

## DAILY REPORT #20 – DORIS NORTH INFRASTRUCTURE/ NORTH DAM

Prepared by:	John Kurylo/ Jeff Orr / Megan Miller	Date:	2012.01.25
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 Yes Yes No No No Yes No
	JDS	Lloyd Jackson – Mechanical Superintendent Sven Archimowtiz – Electrical Superintendent Doug Fielding – Construction Manager Ishan Fechter – Construction Coordinator Jerry Graham – Construction Manager Kevin Whieldon – Project Coordinator Mark Valeriote – Construction Manager	No Yes Yes Yes No No Out
Engineering Design Consultants	SRK Consulting (Canada) Inc.	John Kurylo – Site Engineer Megan Miller – Site Engineer Lawrence Borowski – Site Engineer Murry McGregor – Site Engineer Iozsef Miskolczi – Site Engineer	Yes Yes No No No
	EBA Engineering Consultants Ltd.	Jeff Orr – Project Manager Jennifer Stirling – Geologist Thomas Bradshaw – Junior Engineer Ernest Palczewki – Geologist	Yes Yes No No
Earthworks Contractor	Nuna Logistics	Bradford Watkin – QC Manager Dale Craig – Safety Don Webber – Foreman 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 Margret Caley – Surveyor Matt McKay – Civil Supervisor Mike MacMaster – Surveyor Mike Price – Field Engineer Nick Stoneberger – Superintendent Rick Peters – Foreman Ron MacMaster – Surveyor Simon Chipper – Civil Supervisor	No No No Yes No Yes Yes Yes No No Yes Yes Yes Yes No No Yes No
External Distribution List:	SRK: Maritz Rykaart, Lowell Wade, Seema Kang, Silkie Wong EBA: Robert Zschuppe Nuna: Chris Petrovic JDS: Bob Prince-Wright 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:-21.7/-31	12 PM:-27/-27	6 PM: -29/-29	12 AM: -20.1/-23
Precipitation (mm)	<b>Rain:</b> None		<b>Snow:</b> None	
Conditions	<b>Day Shift:</b> Clear, light wind		<b>Night Shift:</b> Warm, light wind.	
Daily norms (°C)	24 hour high: -20.1		24 hour low: -29.8	

**HEALTH, SAFETY AND ENVIRONMENT**

- Megan Miller attended the nightly Nuna construction meeting.
- An animal, possibly a wolverine, was seen crossing the Secondary Road near the Vent Raise Pad.

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

- The daily meeting was attended by ADCO, Williams Wireless, ACI, Nuna [Doug Haverland], Newmont Safety [Don Ethelston], JDS [Doug Fielding, Ishan Fechter], SRK [John Kurylo, Megan Miller]

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> <li>• No safety or ESR incidents to report.</li> <li>• ACI inquired about who is responsible for checking and punching the cards on the truck fire extinguishers. HSLP to follow up.</li> </ul>
North Dam	<ul style="list-style-type: none"> <li>• SRK provided a summary of construction activities at the N. Dam for 20120124. <ul style="list-style-type: none"> <li>◦ Placement resulted on dayshift from ~ 1+40 to 1+85.</li> <li>◦ There is freezeback everywhere</li> <li>◦ No placement resulted on nightshift.</li> </ul> </li> <li>• Cleaning is planned for the morning and placement is hoped to result in the afternoon.</li> </ul>
Water Management Structures	<ul style="list-style-type: none"> <li>• Work around Sump 1 is planned to start up in the coming days. Tli Cho will be working on hording and heating around the sump 1 area in preparation for exposing cables around this location buried/ frozen in the snow.</li> <li>• The main body the sumps have finished being fabricated. Insulation is still required to be added to the fabricated sumps. Nuna indicated that this will be completed before the Sump excavations are completed.</li> <li>• Drilling at Sump 2 is expected to be completed today. An excavator equipped with ripper and the 308 excavator is planned to be used to continue the excavation of the 'honeycombed' Sump 2 footprint.</li> <li>• The D9 is down. Once it is repaired it will continue ripping along the DN Diversion Berm key trench footprint.</li> </ul>
General	<ul style="list-style-type: none"> <li>• ACI is schedule to leave site tomorrow.</li> <li>• Williams Wireless continues to work on the communication supply/ pull to the powerhouse.</li> </ul>

