

DAILY REPORT #74 – DORIS NORTH INFRASTRUCTURE/ NORTH DAM

Prepared by:	John Kurylo Lawrence Borowski	Date:	2012.03.19
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 Yes No Yes No No 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	No Yes yes No No 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	Yes No Yes No No 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	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	Yes No Yes Yes Yes Yes No Yes No Yes No No Yes No No No Yes
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WEATHER (ROBERTS BAY)

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

Temperature/Wind Chill (°C)	6AM: -31/-34	12PM :-29/-29	6PM: -31-35	12AM N/A
Precipitation (mm)	Rain: None		Snow: None	
Conditions	Day Shift: Clear, calm, nice day!		Night Shift: Cold, moderate winds.	
Daily norms (°C)	24 hour high:-28C		24 hour low: -341C	

HEALTH, SAFETY AND ENVIRONMENT

- John Kurylo and Jennifer Stirling attended the nightly Nuna toolbox meeting.
- Earnest Palczewski attended the daily tool box meeting.

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

- The daily meeting was attended by Newmont [Don Ethelston], JDS [Doug Fielding, Ishan Fechter, Mark Valeriot]; Nuna [Doug Haverland,] and SRK [Lawrence Borowski, John Kurylo].

Topic	Status
Health and Safety and Environment	<ul style="list-style-type: none"> • One small incident noted: worker was working and hand tool can around and struck him on the brow. • Housekeeping tour planned today, before mine inspector comes to site. • INAC tour on Wednesday.
North Dam	<ul style="list-style-type: none"> • Lengthy discussion on the test liner placement yesterday. Salient points to be addressed include: <ul style="list-style-type: none"> ○ Liner is stored in sea cans. Possible options for heating were discussed ○ Skid Steer being used to hold down GCL as it is being deployed. While the tracks are rubber it is favourable to not have the skid steer hold the liner down in areas that are within the design liner limits. ○ The required overlap of the liner panels (higher elevations panels on the end overlap the lower panels) was discussed. ○ Yesterday it was noted that as it was only a trial snow was only removed to within 1m of the slope toe. Additional snow is planned to be cleared back at the bottom before overliner material placement results. ○ Additional liner was planned to be placed today. • SRK provided a update on construction activities at the dam. <ul style="list-style-type: none"> ○ Thermistor cables cut (2) at Sta 1+75 ○ Additional ROQ was placed. ○ Separation material and over GCL mix stockpiled at the core plant.
Water Management Structures	<ul style="list-style-type: none"> • Layfield placed HDPE between Sta 3+00 and Sta 3+45 at the berm yesterday. • Continued clearing trenches / excavation at berm.
General	<ul style="list-style-type: none"> • One drill working at Quarry 2, day shift and night shift • Blast now planned for Thursday • Power supply for the drill core is an issue.

SURVEY:

Required	<ul style="list-style-type: none"> Recent multi-bead cable string pickups and crush cover over cables.
Data Received	<ul style="list-style-type: none"> Calculated remaining volume of Frozen Core (as of March 19)
Outstanding	<ul style="list-style-type: none">
Upcoming	<ul style="list-style-type: none"> Survey of FCM after placement (ongoing). Survey of Doris North Diversion berm (ongoing).

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

- No plant operator was / is available for dayshift.

Nightshift

- Maintenance and cleaning resulted at the FCP at the start of shift.
 - The FCP was started up around 23:00.
 - Water was set to ~56.5 on the water pump dial at start-up
 - Water was increased to ~ 57.7 on the water dial briefly.
 - Around 1:45 water was lowered down to 55.8.
 - Around 3:40 the water was again lowered down to 54.6 on the dial.
 - The FCM temperature exiting the chute was around +30C for most of nightshift.
 - The plant was run for ~ 5.5 hours.
- 20 truckloads (~124 loader buckets) were produced from the FCP today.
- At the end of shift the FCM stockpile was almost fully depleted (estimated that less than 10 m3 of material remained stockpiled at the end of night shift).

Dam Shell*Dayshift*

- No activity

Nightshift

- Minor work compacting the ROQ on the downstream slope was completed.

