

## DAILY REPORT #32 – DORIS NORTH INFRASTRUCTURE/ NORTH DAM

Prepared by:	Murray McGregor / Megan Miller	Date:	2012.02.06
Reviewed by:		Project #:	1CH008.058.0320
Role	Company	Personnel – Position	On Site
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 No No No Yes Yes No Yes
	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	Out Yes No Yes No
	EBA Engineering Consultants Ltd.	Jeff Orr – Project Manager Jennifer Stirling – Geologist Thomas Bradshaw – Junior Engineer Ernest Palczewski – Geologist	No Yes No Yes
Earthworks Contractor	Nuna Logistics	Ben Vostermans - Foreman Bradford Watkin – QC Manager Doug Haverland – Area Superintendent Gary Sodhi – Field Engineer Georges Cornelissen – Survey Manager Jeff Roberts - Surveyor Jim Cardinal – 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 Yes No No Yes Yes No No Out No Yes No Yes Yes No 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:N/A	12PM: -23/-35	6 PM: -25/-38	12 AM: -28/-44
Precipitation (mm)	<b>Rain:</b> None		<b>Snow:</b> None	
Conditions	<b>Day Shift:</b> 'Warm', moderate winds increasing in the afternoon.		<b>Night Shift:</b> Moderate wind, clear.	
Daily norms (°C)	24 hour high: -22		24 hour low: -28	

The Hope Bay weather station is down; the daily weather reported above is for Cambridge Bay (<http://www.theweathernetwork.com/index.php?product=obs24h&placecode=canu0005>).

**HEALTH, SAFETY AND ENVIRONMENT**

- Megan Miller attended the nightshift Nuna toolbox meeting.
- Ernest Palczewski attended the daily toolbox meeting.

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

- The daily meeting was attended by ADCO, Nuna [Nick Stoneberger, Simon Chipper], Newmont Safety [Stirling Kelly], ESR [Jill Turk], JDS [Jerry Graham, Mark Valeriote, Kevin Whieldon, Lloyd Jackson], SRK [John Kurylo, Murray McGregor]

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> <li>• No new safety incidents.</li> <li>• Incident involving a small glycol spill near the Nuna shop.</li> <li>• ESR is in debate with the government on what constitutes the reportable limit for ethylene glycol.</li> <li>• SRK will look into obtaining a MSDS for the material spilled.</li> </ul>
North Dam	<ul style="list-style-type: none"> <li>• SRK stated freeze back is complete</li> <li>• SRK stated that the thermistor cables at chainage 0+60 have been buried and the snow trap was filled with transition</li> </ul>
Water Management Structures	<ul style="list-style-type: none"> <li>• Drilling has finished at the Doris North Diversion Berm; the drill will remain in the area for re-drills.</li> <li>• An excavator will continue cleaning debris.</li> <li>• JDS inquired about work on the sumps; Nuna stated there will be no work on the sumps today.</li> </ul>
General	<ul style="list-style-type: none"> <li>• JDS inquired about a possible water trap on the vent raise pad; SRK will investigate.</li> </ul>

**SURVEY:**

<b>Required</b>	<ul style="list-style-type: none"> <li>• As-built survey of FCM placed Feb 6, 2012</li> <li>• As-built survey of Transition Material placed Feb 5, 2012</li> <li>• As-built survey of ROQ placed Feb 5, 2012</li> </ul>
<b>Data Received</b>	<ul style="list-style-type: none"> <li>• As-built survey thermistor string at 0+60 and bedding material.             <ul style="list-style-type: none"> <li>◦ AB 120206 ND Thermistor Cables 0+60 – Standard.zip</li> </ul> </li> </ul>
<b>Outstanding</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Upcoming</b>	<ul style="list-style-type: none"> <li>• Survey of FCM after placement (on going).</li> <li>• Survey of Doris North Diversion berm excavation.</li> </ul>

**NORTH DAM/FROZEN CORE PLANT PAD:**

- Roughly half the multibead thermistors were read on nightshift, focusing on the central key-trench near recent activity.