- A North Dam construction meeting was held after the daily meeting. This meeting was attended by Nuna [Doug Haverland, Matt McKay, Mike Price, Jim Cardinal, Kyle], JDS [Doug Fielding, Ishan Fechter] and SRK [John Kurylo, Megan Miller]. The following topics were discussed:

Topic	Discussion Summary
Communication	<ul style="list-style-type: none"> <li>There seems to be a communication/ miscommunication issue resulting on nightshift. SRK and Nuna to work on increasing communication.               <ul style="list-style-type: none"> <li>No material was placed on nightshift on 20120124. This was in part due to miscommunications regarding placement location, See Daily Report # 19 for additional details.</li> </ul> </li> </ul>
Additional Personnel On Nights	<ul style="list-style-type: none"> <li>The Nuna nightshift foreman could benefit from having some additional support on nights (such as a good lead hand). This person could then assist with other duties freeing up the foreman 100% for the dam construction.               <ul style="list-style-type: none"> <li>This support could assist in limiting delays/ lags noted between SRK site personnel indicating that additional work is required before placement and this information being relayed to the Nuna construction crew/ operators.</li> <li>The dayshift foreman has support from the Nuna Civil Supervisor and Field Engineers, which have been assisting with speeding and increasing communication flow from SRK to the construction crew.</li> <li>Nuna and JDS to look at staffing for additional night shift personnel. Further, JDS and Nuna to look into the need for site services support on night.</li> </ul> </li> </ul>
5/8" Removal	<ul style="list-style-type: none"> <li>Some concerns were brought up that SRK day and night shift personnel are being inconsistent with what is seen as acceptable 5/8" removal. SRK has cross-overs daily and has gone into the field together this rotation in an effort to ensure consistency. When 5/8" material removal results a shift progress figure with notes that include areas cleaned, of concern or requiring additional cleaning will be prepared. This may be shown to the field foreman's if required.               <ul style="list-style-type: none"> <li>The area along the fillet slope that was cleaned on nightshift on 20120124, from ~ 1+40 to -0+60, was not approved on dayshift and did require cleaning if an offset was not to be left.</li> </ul> </li> </ul>
FCM Temperatures	<ul style="list-style-type: none"> <li>Based on recent coring, in areas the bond between lifts does not appear to be fusing as well together as it was last year.               <ul style="list-style-type: none"> <li>FCM is expected to be required to be leaving the FCP chute at temperatures in excess of 30°C.</li> <li>Extreme low air temperature while placing, as well as colder stockpile/ feed material entering the plant are expected to be the largest contributors to the lower observed FCM temperatures at the plant.</li> <li>SRK and Nuna to work in the field today to try and increase FCM temperatures leaving the plant chute.</li> </ul> </li> </ul>
Lift Cleaning	<ul style="list-style-type: none"> <li>Nuna inquired as to how much snow was allowable to be left on a previous lifts surface before a subsequent lift is placed.               <ul style="list-style-type: none"> <li>As outlined in the SRK technical specifications, snow and ice must be removed before Core material can be placed in that area. The lifts will be inspected and approved by the field engineer before fill placement.</li> <li>If an area is cleaned and then a trace amount of snow enters (blows or falls) into the key trench then construction may be allowed to proceed without additional cleaning. This being said, no valve for an allowable amount of snow that may remain will be specified. Snow removal will only be evaluated in the field and is on a case by case basis and at the discretion of the field engineer. No snow should be expected/ planned for to remain on lift surface. All lifts should be expected/ planned to be cleaned.</li> <li>All loose, broken or altered material is to be removed from the key trench before subsequent lift placement.</li> </ul> </li> </ul>