Key Trench/ Central Core*Dayshift*

- Primary emphasis today was placing more GCL. Procedures were improved based on the trial run completed yesterday. Overall GCL placement was completed well today.
 - Overlapping of liners was changed following the meeting this morning. Overlaps were arranged (similar to roof shingles) so that the higher elevation panel overlaps the lower elevation panel.
 - Excavator was positioned at the top of the slope rather than the bottom. The skid steer was still required to hold the liner in place as it was deployed. The system used was to extend the liner about ½ meter beyond the cut-off line at the bottom of the slope. One skid steer track was positioned over the edge of the liner. After the liner was deployed the ½ meter that was under the skid steer was cut off and discarded.
 - Discussions were held in the field regarding the correct amount of bentonite to be placed at the seams. There is a vast difference between the manufacturers' recommendations and the IFC drawings (on the order of 14 bags versus 2 per roll). An RFI was issued last year that outlined that the manufacturers' recommendation of 400 grams/meter would be followed.

- As a demonstration JDS measured 400 grams so that workers would know what the correct amount looked like. Bentonite was deployed in a bead from a pail with a hole cut in the lid. The 400 grams/meter was used on the lapped joints and at the bottom.
- The material used for the trial GCL placement was from stock of GCL used last year. The roll spread today was mainly from the new liner stock. These have had better storage and handling and appeared to be easier to manhandle / layout.
- Additional snow clearing on the upstream side was undertaken. Snow was cleared up to the bank. This was done well and was ready for overliner placement.
- One drilled core was taken on dayshift.
 - HB12-ND-CORE-DC84-20120319 was taken from ~ 0+35 centerline. This was from the material placed on March 17th nightshift.
 - Difficulties continued in finding a suitable power source for the drill. Following this mornings' meeting we were told that there was a Honda generator available. This was picked up and taken to the site. SRK/EBA was unable to start the generator and it was taken back to the shop. A light plant was used to drill the core. The breaker consistently tripped however it was sufficient to complete a short core.
- Electricians visited the site during the day to inspect cables that were severed. There current plan is to cut the thermistor cable at the jetty to use for an extensions. This would be completed from this cable as the jetty thermistor is abandoned. A extension is required to allow for enough slack to splice the cables back together. This will be further examined in the coming days.

Nightshift

- The GCL placed on dayshift was inspected. Overall no major concerns were noted. All items outlined in Daily #73 have been addressed. Overall it looks like a good system for completing the remainder of GCL installation has been developed.
 - Minor work was done smoothing out some small wrinkles in the placed liner.
 - A small amount of loose sand material was removed from some undulations near the base of the upstream slope.
 - Select seams were inspected. Bentonite powder was noted under all seams inspected.
 - In a few select areas minor hydration was noted along the side of the panels. The overlaps of the GCL panels were noted to have been placed to account for this hydration.
- Near the start of shift the underbuilt SSE corner of the dam was re-inspected. Dayshift had completed some scraping of this slope however loose material, ice and pockets of snow remained on this slope. The intermediate slope, between the top area and lower underbuilt downstream area, was further scraped down to hard ground by hand shovelling / picking and with the excavator. See Photos 13 to 16 for additional details. The nightshift crew did a good job of cleaning this slope.
 - To avoid the need for further extensive cleaning of this intermediate slope area it was decided that saturated FCM would be placed on this slope to remove pockets and undulations. See Photo 17 and 18. FCM was placed on this area with the excavator and tamped with the bucket. Additional water was added to the material placed on this slope area to assist with achieving saturation requirement.
- FCM was placed from ~0+25 north to 1+35. The north end is now ~ to final grade from the 1+95 to 1+10.
- To date 10,456 m³ of FCM has been placed at the North Dam in 2012. Approximately 266 m³ of material was placed on nightshift on March 19th. Approximately 136 m³ of FCM remain to be placed to bring the core up to the IFC design limits / lines.

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
SB21	1+10	D/S				SB24	0+50	U/S
						SB22	0+75	CL
						SB29	1+15	U/S

- A summary of the material testing progress for 2012/01/29 is presented in the tables below.

