

## +DAILY REPORT #68 – DORIS NORTH INFRASTRUCTURE/ NORTH DAM

Prepared by:	John Kurylo Lawrence Borowski	Date:	2012.03.13		
Reviewed by:		Project #:	1CH008.058.0320		
Role	Company	Personnel – Position	On Site		
Client	Hope Bay Mining Limited (HBML)	Angela Holzapfel – ESR Compliance Manager	Yes		
		David Vokey – ESR Coordinator	Yes		
		Don Ethelston – HSLP Advisor	No		
		Dean Wold - Safety	Yes		
		Jill Turk – ESR Coordinator	No		
		Katsky Venter – ESR Manger	No		
		Michelle Tanquay – ESR Site Manager	Yes		
		Stirling Kelly – HSLP Advisor	Yes		
	JDS	Lloyd Jackson – Mechanical Superintendent	No		
		Doug Fielding – Construction Manager	No		
		Ishan Fechter – Construction Coordinator	Yes		
		Jerry Graham – Construction Manager	Yes		
		Kevin Whieldon – Project Coordinator	No		
		Mark Valeriote – Construction Manager	Yes		
Engineering Design Consultants	SRK Consulting (Canada) Inc.	John Kurylo – Site Engineer	Yes		
		Megan Miller – Site Engineer	No		
		Lawrence Borowski – Site Engineer	Yes		
		Murray McGregor – Site Engineer	No		
		Iozsef Miskolczi – Site Engineer	No		
		Lowell Wade – Senior Engineer	No		
	EBA Engineering Consultants Ltd.	Jeff Orr – Project Manager	Yes		
		Jennifer Stirling – Geologist	Yes		
		Thomas Bradshaw – Junior Engineer	No		
		Ernest Palczewski – Geologist	No		
		Earthworks Contractor	Nuna Logistics	Bradford Watkin – QC Manager	No
				Doug Haverland – Area Superintendent	Yes
Gary Sodhi – Field Engineer	Yes				
Georges Cornelissen – Survey Manager	No				
Jeff Roberts - Surveyor	Yes				
Jim Cardinal – Foreman	Yes				
Jordan Gunter – Foreman	No				
Kevin Oakes – Project Engineer	No				
Kevin Kozdrowski – Foreman (Night shift)	Yes				
Kyle Kuntz – Project Engineer	No				
Margaret Caley – Surveyor	No				
Matt McKay – Civil Supervisor	No				
Mike MacMaster – Surveyor	No				
Mike Price – Field Engineer	No				
Nick Stoneberger – Superintendent	No				
Rick Peter – Foreman (Day shift)	Yes				
Ron MacMaster – Surveyor	Yes				
Simon Chipper – Civil Supervisor	Yes				
External Distribution List:	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: -20/-33	12PM: -20/-34	6PM: -20/-30	12AM: -20/-34
Precipitation (mm)	<b>Rain:</b> None		<b>Snow:</b> ~5cm	
Conditions	<b>Day Shift:</b> Snow and blowing snow. Winds to 40 kph in the morning. Snow tapering, winds 30 kph in the afternoon. Light snow after 4:00 pm		<b>Night Shift:</b> Moderate, light wind, periods of snowfall.	
Daily norms (°C)	24 hour high:-20C		24 hour low: -21	

**HEALTH, SAFETY AND ENVIRONMENT**

- John Kurylo attended the nightly Nuna toolbox meeting.
- SRK is using a pickup provided by Nuna

**COMMENTS, CORRESPONDENCE AND ACTIVITIES****DAILY MEETING WITH NUNA AND HBML TEAM:**

- The daily meeting was attended by HBML [Michelle Tanguay, Angela Holzapfel] Newmont [Sterling Kelly, Gary, Morgan Davis], JDS [Gerry Graham, Ishan Fechter, Mark Valeriot]; Nuna [Doug Haverland, Kyle Kuntz] and SRK [Lawrence Borowski, Jeff Orr, John Kurylo].