**SURVEY:**

<b>Required</b>	<ul style="list-style-type: none"> <li>As-built survey of FCM placed on 2012/01/25</li> <li>Pick-up of 5/8" material removal from 2012/01/25</li> </ul>
<b>Data Received</b>	<ul style="list-style-type: none"> <li>Frozen Core Material Excavated 2012/01/22 and core placed 2012/01/23               <ul style="list-style-type: none"> <li>CAB 120122 ND FC EXC – Standard.zip</li> <li>CAB 120122 ND FC EXC.xml</li> <li>CAB 120123 ND FC – Standard.zip</li> <li>CAB 120123 ND FC.xml</li> </ul> </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 frozen core surface after cleaning/ scraping activities at N. Dam (on going).</li> <li>Survey of FCM after placement (on going).</li> </ul>

**NORTH DAM/FROZEN CORE PLANT PAD:****Frozen Core Plant***Dayshift*

- The FCP started FCM production around 16:00 pm.
- Temperatures started low (closer to 25°C) but then were adjusted (as requested by SRK/EBA) to temperatures around 30°C.
- Trials were at held the FCP to increase the FCM temperature with SRK, EBA and the Nuna FCP dayshift operator.
  - The exhaust dial was varied from ~ 14 to 40. The temperature was observed to slightly decrease with an increase in the exhaust (fan). Temperatures varied between 22° and 24°C.
  - Varying the belt speed had the most effect on raising the temperate.
    - With the belt/ feed speed changed from 21.6 to 21.0 the temperature was observed to rise from ~ 24° to 25.5°C
    - Changing the belt speed from 21 to 20.4 raised the FCM temperature to ~26.5°C.
    - Changing the belt speed from 20.4 to 19.5 raised the FCM temperature to ~29°C
    - Changing the belt speed from 19.5 to 18.5 raised the temperature to 30.5 to 31 ~°C
    - With the lower plant speeds the time to fill truck between is estimated to have increased in the order of 3 - 4 minutes per truck.
- A dozer continues to be used at the FCM stockpile to sort and break down unsaturated frozen lumps of FCM. Some larger clumps of the FCM have started to be hauled to the crusher.

*Nightshift*

- A hot change occurred between the day and night shifts. The plant ran until ~12 am when placement to the south west was complete.
- When the plant shut down at 12 am very little FCM was available as the material in the stockpile was hard and frozen. The CAT 345 excavator and CAT D9 dozer ripped and scraped the pile to find/make useable material. Sufficient useable material to start placement was not obtained in time to continue placement on night shift. Breaking up of the frozen material within the stockpile continued until the end of nightshift.

**Dam Shell**

- No significant activity.

**Key Trench***Dayshift*

- The 325 excavator, equipped with finishing bucket was used to scrape down addition 5/8" material around 1+10, from ~ 0+60 to 0+40 on the upstream fillet slopes and from ~0+40 to 0+20 on the base of the existing key trench.

- Core material placement was started at around 16:30 and ran to the end of dayshift.
- FCM was placed from ~ 1+10 to 0+85 on dayshift.
  - Material was of good quality (slightly wetter and hotter) and was observed to be more workable. Less compactive effort was required to get saturation and densities and a cleaner finished surface was left (less sticking to the vibratory drum).
- Nuna's shift change was done on the fly in order to not stop the frozen core plant. Placement of core material did not stop at shift change (i.e. hot change).
- A progress figure showing the approximate extent of day shift placement is provided as Figure 1.

