



December 1, 2014

Mr. Al Hoffman, Chief Inspector  
Ministry of Energy and Mines  
PO Box 9320  
Victoria, BC  
V8X 9N3

Dear Mr. Hoffman:

**Re: 2014 Dam Safety Inspection Report for Teck Fording River Operations**

Under cover of this letter, please find the 2014 Dam Safety Inspection (DSI) reports for the two tailings facilities at Teck Coal Ltd.'s Fording River Operations and the results of the third-party review. The Dam Safety Inspection reports were prepared by the Engineer of Record, Golder Associates and the DSI was subsequently provided third-party review by Mr. Harvey McLeod P.Eng., P. Geo of Klohn Crippen Berger (KCB).

Fording River Operations is committed to ensuring the safe operation of its tailings facilities and two accompanying dam structures. Our tailings facilities are inspected by qualified technical staff in accordance with the requirements set out by our Engineer of Record in our Operation, Maintenance and Surveillance (OMS) manual. DSIs are conducted on an annual basis and detailed Dam Safety Reviews (DSR) are conducted by a third-party engineer every seven years. In 2014, a DSR was completed for the North and South Tailings Ponds by KCB.

As outlined in the DSI report and confirmed by the third-party review, no immediate safety or stability concerns were noted for either of Fording River's tailings storage facilities and accompanying dam structures. The independent review has also confirmed the current High Consequence classifications for both the North and South Tailings ponds, but recommends that the potential environmental consequences in the highly unlikely event of a dam breach be further quantified to better inform the consequence rating.

An updated dam breach and inundation study was completed in late November of 2014, as recommended by the 2014 DSR. This study evaluates the potential inundation effects further downstream from the previous assessment in order to better inform the Emergency Preparedness and Response Plan (EPRP). As the new study was not completed in time to incorporate the information into the EPRP, it will be reviewed and updated by end of Q1 2015 and submitted to the chief inspector. A table top exercise of the EPRP was conducted on November 4, 2014. The dam break and inundation study, the EPRP and a summary of the test are included in this submission to the Chief Inspector of Mines.

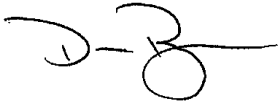
No Priority 1 (immediate safety or stability concern) items were identified in the DSI by the Engineer of Record. Items marked as Priority 2 were identified as non-urgent, but pertaining to long term dam safety. Priority 3 recommendations were identified as non-urgent and not expected to result in a 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 can be more than one year. Table 1 provides a general description of the rankings applied for reference.

Several recommendations pertaining to design verification, routine maintenance and opportunities for improvement (Priorities 2 through 4, respectively) were identified in the DSI report. Fording River has carefully reviewed these recommendations and is taking steps to address each recommendation as required, according to the priorities established by our Engineer of Record, as detailed in Table 2 and Table 3 below. Additionally, Table 4 provides recommendations from the 3<sup>rd</sup> party review that will be addressed by FRO.

At Fording River Operations 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 contact me if you have any further questions regarding the operation, maintenance and monitoring of our tailings facilities.

Sincerely,



Dean Runzer, P.Eng.  
General Manager, Fording River Operations

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 Fording River South Tailings Dam**

Structure	Recommendation	Priority	Planned Action	Timeline for Action
South Tailings Pond	Repair erosion channels on the downstream slope with breaker rock or other suitable material.	3	FRO will repair with breaker rock or other suitable material.	Q3 2015
	Improve till protection in one area at south abutment	4	The surface of the crest will be protected with a layer of gravel.	Q1 2015
	Raise rail buttress to 0.5m freeboard	4	The existing ground surface will be surveyed and the necessary fill placed.	Q4 2014
	Provide passive emergency system against overtopping	4	Assess the best combination of active and passive emergency systems during various stages of the pond life cycle. Provide a construction schedule for the selected system.	Q2 2016
	Improve accuracy, trending and coverage of displacement monitoring	3	Alternative displacement monitoring methods will be assessed to provide improved accuracy, and additional monitor points will be installed.	Q1 2015
	Provide drainage on crest near south abutment.	4	FRO will create outlets along safety berms.	Q1 2015
	Flatten over steepened upstream till slope	2	FRO will re-grade the slope to 1.75:1	Q1 2015

Structure	Recommendation	Priority	Planned Action	Timeline for Action
	Improve seepage quantity measurement	3	FRO will design and install a system to collect and measure seepage flows.	Q3 2015
	Extend Rip rap protection	2	Rip rap will be placed south of Sta. 0+600 and tied-in to rock contact.	Q3 2015
	Provide rip rap protection to a flood level that is 1/3 between the 1 in 1000yr flood event and PMF.	2	Complete hydraulic review and confirm required rip rap elevations and sizing along dam toe. Construct erosion protection to design flood level.	Q3 2015 Q3 2016

**Table 3: Recommendations and Planned Action for Fording River North Tailings Dam**

Structure	Recommendation	Priority	Planned Action	Timeline for Action
North Tailings Pond	Fix minor erosion channel on downstream slope near south abutment	4	The area will be repaired with breaker rock or other suitable material.	Q3 2015
	Prepare plan for buried pipes at 4 locations	3	FRO will prepare a plan and schedule.	Q2 2015
	Determine if spoils placed on north and west side could be wave generating if fail into pond	2	FRO will perform an assessment of the potential for a wave to be generated in the event that waste rock falls toward the pond.	Q1 2015
	Fix rutting and ponding on crest	4	The area will be re-graded as part of ongoing maintenance.	Q3 2015
	Fix prism NT5 so that it can be read	3	The prism will be repaired or replaced as needed.	Q1 2015
	Fix animal borrows on downstream crest between NT2 and NT3	4	Repairs will be made to the animal borrows.	Q3 2015
	Develop a passive emergency system to prevent overtopping	3	Equipment for emergency response to overtopping risk should be on standby and tested annually.	Q4 2015
		4	Assess the best combination of active and passive systems during various stages of the pond life cycle. Provide a construction schedule for the selected system.	Q2 2016
Provide rip rap protection to a flood level that is 1/3 between the 1 in 1000yr flood event and PMF.	2	Complete hydraulic review of flood events and confirm required riprap elevation and sizing along dam toe. Construct erosion protection to design flood level.	Q3 2015 Q3 2016	

**Table 4: Independent Review Recommendations and Planned Actions for Fording River Tailings Facilities**

Structure	Recommendation	Planned Action	Timeline for Action
South Tailings Ponds and North Tailings Pond	Prepare a separate organization chart that clearly defines the FRO “person responsible for the tailings facility”, e.g. “Tailings Engineer”, who is responsible for the tailings facilities. Identify who the person reports to and what other persons report to the Tailings Engineer for matters pertaining to the tailings facilities.	The organizational chart in the OMS manual will be updated to identify the chain of command for tailings management.	Q2 2015
	The environmental consequences of a dam breach should be further quantified to better inform the consequence rating. Document the four components of the dam consequence classification, with reference to the inundation study.	Evaluate and document environmental consequences Future dam breach studies to consider potential for mobilization of more tailings	Q4 2015
	Some Improvements to the existing Operations, Maintenance, and Surveillance Manual and the Emergency Preparedness Plan (EPP) are suggested to address current “gaps” in documentation.	The OMS manual will be updated.	Q3 2015