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> <li>• Safety: Ensure that employees contact their supervisors immediately if there is an accident or injury. Contact with supervisor mandatory before seeing the medic. Medic cannot be contacted a few days after an incident</li> <li>• ESR: Vehicles that are plugged in are still idling.</li> <li>• Nuna enquired whether they could construct an ice bridge across Doris Creek to haul ROQ with their 773s. The answer was "no"</li> </ul>
North Dam	<ul style="list-style-type: none"> <li>• Yesterday placed 17 loads between Sta 1.74 and Sta 1.00; and south of Sta 0+52 to the south wall on day shift. Placed 0 on night shift.</li> <li>• Late yesterday afternoon and night shift further work on the down stream backslopes, including further compaction, hauling and placing ROQ and cleaning snow off GCL at the north east corner.</li> <li>• Anticipate freezeback today between Sta 1+00 and 0+52.</li> </ul>
Water Management Structures	<ul style="list-style-type: none"> <li>• Bentonite over liner was placed between Sta 5+30 and 5+85.</li> <li>• Bentonite over liner was placed between Sta 3+85 and 4+45</li> <li>• These areas are ready for placement of crush.</li> <li>• Layfield placed HDPE between Sta 3+35 and 3+85</li> <li>• A patch was placed on the HDPE at Sta 5+24.</li> </ul>
General	<ul style="list-style-type: none"> <li>• Culvert installation at the Doris Bridge today.</li> </ul>

**SURVEY:**

<b>Required</b>	<ul style="list-style-type: none"> <li>• Transition material placed on March 11<sup>th</sup> to 13<sup>th</sup> and FCM placed on March 12<sup>th</sup> and 13<sup>th</sup></li> </ul>
<b>Data Received</b>	<ul style="list-style-type: none"> <li>• Frozen Core Volumes (for up to and including March 13<sup>th</sup>)</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**

- All installed multi-beads were read:
  - ND-HTS-040-31.5, ND-HTS-040-33.5, ND-VTS-040-KT
  - ND-HTS-060-28.8, ND-HTS-060-31.0, ND-HTS-060-33.5, ND-VTS-060-KT
  - ND-HTS-085-25.3, ND-HTS-085-29.4, ND-HTS-085-33.5, ND-VTS-085-KT
    - Note: the last bead on thermistor string ND-HTS-085-33.5 was noted to not be working. This will be further examined in the coming days. On first inspection no notable damage to the cable could be determined.
  - ND-HTS-130-28.8, ND-HTS-130-31.0, ND-VTS-130-33.5, ND-VTS-130-KT
  - ND-HTS-175-32.5, ND-HTS-175-33.5, ND-VTS-175-KT

**Frozen Core Plant***Dayshift*

- Plant started at 1:40 pm and shut down at 4:30 pm
  - The water dial was set at the same setting as yesterday, 53
  - Temperature was 26C and 31C

*Nightshift*

- Near the time the plant was ready the start up the grader stalled / temporary broke down for a portion of the nightshift. The mechanics were called and this equipment was quickly moved so placement could commence.
- Plant started at 00:00 and shut down at 4:45 pm
  - The water dial was set at 54
  - Temperatures was 26C and 28C

**Dam Shell***Dayshift*

- Some ROQ hauled and placed.
- Packer worked on the dam as ROQ was placed.

*Nightshift*

- ROQ material was briefly placed in areas of the downstream from ~1+00 to 1+70.
  - One vibrator packer briefly worked on packing ROQ.
- Some snow was removed on the upstream around the north end (~ 1+60 to 1+20 area) over the buried 5/8 and HDPE material continued.
- Transition was placed downstream of the area where dayshift placement resulted (around 1+00 to 0+55). No compaction was observed on this material.
- Snow removal around the south most end / tie in (around station 0+20) resulted at the end of dayshift. Clean snow was hauled to Tails Lake and dirty snow to the overburden dump.

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

- Placed FCM between Sta 1+00 and Sta 0+55.
- All surfaces were swept with the skid steer before any placement took place.
- Dial for water was set at 53 and remained unchanged all day. Temperature was set in the +26vto +31 range. Test results within specifications were achieved.
- Thermistor ND-HTS-085-33.5 was installed during the day shift. Nodes were surveyed.
- A total of 10 loads were placed
- Labour crew cleared snow off GCL and placed plywood over cleared areas for protection from drifting

snow. No patching on the GCL was undertaken. Patching, if required, will be undertaken when the top GCL is placed.

- Single bead thermistors were monitored. Freezeback was monitored during the dayshift. Freezeback was anticipated for the nightshift between Sta 1+70 and 1+00 and south of Sta 0+55.

