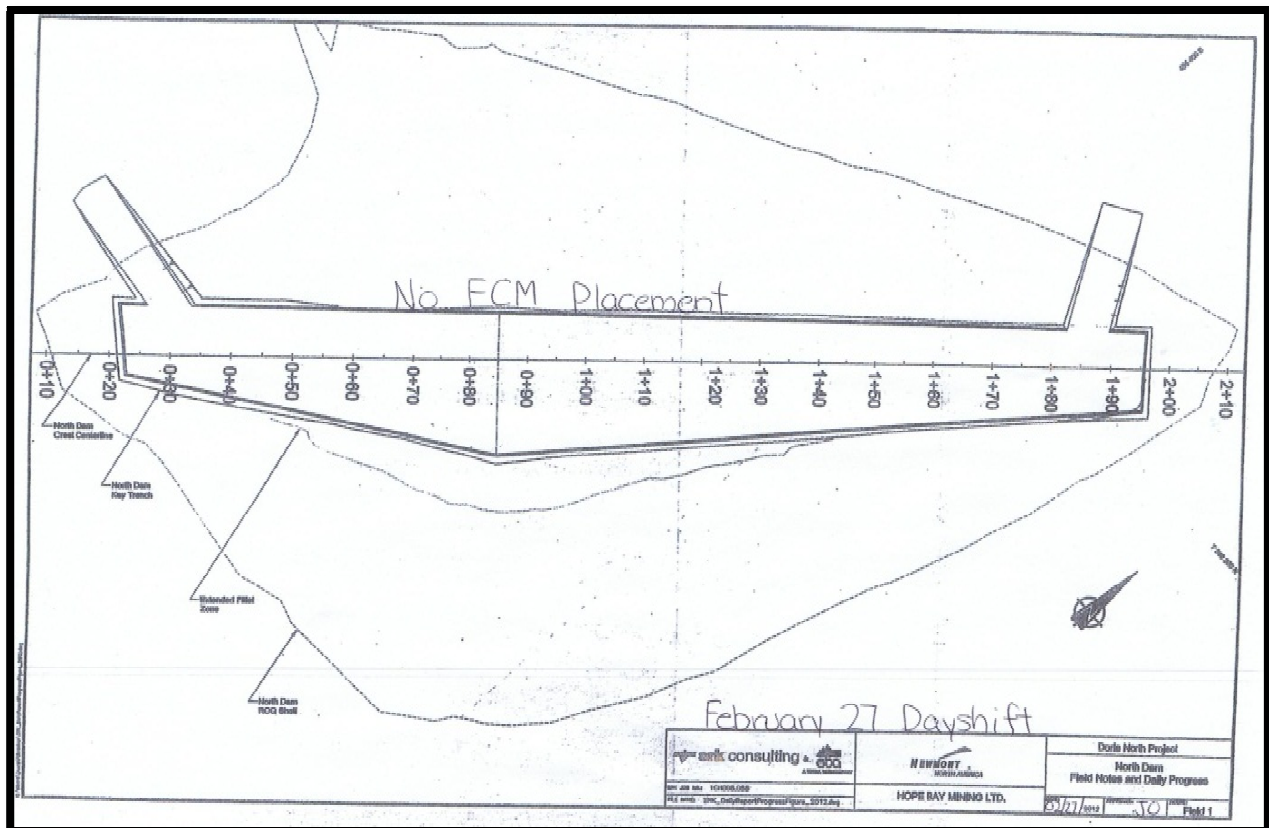


Figure 1 – North Dam Progress – Dayshift



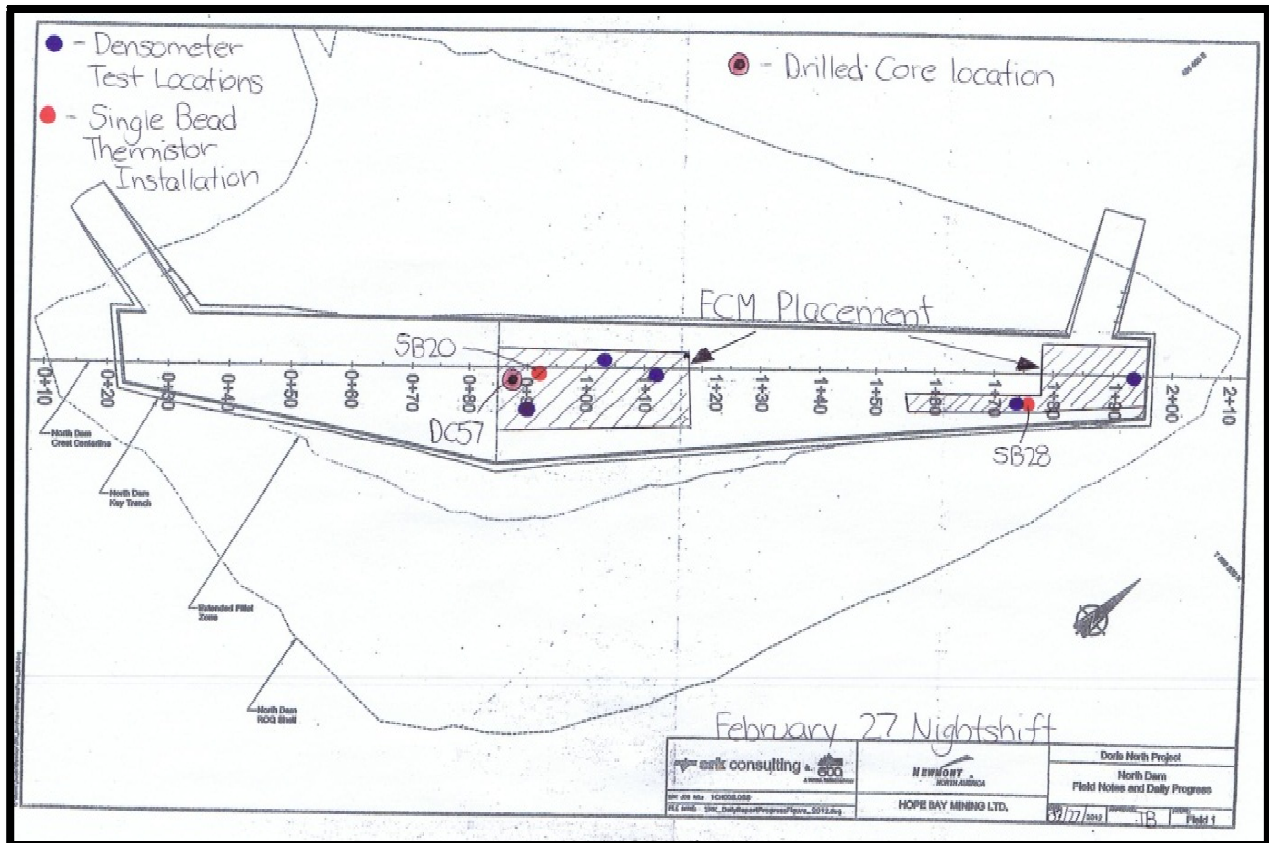


Figure 2 – North Dam Progress – Nightshift