PARTICLE SIZE DISTRIBUTION SUMMARY

Collected	Processed	Completed
		HB12-ND-CORE-PSD72-QA-20120317

MOISTURE CONTENT SUMMARY

Collected	Processed	Completed
HB12-FCP-CORE-MC357-20120319		HB12-FCP-CORE-MC357-20120319
HB12-FCP-CORE-MC358-20120319		HB12-FCP-CORE-MC358-20120319
HB12-ND-CORE-MC359-20120319		HB12-ND-CORE-MC359-20120319
HB12-ND-CORE-MC360-20120319		HB12-ND-CORE-MC360-20120319
HB12-FCP-CORE-MC361-20120319		HB12-FCP-CORE-MC361-20120319
HB12-ND-CORE-MC362-20120319		HB12-ND-CORE-MC362-20120319
HB12-ND-CORE-MC363-20120319		HB12-ND-CORE-MC363-20120319

DRILLED CORE

Collected	Processed	Completed
HB12-ND-CORE-DC84-20120319	HB12-ND-CORE-DC83-20120318 HB12-ND-CORE-DC84-20120319	

COMPACTION TESTING SUMMARY

Number of Tests	Material	Tested By	Shift	Notes
0	FCM	EP	Day	N/A
4	FCM	JS	Night	Tests Acceptable

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

DORIS NORTH DIVERSION BERM:

- Work at the berm continues to be well organized. Every phase was inspected before the next phase commenced.
 - Trench cleared between Sta 1+80 and 2+45. Ready for placing crush.
 - Placed bentonite and crush between Sta, 2+45 to 3+00
 - Over liner geotextile placed between Sta 3+00 and 3+45. Final bentonite placed between Sta 3+00 and 3+45

DORIS SUMPS:

- Second lid has been fabricated.
- No notable work at Sumps.
- JDS water management continued to work around this area on installing piping.

QUARRY 2:

- One drill working during dayshift and one drill working on nightshift (i.e. one drill working 24 hours).

GENERAL:

- Weather conditions improved significantly. Temperature reached -28C with no wind.
- SRK's truck 10-010 was returned back to service yesterday afternoon. This morning the battery was dead. SRK continues to share a truck with Nuna supervisor and field engineering crew on dayshift. Additional vehicles were available on nightshift due to the smaller crew size.
- The D6 continued to push the snow stockpile further onto Tails Lake.
- JDS water management continued to pull pipe around site.
- Between the Sediment and Pollution Pond a small trench was ripped and culverts, housing pipes, were installed by JDS Water Management. Crush was placed around the culverts. Note that the location of the liners in this area was previously marked so they would be avoided.

PHOTOS:



Photo 1: View of construction progress from photo Point 3, facing NNE.



Photo 2: Facing south, looking down dam centerline.



Photo 3: Workers lining up GCL panels.



Photo 4: Cat 330 deploying GCL



Photo 5: Workers positioning GCL after it has been rolled out.



Photo 6; GCL rolled back. Placing bentonite along seam.



Photo 7: Skid Steer used as anchor. Note the bottom area was trimmed off after the skid steer was moved.



Photo 8: Labour crew and 330 spreading GCL



Photo 9: Liner progress to ~Sta 1+60 at the North Dam.



Photo 10: Geotextile Sta 3+00 to 3+45, at the DN Diversion Berm



Photo 11: Bentonite Sta 2+45 to Sta 3+00 at the Doris North Diversion Berm.



Photo 12: Dozer pushing snow on Tails Lake



Photo 13: ~NE view of intermediate slope around 0+50 to 0+70 . at the start of dayshift. Additional cleaning of this slope was required on nightshift to remove pockets of snow, ice and loose material



Photo 14: Example of snow pocket under FCM that fell over the side slope during the last placement. Note that this material was ripped out by the excavator



Photo 15: View of intermediate SSE slope (around 0+60) after cleaning.



Photo 16: ~WNW view of intermediate slope from ~ 0+40 to 0+60 after cleaning



Photo 17: ~W view of FCM placement in underbuilt SSE corner (around 0+70 to 0+4))



Photo 18: ~W view of SSE corner after FCM placed on side slopes to remove undulations and limit future cleaning activities.