#### *Nightshift*

- Near the start of nightshift freezeback was noted on the north area from ~ 1+70 to 1+00. Freezeback of the South area (around 0+55 to the S end (~0+20) was noted to occur around 00:30. Two cores were taken from the aforementioned areas (one from each of the sections).
  - Drilled core HB12-ND-CORE-DC76-20120313 was taken from ~ 1+57 on the upstream. This core was taken when the single bead in this area was around -2.7C.
  - Drilled core HB12-ND-CORE-DC77-20120313 was taken from ~ 0+47 on the centerline. This core was taken when the single bead in this area was around -1.9C to allow for FCM placement in this area shortly after coring.
- FCM was placed today in two sections, one from ~ 1+55 to 1+05 and one from ~ 0+55 to around 0+25.
  - The start of placement was slightly delayed so that the nightshift crew could place on the available space on the north section and then continue without stopping the plant to the south section. This was successfully completed.
  - A lift was placed in the far SSE area where the slope remains notable underbuilt. The single bead was installed around this area.
  - Compaction and saturation tests met specifications.
  - A good job was done by the packer operator smoothing the placed FCM and packing right to the side slopes before they were cut back by the excavator and smoothed by hand.
  - 17 loads of FCM were placed on nightshift
- The elevation of the dam core at the remaining multibead thermistor location is outlined below.

Station	Current Top Elevation (m)	Install Elevation (m)	Comment
0+85	33.50	33.50	Installed today.

#### **Field Geotechnical Testing, Laboratory and Sampling**

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

Installed Today			Active			Destroyed / Abandoned		
ID	Station	US/DS/Center	ID	Station	US/DS/Center	ID	Station	US/DS/Center
SB30	0+70	CL	SB17	0+60	CL			
SB27	0+38	U/S	SB18	0+50	U/S			
			SB14	0+35	D/S			
			SB11	1+08	CL			

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

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

Collected	Testing In Progress	Completed
		HB12-ND-CORE-PSD70-20120312

**MOISTURE CONTENT SUMMARY**

Collected	Testing In Progress	Completed
HB12-FCP-CORE-MC329-20120313	HB12-FCP-CORE-MC329-20120313	HB12-FCP-CORE-MC329-20120313
HB12-ND-CORE-MC330-20120313	HB12-ND-CORE-MC330-20120313	HB12-ND-CORE-MC330-20120313
HB12-ND-CORE-MC331-20120313	HB12-ND-CORE-MC331-20120313	HB12-ND-CORE-MC331-20120313
HB12-FCP-CORE-MC332-20120313	HB12-FCP-CORE-MC332-20120313	HB12-FCP-CORE-MC332-20120313
HB12-ND-CORE-MC333-20120313	HB12-ND-CORE-MC333-20120313	HB12-ND-CORE-MC333-20120313
HB12-FCP-CORE-MC334-20120313	HB12-FCP-CORE-MC334-20120313	HB12-FCP-CORE-MC334-20120313
HB12-ND-CORE-MC335-20120313	HB12-ND-CORE-MC335-20120313	HB12-ND-CORE-MC335-20120313
HB12-ND-CORE-MC336-20120313	HB12-ND-CORE-MC336-20120313	HB12-ND-CORE-MC336-20120313
HB12-FCP-CORE-MC337-20120313	HB12-FCP-CORE-MC337-20120313	HB12-FCP-CORE-MC337-20120313
HB12-ND-CORE-MC338-20120313	HB12-ND-CORE-MC338-20120313	HB12-ND-CORE-MC338-20120313
HB12-ND-CORE-MC339-20120313	HB12-ND-CORE-MC339-20120313	HB12-ND-CORE-MC339-20120313

**DRILLED CORE**

Collected	Testing In Progress	Completed
HB12-ND-CORE-DC75-20120313	HB12-ND-CORE-DC75-20120313	HB12-ND-CORE-DC74-20120312
HB12-ND-CORE-DC76-20120313	HB12-ND-CORE-DC76-20120313	
HB12-ND-CORE-DC77-20120313	HB12-ND-CORE-DC77-20120313	

- The core barrel was changed on the drill.
- A large shop vacuum was sourced from the FCP and is currently being used to assist with coring.

**DORIS NORTH DIVERSION BERM:**

- During the morning snowstorm the north diversion berm was inspected to ascertain whether the storm was having an effect on the work.
- It was noted that the bottom of the key trench was blown clear. Some drifting on the bank of the key trench was observed.
- Excavation operators had been instructed to remove snow drifts as the work progressed.
- At the east end, ROQ was placed between Sta 5+35 and 5+85. To cover as much of the key trench as possible and to keep progressing only the bottom half of the trench was filled. The top will be filled at a later date.
- Between Sta 3+95 and Sta 4+45 crush was placed in the bottom of the trench and on the bank. Crush was surveyed and inspected. For the balance of the day ROQ was placed in this section. By the end of the dayshift the bottom half was filled and work had started on the top half.
- The small excavator was working ~ Stn 5+75 pushing snow from the top of the bank.
- Today was a weather day for Layfield.
- Because of the storm no new areas were opened.