**Frozen Core Plant***Dayshift*

- Plant was running at 11:00 AM, and continued production until end of shift at 6:15.
- Two trucks were sent to reject while temperature and moisture was being dialed in.
- Some moisture changes were necessary later on when re-crushed material was fed.

*Nightshift*

- The FCP was started at 20:30 and ran until ~5:30 am with a short ~ 1 hour break for additional key trench cleaning.
  - The plant was shut down at 5:30 am as there was an issue with the fuel pump motor which was causing the flame in the FCP drum to go out. Electricians were to look at this issue first thing on dayshift.
- For most of the shift re-crushed FCM was used as the feed material. The last few trucks of the night were of feed material which had not been re-crushed.

**Dam Shell***Dayshift*

- Excavator did some snow clearing above transition and ROQ before FCM was available for placement.

*Nightshift*

- The CAT 325 excavator cleaned snow from the inner upstream slope of the dam.
- After FCM placement was complete the CAT 330 excavator cleaned snow from the inner downstream slope of the dam.

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

- FCM was placed from chainage 1+20 to 0+75.
- Some material was slightly dry, but saturation was reached due to extra vibratory packing.
- Minor bleeding of water was noted across most other areas; good compaction was indicated on all material placed on dayshift.

*Nightshift*

- FCM material was placed along the width of the key trench from ~ 0+80 to 0+55, and in the low spot on the downstream side from ~0+55 to 0+40.
  - The first approximately 3 loads of the FCM material were very wet and squishy to the step. Several additional passes with the vibratory compactor were used to compact these loads. Though some areas met the compaction specification of 90% there were other areas where even after additional compaction a maximum compaction of 87 to 89% was measured. As the saturation for this area was high (mid to high 90's). A one-time variance was given and the material was left in place even though it did not meet the compaction specification.
  - No bleeding was noted of the material placed with the high moisture content.
  - The moisture content at the plant was turned down significantly and though some of the other truckloads of material were on the wetter side all met the compaction and saturation requirements.
  - The temperature of the first load of material in the ground after compaction was 19°C.
  - At station 0+60 the previous lift of core material was within ~10 cm of the elevation of the next horizontal thermistor. This cable was going to be installed; however the first bead of the material was located on/near the cover on the hinge point. Discussions were had with the Nuna foreman and it was decided that installing the thermistor and leaving a bead uncover would make the GCL excavation difficult. It was decided that a trench would be left in the FCM to the level of the thermistor string and the thermistor string installed once the hinge point was uncovered.
- FCM material was also placed from ~1+20 to 1+45. This material was placed on the downstream side with a roller width (~3m) offset left from the hinge point on the upstream side.
  - The material in this area was dryer than the material placed earlier in the night.

- At station 1+30 the previous lift was also close to grade for horizontal thermistor string installation and the end of the thermistor string was within the 3 m offset where FCM was not being placed. For this area the lift was graded down to the thermistor elevation then back up to lift thickness afterwards in a gradual fashion.
- Labourers chipped away compacted snow and the area was swept with the skid steer brush prior to placement in this area.
- FCM was placed with the CAT 330 excavator with cleanup bucket.

**SUMMARY OF CORE MATERIAL PLACED (AS-BUILT)**

Date	FCM Placed/ Incremental Volume (m <sup>3</sup> )	Cumulative FCM Volume Placed (m <sup>3</sup> )
February 5 <sup>th</sup>	0	3273.3

**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
SB3	0+77	CL	SB3	0+77	CL	SB3	0+77	CL
SB11	1+45	CL	SB11	1+45	CL	SB11	1+45	CL
SB48	0+58	CL	SB48	0+58	CL	SB48	0+58	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-FCP-CORE-PSD19-20120206	HB12-ND-CORE-PSD18-20120204	HB12-ND-CORE-PSD15-20120204 HB12-ND-CORE-PSD16-20120204

