

## DAILY REPORT #57 – 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 Yes No Yes No Yes 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 No No Yes Yes Yes
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 – Senior Engineer	No No Yes No Yes No
	EBA Engineering Consultants Ltd.	Jeff Orr – Project Manager Jennifer Stirling – Geologist Thomas Bradshaw – Junior Engineer Ernest Palczewski – Geologist	Yes Yes No 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 (Night shift) Kyle Kuntz – Project Engineer Margaret Caley – Surveyor Matt McKay – Civil Supervisor Mike MacMaster – Surveyor Mike Price – Field Engineer Nick Stoneberger – Superintendent Rick Peter – Foreman (Day shift) Ron MacMaster – Surveyor Simon Chipper – Civil Supervisor	No No Yes No Yes No No No Yes No No Yes Yes Yes Yes Yes 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 :-33/-48	12PM:-31/-39	6 PM: -32/-42	12 AM: -34/-34
Precipitation (mm)	<b>Rain:</b> None		<b>Snow:</b> None	
Conditions	<b>Day Shift:</b> Clear, cold		<b>Night Shift:</b> Clear sky. Moderate wind.	
Daily norms (°C)	24 hour high: -29.7		24 hour low: -34.4	

## HEALTH, SAFETY AND ENVIRONMENT

- Iozsef Miskolczi attended the daily tool box meeting.

## COMMENTS, CORRESPONDENCE AND ACTIVITIES

### DAILY MEETING WITH NUNA AND HBML TEAM:

- The daily meeting was attended by HBML [Katsky Venter], Newmont [Dean Wold], JDS [Gerry Graham, Kevin Whieldon, Mark Valeriotte, ]; Nuna [Nick Stoneberger] and SRK [Lawrence Borowski,]

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> <li>• Safety: Theft of parka and boots reported from D wing. Reminder to maintain security precautions such as locking offices when not in use.</li> <li>• ESR: No incidents to report.</li> <li>• Some discussion on ice that was dumped at the Roberts Bay overburden dump.</li> </ul>
North Dam	<ul style="list-style-type: none"> <li>• 2 loads of core material placed during the day shift</li> <li>• 8 loads of core material placed during the night shift</li> <li>• Transition material and core material hauled during the day shift</li> <li>• Some snow removed at the south end of the dam.</li> <li>• No freezeback on core material placed Feb 29<sup>th</sup>.</li> <li>• Need to work on south end, GCL repairs.</li> </ul>
Water Management Structures	<ul style="list-style-type: none"> <li>• Layfield will be back Monday.</li> <li>• Started clearing snow from key trench at the east end prior to placing bentonite. Snow clearing to continue today.</li> <li>• Equipment access to the east end of the berm complete. Access was achieved by placing a combination of crush and ROQ.</li> <li>• Placing crush on the slopes underway this morning.</li> </ul>
General	<ul style="list-style-type: none"> <li>• Drilling at quarry 2 to continue.</li> <li>•</li> </ul>

### SURVEY:

Required	•
Data Received	• Survey of FCM March 1 <sup>st</sup> and March 2 <sup>nd</sup> (night)
Outstanding	•
Upcoming	<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

- No activity

### **Frozen Core Plant**

#### *Dayshift*

- FCM hauled from stockpile at crusher to stockpile at FC plant.

#### *Nightshift*

- The plant was started up around 9:20 PM and produced continuously until about 4:30 AM, with no incidents. Approximately 27 truckloads loads of core mix were produced.
- The water was initially set to 55.6, then increased to 55.9. Upon visual inspection and density testing of the placed and compacted material, it was decided to decrease the water content first to 55.3 and after a few loads further decrease to about 54.5. Although the water fraction was progressively decreased, the appearance of the material remained exceedingly wet, to the limit of compactability.
- Temperature of the core mix off the chute was 38 degrees at the beginning of the shift, decreasing to about 35 degrees towards the end of the shift.
- The matter of contradictory behaviour of the core mix was discussed with the plant operator, who mentioned seeing traces of snow in the mixer feed. The loader operator feeding the plant also mentioned that the nature of the FCM changed slightly, from a loose state in the beginning of the shift (recently hauled and stockpiled at the plant) to a state where the working front is standing up vertical, possibly indicating increased moisture content of the dry FCM. No interstitial ice or snow was apparent at the loading front, and when poked with a hand tool the vertical wall crumbled easily.
- Two CAT 730 trucks hauled FCM from the crusher to the stockpile at the plant from the beginning of the shift until about 9PM.