**DORIS SUMPS:**

- Fabrication of the second lid started yesterday. Work on this lid is not expected to be continuous. Although the main portion of the first lid has been completed insulation installation is still required before the lid is completed.

**QUARRY 2:**

- Two drills working during the day shift. .

**GENERAL:**

- The Secondary Access Road across the Doris Bridge was open to traffic today. The site where the culverts were installed was cleaned up.
- Pipes/culvert excavation continued during the day shift near sumps 1 and 2. During this phase of the work the ice road was closed.
- SRK enquired when Nuna might be installing thermistors at the bridges. Nuna responded that this work was low on the priority list and wouldn't be done until other drilling was complete.
- Some grading of the airstrip was completed on nightshift.
- The winter storm today started during the night shift and was in full force in the morning. Snow ended in the morning but winds persisted throughout the day. Overall the storm had little impact on the work except for some procedural changes at the berm.
- SRK's truck remains down. SRK is currently sharing a truck with Nuna supervisor and field engineering crew on dayshift. Additional vehicles are available on nightshift due to the smaller crew size.

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PHOTOS:



Photo 1: Progress photo from photo point 3, facing NNE



Photo 2: Progress photo facing SSW



Photo 3: Placing FCM ~ Sta 1+05



Photo 4: Placing ROQ. Thermistor installation in foreground





Photo 5: Installing thermistor ND-HTS-085-33.5



Photo 6: Nuna Foreman & JDS Construction Manager “doing it right”



Photo 7: Plywood placed over cleaned GCL



Photo 8: Cleaning crew on GCL.



Photo 9: Finished crush between Sta 3+95 and Sta 4+45



Photo 10: Excavator placing ROQ between Stn 5+35 and Stn 5+85





**Photo 11:** Final survey on crush, Stn 3+95 to Sta 4+45



**Photo 12:** Start of second lift ROQ between Sta 3+95 and Sta 4+45



**Photo 13:** Small excavator pushing snow from back of trench



**Photo 14:** ~NE view down upstream crest of dam. Note the 330 in the background scraping down the areas where nightshift placement started.



**Photo 15:** ~ E view of downstream dam shell.

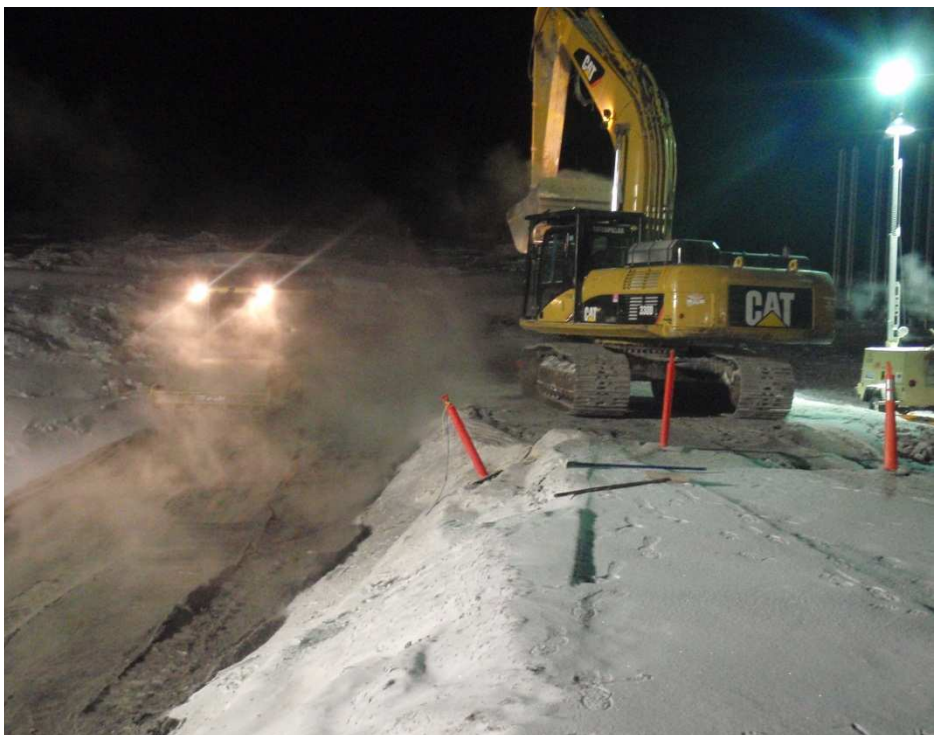




**Photo 16:** Packing completing static passes on FCM around station 1+40. Note that later / after vibrator compaction effort was also used.



