

August 14, 2013

Pacific Booker Minerals
1702 - 1166 Alberni Street
Vancouver, British Columbia
V6E 3Z3

Erik Tornquist, Executive VP and COO

Dear Mr. Erik Tornquist:

**Morrison Copper/Gold Project
Summary of Geomembrane Liners**

The following tables provide a brief summary of a few of the geomembrane lined tailings facilities that I am aware of. Other relevant comments include:

- A number of the States in the USA require that tailings impoundment be lined. It is a requirement of the International Cyanide Code that all tailings containing cyanide, be placed in a lined tailings facility.
- Impoundment lining is more commonly associated with lower tonnage mining operations.
- KCB are in a multi-year joint research program with Queens University, which has the largest geomembrane testing facility in the world, to further the research and quantification of liner/tailings properties. Two areas of current research are:
 - ◆ Quantification that leakages from liner/tailings systems are orders of magnitude less than leakage from liner/water systems for conventional water ponds.
 - ◆ Further quantification of life of liners. Aging of liners in tailings applications currently suggests at least a thousand years as the potential life of the liner that is buried below tailings, which maintains a near constant moderate temperature. Accelerated aging testing with different tailings pore water will be conducted.
- The Tailings Subcommittee of the International Commission of Large Dams (ICOLD) is currently preparing a Bulletin on a Technology Update on Tailings Dams and one of the chapters will be devoted to seepage control with soil and geomembrane liners. I am currently Chairman of the Committee and directing the preparation of the Bulletin.

Table 1 Constructed Tailings Projects – KCB Design and/or Reviews

Project	Company	Location	Size of Facility	Tailings Features	Liner Type
Wolverine Lead Zinc	Yukon Zinc	Yukon	Small		Single LLDPE
Greenwood Gold	Merit Mining	British Columbia	Small		Single LLDPE
Campbell Gold	Newgold	Ontario	Medium		HDPE with overdrain
Quebec Lithium	Quebec Lithium	Quebec	Small		Single LLDPE
Greens Creek Lead Zinc	Hecla	Alaska	Medium		HDPE
Cobre Las Cruces - copper	KGHM	Spain	Medium		Single HDPE
Cajamarquilla	Votorantim	Peru	Medium	Jarosite residue	HDPE with overdrain
Pascua Lama	Barrick Gold	Argentina	Very large	4,000 m elevation in the Andes	HDPE with overdrain

LLDPE- Linear low density polyethylene geomembrane

HDPE – High density polyethylene geomembrane

Table 2 Current KCB Design Phase

Project	Company	Location	Size of Facility	Impoundment Features	Liner Type
KSM Copper/Gold	Seabridge Gold	British Columbia	Very large	Mountainous terrain and wetlands	Single LLDPE
Resolution Copper	Rio Tinto	Arizona	Very large	Dry	Single LLDPE
La Granja Copper	Rio Tinto	Peru	Very large	Dry	Single LLDPE
Selwyn lead zinc	Shuihan Mining	Yukon	Small to medium	Wetlands	Single LLDPE

LLDPE- Linear low density polyethylene geomembrane

Table 3 Constructed Tailings Projects – General

Project	Company	Location	Size of Facility	Impoundment Features	Liner Type
Bald Mountain Gold	Barrick	Nevada	Medium		HDPE with leak detection
Cortez Gold	Barrick	Nevada	Large		HDPE with leak detection
Goldstrike	Barrick	Nevada	Very large		HDPE with leak detection
Lone Tree Gold	Newmont	Nevada	Medium		HDPE with leak detection
Midas Gold	Newmont	Nevada	Small		HDPE with leak detection
Phoenix Gold	Newmont	Nevada	Small		HDPE with leak detection
Twin Creek Mine	Newmont	Nevada	Medium		HDPE with leak detection

HDPE – High density polyethylene geomembrane

Note: KCB is not familiar with the details of these projects.

Yours truly,

KLOHN CRIPPEN BERGER LTD.



Harvey N. McLeod, P.Eng., P.Geo.
Principal

HNM:dl