#### *Nightshift*

- Multi-bead thermistor ND-HTS-060-28.8 remains broken/ severed.
- Multi-bead thermistor readings were taken for all thermistors with the exception of ND-VTS-085-DS (buried); ND-HTS-060-28.8 (severed).
  - Five of the multi-bead thermistors are missing their protective caps.
- Placement of saturated FCM continued towards the south west with a hot change between shifts. Night shift started at ~0+85 working south west up the hill until approximately stn. 0+40.
  - The material was placed with the CAT 325 excavator and static rolled with the compactor.
  - The material was coming from the plant was on the wet side and coming out at hotter temperatures. Due to the temperature increase the time between trucks was slightly increased.
  - The Temperature of the placed and spread material (prior to compaction) were measured at 28°C. Outside air temperature was measured at -19.8°C.
  - Single bead #40 was installed at sta. 0+60 on the upstream side of the dam.
- While FCM was placed to the south west labourers were cleaning the floor of the key trench north east of sta. 1+10 with the air compressor.
  - The bobcat with the broom attachment was not available during night shift as it was in the shop being repaired.
  - Compacted snow from driving on the key trench prior to cleaning remained after being cleaned by the air compressor.
  - The CAT 325 excavator was used to scrape the compacted snow. The labourers then blew the surface clean of loose debris. This area was looking very good by the end of nightshift.
- A progress figure showing the approximate extent of night shift placement is provided as Figure 2.

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

- Single bead #40 was installed and read. Single bead # 46 was decommissioned.

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

Installed Today			Active			Destroyed / Abandoned		
ID	Station	US/DS/Center	ID	Station	US/DS/Center	ID	Station	US/DS/Center
SB40	0+60	US				SB55	0+50	Center
						SB56	0+90	Center
						SB46	1+75	Centre

- A summary of the material testing progress for 2012/01/25 is presented in the tables below.

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

Collected	Processed	Completed
HB-FCP-CORE-PSD9-QA-20120125		HB-FCP-CORE-PSD8-QA-20120124

**MOISTURE CONTENT SUMMARY**

Collected	Processed	Completed
		HB-FCP-CORE-MC19-QA-20120125 HB-FCP-CORE-MC20-QA-20120125 HB-FCP-CORE-MC21-QA-20120125

**DRILLED CORE**

Collected	Processed	Completed
	HB12-ND-CORE-DC1-QA-20120116 HB12-ND-CORE-DC2-QA-20120119 HB12-ND-CORE-DC3-QA-20120119 HB12-ND-CORE-DC4-QA-20120122 HB12-ND-CORE-DC5-QA-20120124 HB12-ND-CORE-DC6-QA-20120124 HB12-ND-CORE-DC7-QA-20120124	

- Lab testing and additional photographing was started on the previously sampled cores.

**COMPACTION TESTING SUMMARY**

Number of Tests	Material	Tested By	Shift	Notes
4	Core	JO	Day	All Passed
5	Core	JS	Night	All Passed

- Compaction and saturation results from the nuclear densometer were acceptable.

**DORIS NORTH CAMP:**

- Westarc completed drilling activities at Sump 2 today.
- Snow road construction around the DN Diversion Berm continues slowly.
- Snow and a thin layer of soil was stripped off the main bedrock outcrop noted towards the east central area of the DN Diversion Berm. The Westarc drill was mobilized to this location.
- Snow was removed along the eastern extents of the DN Diversion Berm key trench alignment. Tomorrow SRK plans to do a field inspection of this location.

**GENERAL:**

- Tomorrow is crew change for a large portion of the construction crew working at the North Dam. In addition, approximately 10 personnel will be required to service/ offload and load the planes. Therefore no FCM placement is expected to be completed at the start of dayshift on 2012/01/26.