**Photo 17:** EBA testing FCM placement with nuke around station 1+40.



**Photo 18:** 330 excavator and packer working in SSE corner of dam



**Photo 19:** EBA doing field checks of FCM around the underbuilt SSE area (~ around 0+60 upstream area)



**Photo 20:** Construction progress on nights, ~SW view down CL of dam



**Photo 21:** Excavator starting to remove snow from around S end of dam



**Photo 22:** Drilled core 75



**Photo 23:** Drilled core 76



**Photo 24:** Drilled core 77



FIGURES:

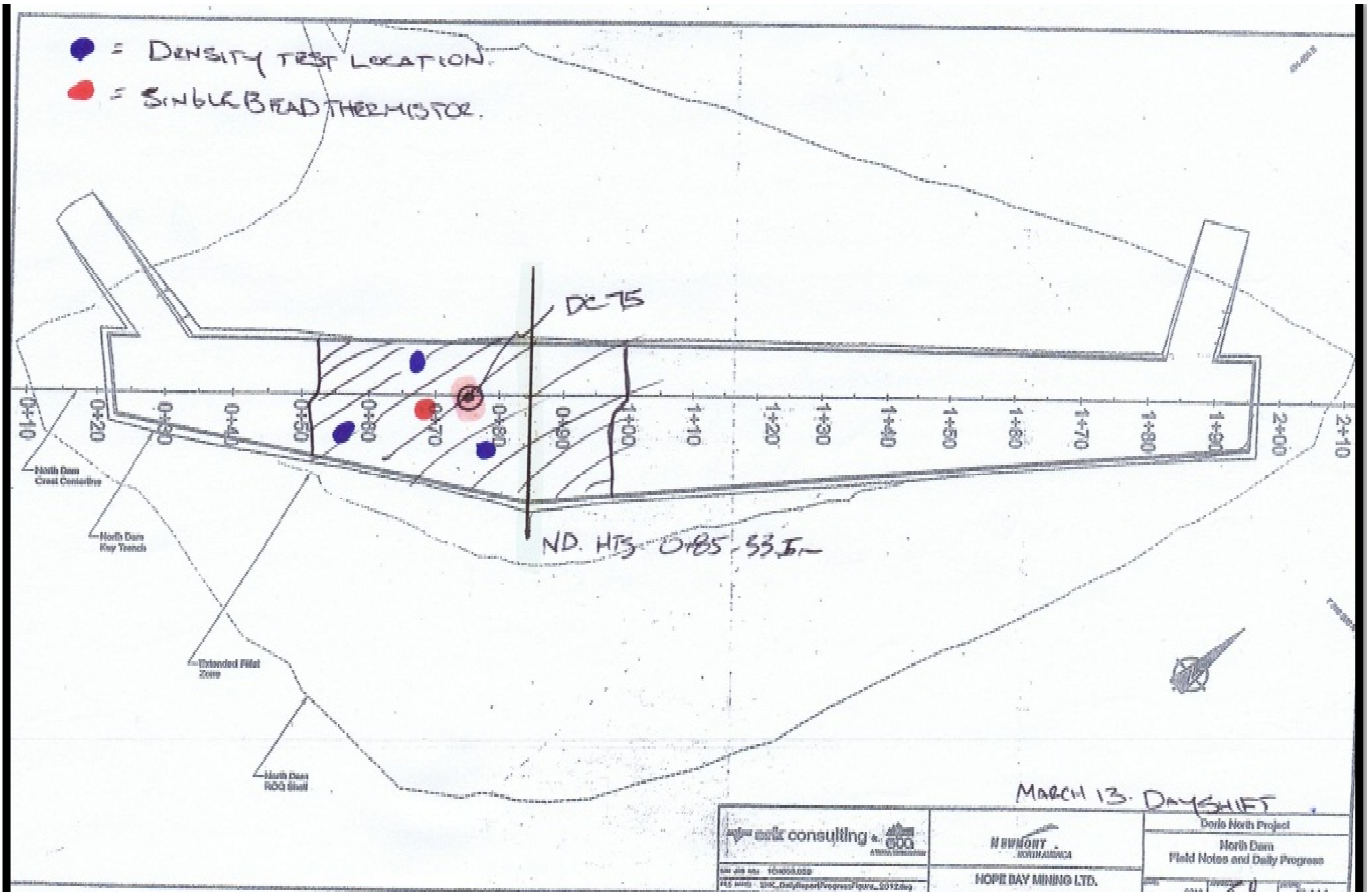


Figure 1 – North Dam Progress – Dayshift

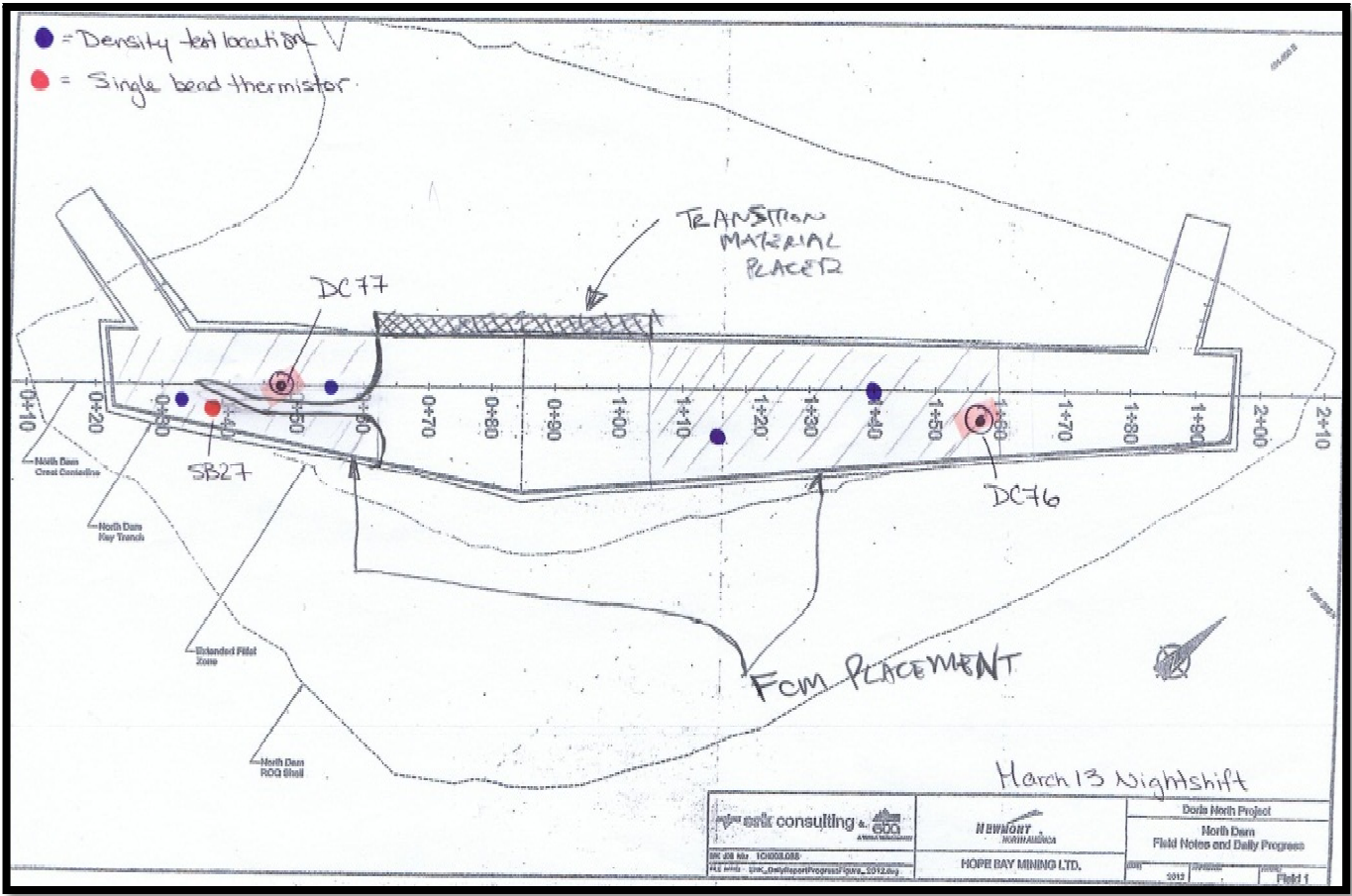


Figure 2 – North Dam Progress – Nightshift