SRK Vancouver
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

Memo

To:	Chris Hanks	**Date:**	July 8, 2011
Company:	Hope Bay Mining Limited	**From:**	Iozsef Miskolczi, Maritz Rykaart
Copy to:	Christine Kowbel	**Project #:**	1CH008.033/219
Subject:	Roberts Bay – Quarry 1 Tank Farm Liner Raise Design Notes		

1 Introduction

Hope Bay Mining Limited (HBML), a wholly owned subsidiary of Newmont Mining Company (NMC) is currently in the process of constructing their Doris North Project (Project) in the Kitikmeot region of Nunavut, Canada.

HBML proposed to construct a 1.5 million Litre aviation fuel tank in the secondary fuel containment facility housing the 4 x 5 million litre tanks currently under construction. To minimize re-handling of fuel, and to allow for a single fuel dispensing facility at Roberts Bay, HBML proposes to relocate that aviation tank to the original secondary containment facility housing a single 5 million litre diesel tank.

This charge requires that the secondary containment of the existing facility be increased to ensure compliance with appropriate regulatory standards pertaining to secondary fuel containment.

This memo describes the design criteria and provides a summary of the design details and construction methodology that will be followed.

2 Design Concept

The edge of the existing liner will be exposed with minimal disturbance. New liner will be added to allow the secondary containment capacity to be increased. Additional protective cover will be placed in the base of the facility to increase the functional use of the facility and improve maintenance and water management.

3 System Design

3.1 Design Criteria

This facility upgrade has been designed in accordance with all Federal and Territorial regulations and guidelines. In addition, NMC has internal 5-star Standards that were adopted where they exceeded the Federal and Territorial regulations and standards.

This facility upgrade is on existing disturbed footprint for which HBML has a Commercial Lease in place. This upgrade carries the approval of the Landowner KIA.

Design criteria for the liner raise are as follows:

- The aviation fuel tank will be founded on bedrock.
- The secondary containment capacity for the facility will be at least the capacity of the largest storage tank, plus 10% of the aggregate capacity of all other storage tanks in the facility.
- In addition to the regulated required secondary containment capacity, an allowance must be made to contain the 100 year, 24-hour duration storm event.
- The maximum slope of the liner must match the existing slope (approx. 2H:1V).
- The minimum elevation of the top of the liner is 8.7 masl.
- The liner addition will be fusion welded to the existing liner.

- The cover thickness on the slopes of the containment is minimum 0.3 m (measured normal to the slope).
- The cover thickness on the floor of the containment is minimum 0.6 m, sloping toward the sump.
- The cover thickness in the container storage area is minimum 0.9 m, sloping toward the sump.

3.2 Survey Data

The design of the liner extension is based on detailed as-built survey of the fuel tank containment made available by the Owner. An additional as-built survey of the overburden dump area adjacent to the fuel tank containment was provided by the Contractor.

3.3 Location

The Quarry 1 Tank Farm is located on a rock outcrop near the shore of Roberts Bay, at the north extremity of the Roberts Bay laydown area.

3.4 Foundation Conditions

Comprehensive geotechnical investigations have been carried out at the Doris North Site (SRK 2009). This information confirms that the area lies within the zone of continuous permafrost, with the permafrost being up to 550 m deep. Permafrost temperature at the surface is about -8ºC and the active layer is generally less than 1 m thick. Laboratory and in-situ tests on disturbed and undisturbed samples indicate that the overburden soils are predominantly comprised of marine silts and clays, and the pore-water in these soils has high salinity, depressing the freezing point to -2ºC. The ice-rich overburden soils are typically between 5 and 20 m deep, before encountering competent bedrock, predominantly basalt. Bedrock is frequently exposed, rising columnar 5 to 100 m above the surrounding landscape.

Since the facility upgrade is within the confines of the existing secondary containment facility there will be no further foundation disturbance. The new tank will be constructed on bedrock.

3.5 HDPE liner raise

The liner raise will be executed by addition of a new section of HDPE membrane and welding it to the existing one. The top portion of the existing liner will be exposed all around the perimeter of the bunded area. Exposing the liner and welding of the raised portion will be performed with minimal disturbance to the existing liner. The overall slope of the liner will be maintained where possible at the existing 2H:1V slope. In two localised areas the liner extension will be fixed to the existing rock face to achieve the target elevation of 8.7 m.

3.6 Protective cover

The thickness of the existing protective cover will be maintained at 0.3 m minimum on the slopes of the containment area, while on the floor of the containment the liner cover thickness will be increased to 0.6 m minimum by addition of crushed rock. In one specific area the liner cover thickness will be increased to 0.9 m minimum. This area will be used as storage for Seacan containers.

3.7 Liner raise in the fuelling station area

The as-built surveys made available by the Owner show that the cover thickness in the fuelling station area varies between 0.1 and 0.2 m. The general elevation of this area is 8.3 masl. The liner will be raised only along the external perimeter of this area to the final elevation of 9.1 masl, leaving the existing cover mostly undisturbed. The cover thickness will be increased to 0.9 m, to improve protection of the liner. The fuel pumping station will be temporarily removed to allow construction of the cover, and will be placed back into the same general location once the cover is complete.

3.8 Drainage Sump

The current sump location is at the toe of the access ramp into the containment area, in the south-east corner. As the thickness of the protective cover in this area will be increased, the exact location of the current sump will become one of the highest elevations within the containment. A new sump, located south-west of the existing 5 ML fuel tank will be constructed. This particular location was chosen because both the liner surface and the general surface gradations have the elevation in this area. The new sump will be placed on the liner and backfilled with crush to the elevation of the new protective cover. The surface of the final protective cover will be graded to drain toward the sump.

3.9 Construction Methodology

The existing liner will be exposed by partially removing the current cover using a small excavator. The remainder of the cover will be removed by manual means, to avoid damaging the liner. The liner extension will be welded to the existing liner using fusion welding techniques.

The additional cover material will be hauled in place by haul trucks and spread in 0.3 m thick lifts using a CAT D6 or smaller dozer. Static compaction of each lift is required. The contractor is responsible for presenting a construction plan to the EPCM team and design engineers prior to commencement of construction activities.

4 References

SRK Consulting (Canada) Inc., 2009. Hope Bay Gold Project: Stage 2 Overburden Characterization Report, Prepared for Hope Bay Mining Limited, Project Number: 1CH008.002, September, 2009.