MEASURES TO BE TAKEN

Under the authority given to me pursuant to subsection 38(7.1) of the *Fisheries Act*, I hereby direct the person named above to immediately take all reasonable measures consistent with public safety and with the conservation and protection of fish and fish habitat to prevent the above mentioned occurrence or to counteract, mitigate, or remedy, any adverse effects that result from the above mentioned occurrence or might reasonably be expected to result from it, including:

Water Diversion

1. By December 31, 2021, at Fording River Operations, re-construct and commission, and thereafter maintain and operate the Kilmarnock Creek clean water diversion, with a capacity to divert up to 86,000 m^3/day of non-contact water from upstream Kilmarnock Creek (upstream waste rock spoils) around waste rock in the Kilmarnock valley.

Water Treatment

2. By June 30, 2021, at Fording River Operations, complete construction of an Active Water Treatment Facility for selenium removal, and thereafter commission and operate the facility, with influent made up of mine impacted water from Fording River and Greenhills Operations including Kilmarnock Creek, Cataract Creek, and Swift Creek, with a design treatment capacity of at least 20,000 m^3 of influent per day.

3. By December 31, 2022, at Fording River Operations, complete construction of selenium treatment processes for selenium removal, and thereafter commission and operate those processes, made up of mine impacted water from sources at Fording River Operations including the Clode Creek drainage, Swift Pit, and the North Spoil area with a design treatment capacity of at least 30,000 m^3 of influent per day.

4. By December 31, 2026, at Greenhills Operations, complete construction of selenium treatment processes for selenium removal, and thereafter commission and operate those processes, made up of mine impacted water from the Greenhills Creek drainage, with a design treatment capacity of at least 7,500 m^3 of influent per day.

5. By December 31, 2026, at Fording River Operations, develop the Swift North Spoil in such a way as to promote the development of suboxic zones to attenuate selenium.

Mine Planning and Water Management

6. By December 31, 2021, develop a plan to reduce selenium releases from Porter Creek and Eagle Creek into the upper Fording River, and submit the plan to Environment and Climate Change Canada.

7. By December 31, 2021, complete a desk top study of a slow flushing mitigation solution to reduce the impacts of selenium releases on lentic habitats in the upper Fording River oxbows, and submit the study to Environment and Climate Change Canada.

Geosynthetic Cover

8. By December 31, 2030, at the Greenhills Operations mine, conduct a trial by installing a geosynthetic cover over the East Spoil in the Greenhills Creek drainage, covering approximately 200 hectares. By December 31, 2025, an Interim Report on progress made with the installation of the geosynthetic cover at this location shall be submitted to Environment and Climate Change Canada.

Fish Monitoring

9. In 2021, and every third year thereafter, determine the selenium concentration (on a dry weight basis) of muscle samples of 3 adult, egg-bearing, female Westslope Cutthroat Trout from the upper Fording River oxbow side-channel, and 3 adult, egg-bearing, female Westslope Cutthroat Trout from the Clode Flats area (specifically Clode Creek, Grassy Creek, and/or the Exfiltration Ditch), captured during June or July of that year (See *Appendix N: WCT Selenium Muscle Tissue Sampling Locations*). A report on the sampling results shall be submitted to an Environment and Climate Change Canada Enforcement Officer by September 30 of each sampling year, including an explanation if sampling was not successful, despite reasonable efforts.

10. By December 31, 2021, and thereafter, ensure all fish barriers in place are in good working order, to inhibit fish movement past the barrier in usual conditions.

Calcite Prevention

11. By June 30, 2021, calcite deposition prevention measures must be in place for Greenhills Creek and portions of Swift Creek, Cataract Creek and Kilmarnock Creek, such that the measures substantively reduce additional calcite deposition in the upper Fording River from those creeks.

The above measures are in addition to any other federal or provincial laws (including regulations, permits, licences, conditions, etc.)

For greater certainty, Environment and Climate Change Canada is developing regulations under the *Fisheries Act* that will apply to coal mining effluent. Nothing in this Direction is intended, or should be construed, to reduce or replace any obligations that may be developed under these regulations.