**MOISTURE CONTENT SUMMARY**

Collected	Testing In Progress	Completed
HB12-FCP-CORE-MC54-QA-201200206 HB12-FCP-CORE-MC55-QA-201200206 HB12-FCP-CORE-MC56-QA-201200206 HB12-FCP-CORE-MC57-QA-201200206 HB12-FCP-CORE-MC58-QA-201200206 HB12-FCP-CORE-MC59-QA-201200206 HB12-FCP-CORE-MC60-QA-201200206 HB12-FCP-CORE-MC61-QA-201200206 HB12-FCP-CORE-MC62-QA-201200206 HB12-FCP-CORE-MC63-QA-201200206		

**DRILLED CORE**

Collected	Testing In Progress	Completed
HB12-ND-CORE-DC24-QA-20120206 HB12-ND-CORE-DC25-QA-20120206		HB12-ND-CORE-DC22-QA-20120205 HB12-ND-CORE-DC23-QA-20120205

Drill cores HB12-ND-CORE-DC-24-QA-20120206 and HB12-ND-CORE-DC-24-QA- were taken at approximately 0+93 CL and 0+85 US respectively from core placed on February 4<sup>th</sup>, 2012.

**DORIS NORTH CAMP:**

- Clean-up continued at the Doris North Diversion Berm key-trench.

**SECONDARY ROAD:**

- No new activity.

**QUARRY #2:**

- No activity during dayshift.

**GENERAL:**

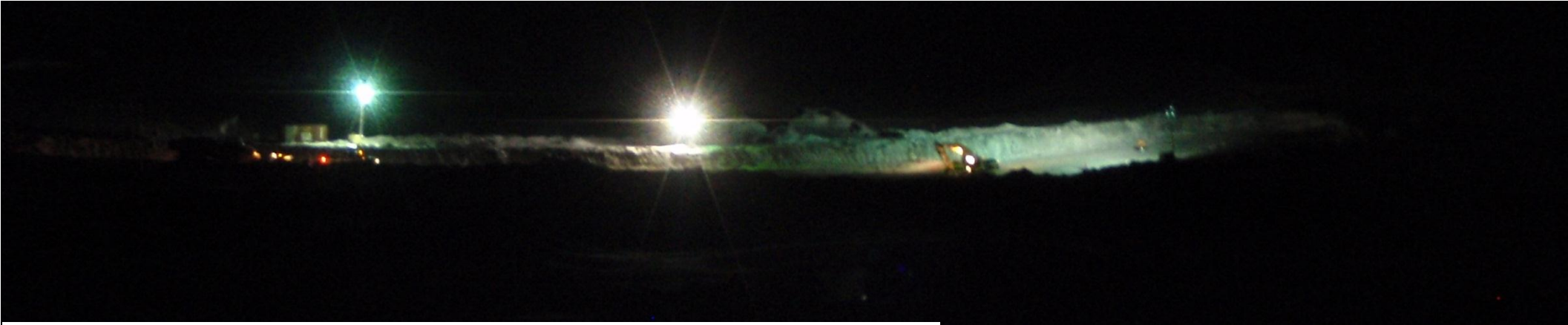
- Thomas Bradshaw arrived on site. As Thomas was the only incoming person who has not yet had site orientation site orientation is not available until Friday.
  - SRK expressed concerns regarding nightshift coverage Thursday and Friday nights with JDS.



PHOTOS:



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



**Photo 2:** Progress photo of North Dam from photo point 1. ~SSE view.



**Photo 3:** Drill core HB12-ND-CORE-DC24-QA-20120206.  
Coring stopped after grinding noises were heard.



**Photo 4:** Drill core HB12-ND-CORE-DC25-QA-20120206.  
Poor quality due to lost circulation and loosened gravel.





**Photo 5:** Labourers clearing debris with brooms and the air compressor in the morning.



**Photo 6:** The first few lifts of FCM. Note the overbuild in the foreground to ensure design lines are met.



**Photo 7:** Vibratory packer passing four times with static rolling, two times with the vibrator on.



**Photo 5:** Area where saturation was low after initial compaction. Vibratory packer completed several extra passes to bring this area to passing specifications.