Photo 19: ~SSW view of FCM placement around 0+75



Photo 20: ~WSW view on nightshift down centerline of core.

FIGURES:

Figure 1 – North Dam Progress – Dayshift

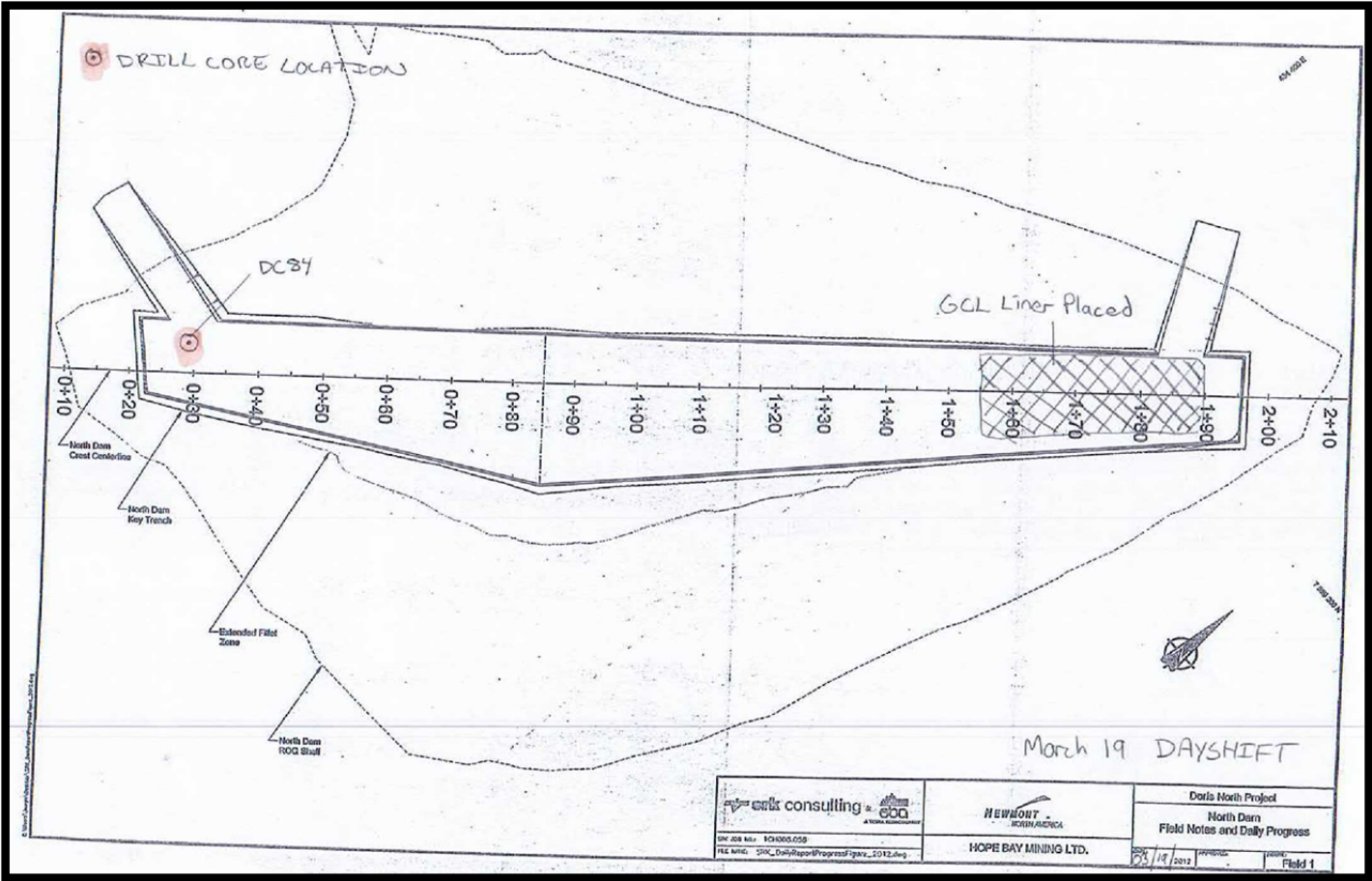


Figure 2 – North Dam Progress – Nightshift

