



November 28, 2014

Al Hoffman,
Chief Inspector of Mines
Ministry of Energy and Mines

Re: 2014 Dam Safety Inspection Report for the Closed Sullivan Mine

Under cover of this letter, please find the 2014 Dam Safety Inspection (DSI) reports for the fourteen earth fill structures that create six separate impoundments at the closed Sullivan Mine. There are also two dams, designated as the North and South Dam of the ARD Storage Pond that are water retaining structures and included in the results of the third-party review. The DSI reports were prepared by the Engineer of Record, Klohn Crippen Berger and the DSI was subsequently provided third-party review by Mr. Andy Small, P.Eng. of Amec Foster Wheeler.

The Sullivan Mine is committed to ensuring the safe operation of its tailings facilities and accompanying dam structures. Our dormant tailings facilities are inspected daily with formal documented inspections performed monthly by trained staff. DSIs are conducted on an annual basis and detailed Dam Safety Reviews are conducted by a third-party engineer every five years.

As outlined in the DSI report and confirmed by the third-party engineer review, no immediate safety or stability concerns were noted for any of the Sullivan Mine tailings storage facilities and accompanying dam structures. Further, these documents confirm that our monitoring and surveillance practices meet industry standards. The independent review has confirmed the current assigned Consequence Classifications for all dams are appropriate, and identified that some consequence classifications could be lowered. This included the East and West Gypsum Dykes from "High" to "Low, and Segments A, C and D of the Iron Dyke from "High to "Low". The classification for Segment "B" of the Iron Dyke has been confirmed as "High. These recommendations will be subject to confirmation by the Engineer of Record for the site before officially revising the consequence classifications..

Segment B of the Iron Dyke has been evaluated for dam break and inundation, and the site has an emergency preparedness plan and emergency response plan (EPP & ERP) in place. The updated dam break and inundation study, EPRP and a summary of the EPRP desk top exercise and lessons learned have also been submitted to the Chief Inspector of Mines.

No Priority 1 (immediate safety or stability concerns); item were identified by the Engineer of Record. Items marked as Priority 2 were identified as non-urgent, but pertaining to long term dam safety. Priority 3 recommendations were identified as non-urgent and not expected to result in a dam safety issue. Recommendations marked as Priority 4 were identified by the Engineer of Record as opportunities to further meet industry best practices, but timeline for completion is more than one year.

Several recommendations pertaining to maintenance and/or opportunities to further develop leading industry practices were identified in the DSI reports. We have carefully reviewed and are taking steps to address each recommendation as required, according to the priorities established by our Engineers of Record, as detailed in Table 2 below.

There were no recommendations resulting from the independent review of the DSI.

At the Sullivan mine, we are focused on meeting the highest standards of safety for communities, employees and the environment. Annual Dam Safety Inspections are one component of the comprehensive systems and procedures we have in place for the safe operation and monitoring of our tailing facilities. These systems follow industry best practices, including guidance provided by the Canadian Dam Association and the Mining Association of Canada.

Please do not hesitate to contact me if you have any further questions regarding the operation, maintenance and monitoring of our tailings facilities.

Sincerely,



Dana Haggart
Mine Manager, Sullivan Mine

cc: Diane Howe, Ministry of Energy and Mines
George Warnock, Ministry of Energy and Mines
Heather Narynski, Ministry of Energy and Mines
Chris Anderson, Teck
Jeff Hanman, Teck

Recommendations and Action Items

Table 1: General Description of Priority Rankings

Priority	Description
1	A high probability or actual dam safety issue considered immediately dangerous to life, health or the environment, or a significant regulatory concern.
2	If not corrected, could likely result in dam safety issues leading to injury, environmental impact or significant regulatory action; or, a repetitive deficiency that demonstrates a systematic breakdown of procedures.
3	Single occurrences of deficiencies or non-conformances that alone would not be expected to result in dam safety issues.
4	Best Management Practice as a suggestion for continuous improvement towards industry best practices that could further reduce potential risks. This typically includes ongoing construction items within the appropriate construction cycle.

Table 2: Recommendations and Planned Action for Sullivan Tailings Facilities

Structure	Recommendation	Priority	Planned Action	Timeline for Action
Siliceous Dyke #1	Survey top of casing for piezometer P105 as a portion of the casing broke off in 2007 and the readings appear higher than adjacent instruments	4	P105 has been resurveyed and elevation re-established. KCB to review again in 2015	Completed however reconfirm in 2015
Emergency Storage Pond	Consider constructing a diversion channel (Channel H) north of the Iron Pond to reduce catchment runoff into the Emergency storage pond and therefore reduce the overall water management risks and required volume of water for treatment. The work is described in the KCB report "Sullivan Mine Emergency Storage Pond, Surface Water Management Plan Update", dated December 8, 2011.	4	Engineering design is currently in progress for 2014 with partial construction to begin Summer of 2015	Current project planned for 2015 with an expected completion date in 2016.
ARD Pond South Dam	Read Pneumatic piezometers and standpipes 3 times per year or daily when pond is above 1045 masl as PP01-06 has been reading at or just above trigger level (+.1m) for the past 2 years	4	This is standard practice annually. When pond elevation is above 1045 masl, readings are performed daily	Complete for 2014

ARD Pond South Dam	Remove reeds from drainage ditch at the toe of the South dam	4	Overgrown vegetation was removed in 2013 and is considered annual maintenance as needed	Completed
Emergency Spillway	Remove vegetation from the emergency spillway adjacent to the crest of the west gypsum dyke	4	Overgrown vegetation was removed in 2013 and is considered annual maintenance as needed	Completed
Active Iron Pond	Settlement rate has been decreasing since 2006 and ceased in 2014. Settlement Plate readings to be reduced to once every three years	N/A	Update monitoring frequency in the OMS manual	December 2014
Northeast Gypsum Dyke and Recycle Dam	No significant settlement has occurred since 2007. Settlement plates reading frequency to be reduced to once every three years	N/A	Update monitoring frequency in the OMS manual	December 2014
North and South Dams of the ARD Pond	No significant settlement (less than 20mm) since 2001. Settlement plate reading frequency to be reduced to once every three years	N/A	Update monitoring frequency in the OMS manual	December 2014
Various Structures	A number of piezometers are either at or above trigger levels which were set previously. KCB to undertake a review of the trigger levels with respect to dyke stability and historical pore pressures during next DSI	N/A	Review is undertaken in 2015 DSI	End of 2015