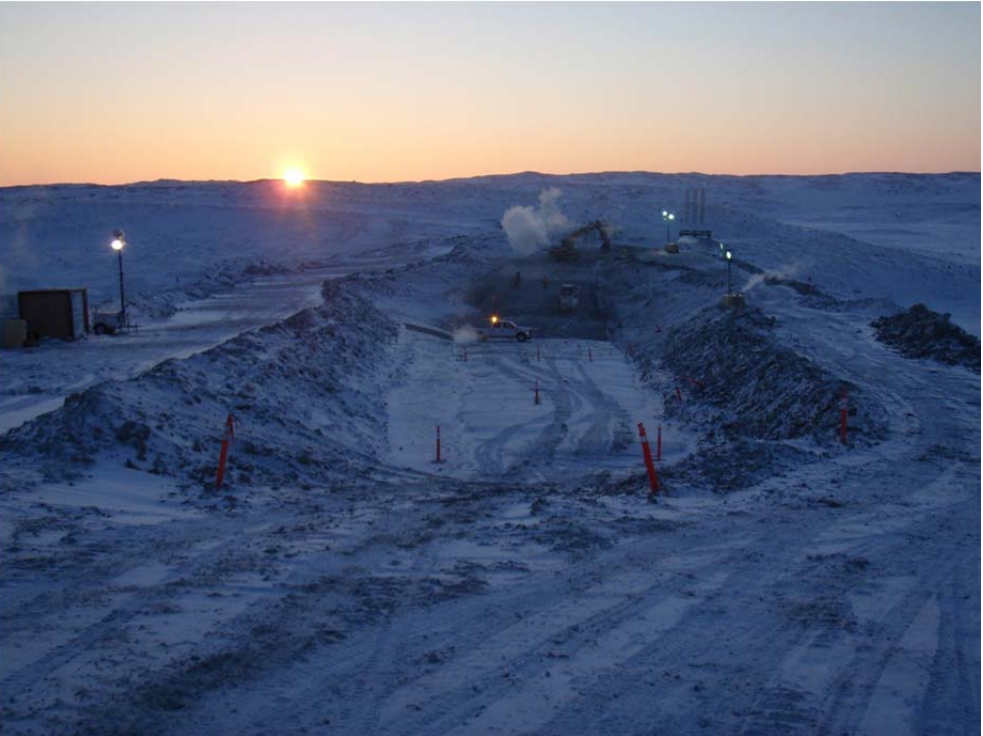
PHOTOS:



**Photo 1:** ~ SSW view of the 325 excavator (with finishing bucket) cleaning the upper side slopes of 5/8" material around 1+10.



**Photo 2:** Close-up view of the Sump #2 location after drilling was completed. Note that some of the drilled holes are not visible due to the cutting in the area. The Sump location has a 'honeycomb' appearance



**Photo 3:** ~ WNW view down key trench towards construction activities. Note that the most WSW area of the key trench is being cleaned in preparation for placement.



**Photo 4:** ~ NEE view of cleaning activities along the downstream edge of the key trench around station 0+50.



**Photo 5:** ~ NEE view of FCM placement around 0+90 late in dayshift.





**Photo 6:** Progress photo of North Dam from photo point 1. ~SW view.



**Photo 7:** Progress photo of North Dam from photo point 2. ~WNW view.





**Photo 8:** ~ NEN stitched panoramic view of the North Dam (left forefront), Frozen Core Plant (back center) and Tails Lake.



**Photo 9:** Progress photo of North Dam from photo point 3 (newly established point). ~ENE view.





**Photo 10:** Placed FCM looking west along key trench from approximately station 0+60. Material placement ended at the delineators ~sta. 0+40.



**Photo 11:** Placed FCM looking NE along key trench from ~station 0+60. Placed material ends where the photo transitions from grey to white.