### **Dam Shell**

#### *Dayshift*

- No activity.

#### *Nightshift*

- Transition material was placed downstream of the core, from Sta. 0+85 to Sta. 1+30.

### **Key Trench/ Central Core**

#### *Dayshift*

- Cleaning work areas for night shift.
- Some snow removed from extreme SE corner.
- GCL cleaned at the south end, and inspected.
- Workers moved light plant to the south end. Frost fighters set up to heat locations where GCL was ripped.
- Survey marked out hinge point and a 1 m offset.
- Single bead thermistor installed Feb 29<sup>th</sup> monitored all day.
- Two cores taken at the end of the day shift.

#### *Nightshift*

- One single lift of core material was placed from Sta. 1+30 to about Sta. 0+50. The thickness of the lift started with 250 mm and increased to about 350 mm as the placement progressed. The maximum apparent thickness was about 400 mm in one particular area (about Sta. 0+80) on the downstream side of the core.
- Placement started in the area from where the sub-standard core material was removed on Feb 29.
- The construction technique of the upstream slope of the core was same as the previous nightshift, with the core being overbuilt at first, then compacted and subsequently trimmed back with the excavator. Survey marked up the final crest line, and the slope was finished by manual labor. The resulting slope appears undulating, the top part being slightly shallower than the design grade of 2.5H:1V.

- Two single-bead thermistors were installed, the first one (SB 5) around Sta. 1+10, and the second one (SB3) around Sta. 0+70.
- The single-bead thermistor (SB4) installed in the core placed on March 1<sup>st</sup> nightshift was monitored for freeze-back, which was reached sometime between 3AM and 5AM.
- The compaction testing results are in the 90% range, with moisture contents (oven moisture) ranging from 9.8% to 11.1%. All saturations were calculated in the range of 80% to 81%. Notwithstanding the calculated saturations, the excessively wet state of the material is an indication of likely high saturation.
- Water was pooling on the surface of the placed core, as well as discharging at the base of the placed lift.

### **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
SB5	1+10	U/S	SB4	1+45	U/S	SB30	0+85	CL
SB3	0+70	CL				SB16	1+25	D/S

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

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

Collected	Testing In Progress	Completed
HB12-FCP-CORE-PSD63-QA-20120302		HB12-CR-CORE-PSD62-QA-20120301

#### **MOISTURE CONTENT SUMMARY**

Collected	Testing In Progress	Completed
HB12-FCP-CORE-MC242-QA-20120302	HB12-FCP-CORE-MC245-QA-20120302 HB12-FCP-CORE-MC247-QA-20120302 HB12-FCP-CORE-MC248-QA-20120302	HB12-FCP-CORE-MC242-QA-20120302
HB12-FCP-CORE-MC243-QA-20120302		HB12-FCP-CORE-MC243-QA-20120302
HB12-FCP-CORE-MC244-QA-20120302		HB12-FCP-CORE-MC244-QA-20120302
HB12-FCP-CORE-MC245-QA-20120302		HB12-FCP-CORE-MC246-QA-20120302
HB12-FCP-CORE-MC246-QA-20120302		HB12-FCP-CORE-MC249-QA-20120302
HB12-FCP-CORE-MC247-QA-20120302		HB12-FCP-CORE-MC250-QA-20120302
HB12-FCP-CORE-MC248-QA-20120302		
HB12-FCP-CORE-MC249-QA-20120302		
HB12-FCP-CORE-MC250-QA-20120302		

#### **DRILLED CORE**

Collected	Testing In Progress	Completed
HB12-ND-CORE-DC60-20120302	HB12-ND-CORE-DC60-20120302	
HB12-ND-CORE-DC61-20120302	HB12-ND-CORE-DC61-20120302	

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

- Snow clearing in key trench continued.

- Key trench was inspected by SRK. SRK pointed out areas where HDPE was too close to the Bank and needed to be cut back. HDPE was cut back by the foreman.
- Hauling crush. Placing crush on the banks. Working between stations 0+580 and 0+687.
- Hauling ROQ
- Tie in between berm and rock wall at the end completed. A bentonite seal .1m x .4m (min.) placed at the wall.
- Started placing final bentonite over HDPE in the key trench.
- Bentonite placed between Sta 0+580 and Sta 0+678

**DORIS SUMPS:**

- No activity: sumps are covered with tarps

**QUARRY #2:**

- Crushing complete for now.
- Two drills working.