**Photo 5:** Midday placement of FCM. Nuclear density testing continued throughout placement.



**FIGURES:**  
Figure 1 – North Dam Progress – February 6<sup>th</sup> DAYSHIFT

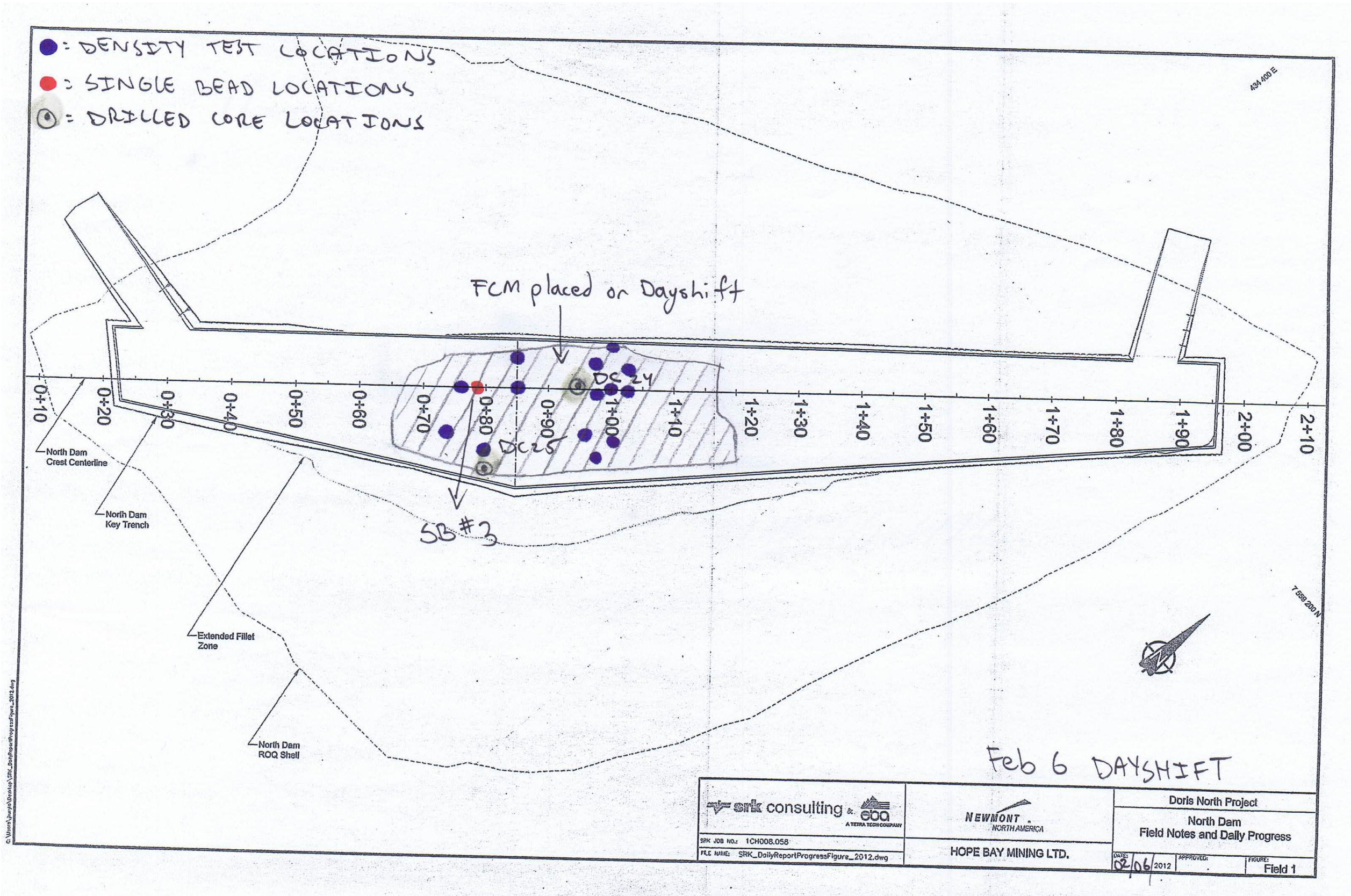




Figure 2 – North Dam Progress – February 6<sup>th</sup> NIGHTSHIFT