**Photo 12:** Lots of steam during material placement.



**Photo 13:** CAT 325 excavator placing FCM.



**Photo 14:** Packer compacting the placed FCM. Looking SW along key trench.



**FIGURES:**  
Figure 1 - FCM Progress/ Placement – Jan 25<sup>th</sup> DAYSHIFT

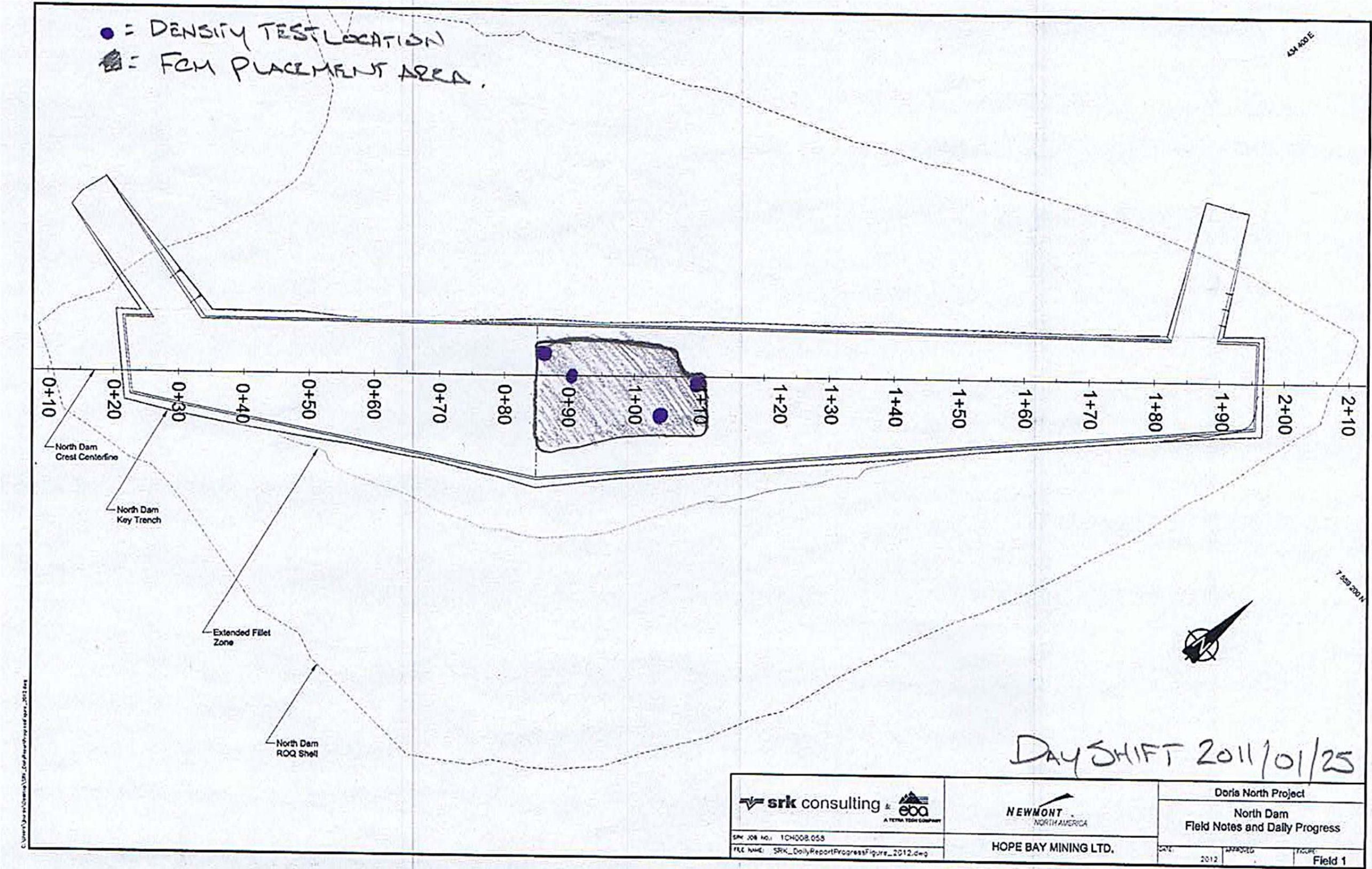




Figure 2 - FCM Progress/ Placement – Jan 25<sup>th</sup> NIGHTSHIFT