**GENERAL:**

- SRK vehicle requires new power steering pump.
- Snow clearing along the secondary road was performed throughout the nightshift.
- The snow section of the haul road across Doris Lake continued to be watered throughout the nightshift.

## PHOTOS:



**Photo 1:** Progress photo from photo point 2, facing NW.



**Photo 2:** Progress on the north diversion berm. Bentonite was placed over HPDE.  $\frac{3}{4}$ " crush placed on top of berm and slopes. Section from 0+585 to the end.





**Photo 3:** Sump 1 with tarp.



**Photo 4:** Sump 2 with tarp.



**Photo 5:** Bentonite seal placed at end of berm (tie in to rock face)



**Photo 6:** Labourers removing snow in key trench.



**Photo 7:** Cleaning at south end of berm. GCL was ripped and removed at this location





**Photo 8:** Slope at the north end, Sta 130. FCM placed March 1<sup>st</sup> nightshift.



**Photo 9:** Final touches on the ice road. Road will open for traffic tomorrow (March 3<sup>rd</sup>).



**Photo 10:** Loader scooping up FCM at the plant stockpile. Note the near vertical slope of the loading front.

**FIGURES:**

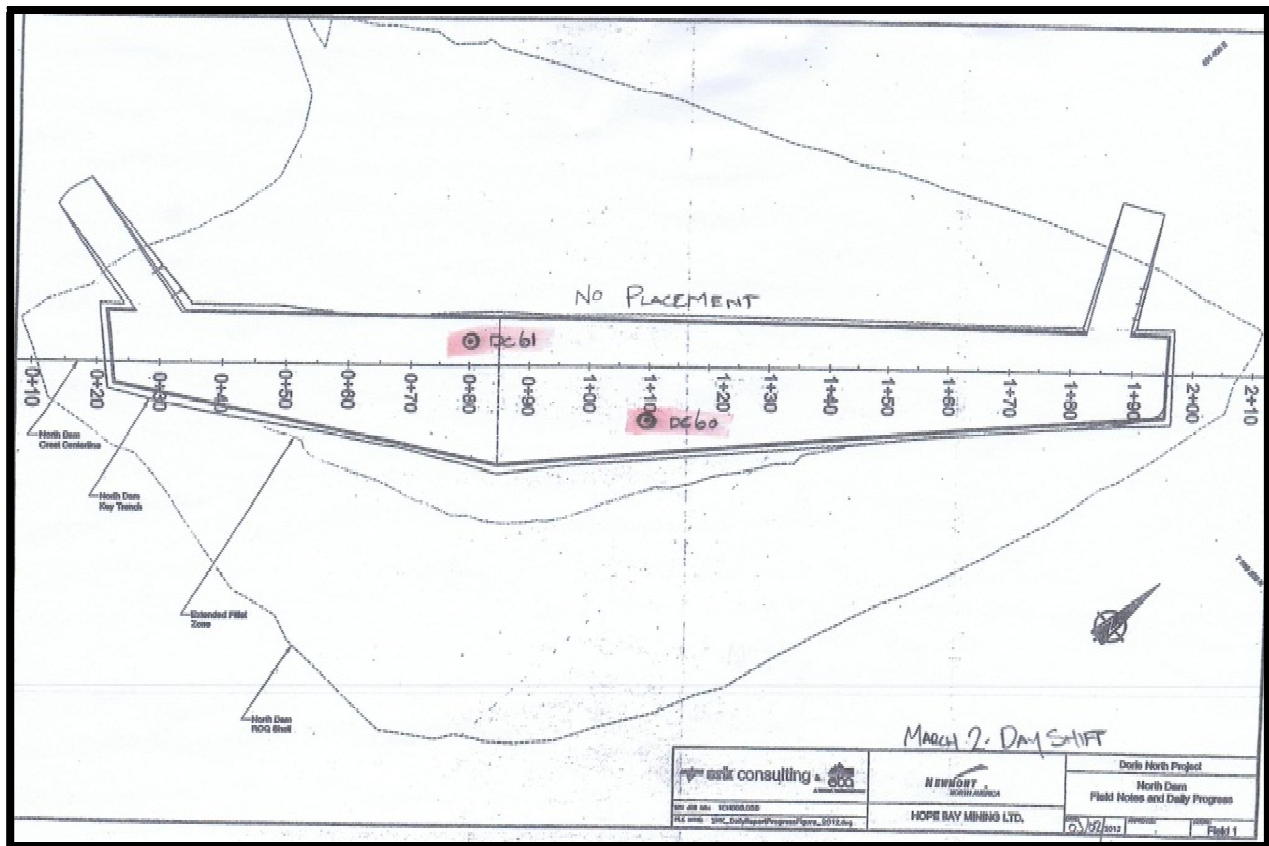


Figure 1 – North Dam Progress – Dayshift

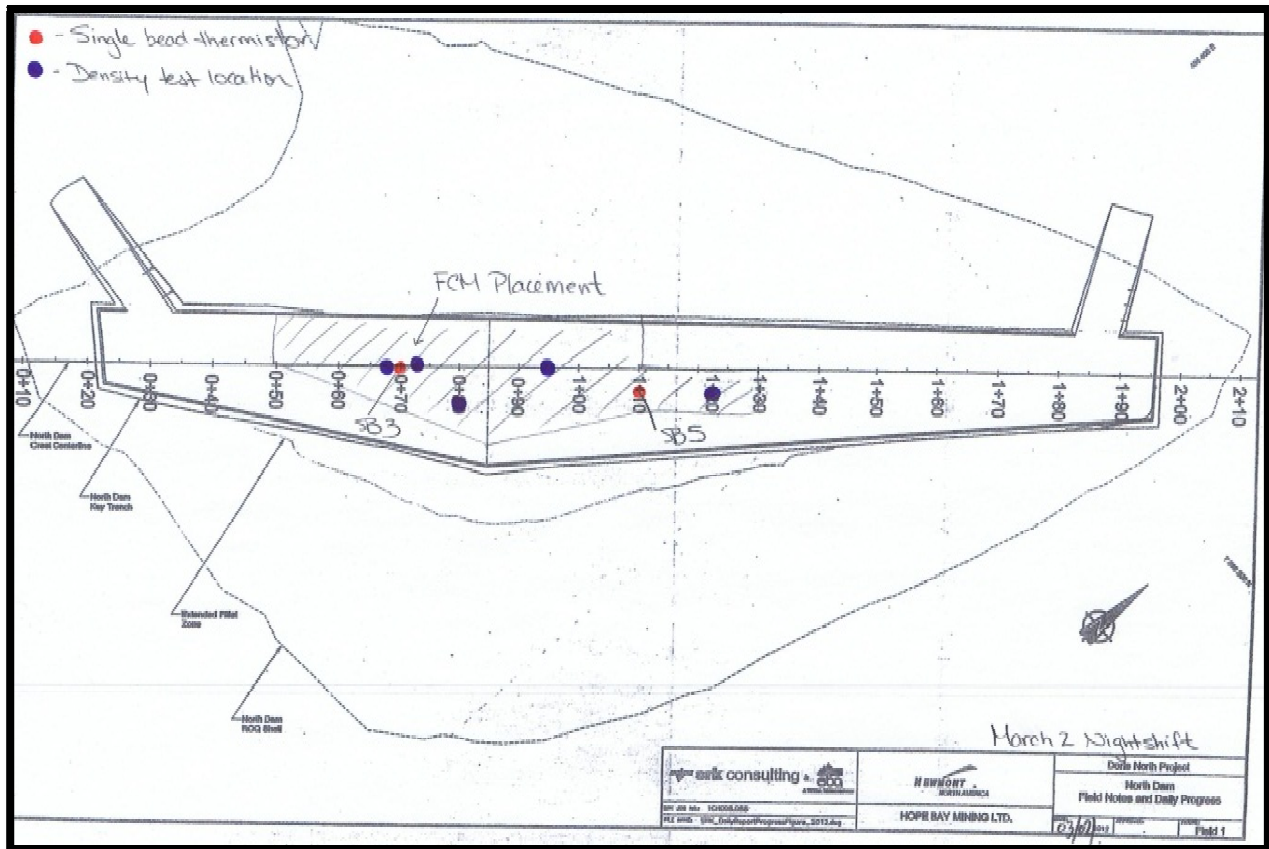


Figure 2 – North Dam Progress – Nightshift