Elk Valley Water Quality Plan Fording River Extension Project



Water quality challenges in the Elk Valley are connected to the long history of mining in the region. The mining process generates large quantities of leftover rock that contains naturally-occurring substances such as selenium, an element that is essential for human and animal health in small amounts. Water from both precipitation and runoff flows through these rock piles and carries selenium and other substances, such as nitrate, into the local watershed. If present in high enough concentrations in the watershed, these substances can adversely affect aquatic health.

Teck has been taking action for years to protect and improve water quality through the Elk Valley Water Quality Plan (the Plan). The Plan was developed in cooperation with governments in Canada and the United States, Indigenous groups, communities, independent scientific experts and others, and was approved by the B.C. Government in 2014. The Plan sets water quality targets to protect aquatic and human health. It outlines the water treatment and mitigation measures to achieve those targets and sets out how we'll monitor water quality.

Teck is making significant progress towards achieving the objectives in the Elk Valley Water Quality Plan with the successful operation of our first water treatment facilities that are reducing selenium levels downstream and additional facilities coming online in 2021. Our first water treatment facility at Line Creek is successfully treating up to 7.5 million litres of water per day and we are seeing reductions in selenium concentrations downstream of the facility. Our Saturated Rock Fill (SRF) at our Elkview Operations has been successfully operating since January 2018, treating up to 10 million litres per day. By mid-2021, we expect to have capacity to treat 47.5 million litres of water per day, nearly two and a half times today's treatment capacity, which will achieve further significant reduction of selenium and nitrate downstream. This includes our 20 million litre per day Fording River South water treatment facility that is under construction and scheduled for completion in 2021.



Our research and development (R&D) program developed leading-edge Saturated Rock Fill (SRF) technology, working with global experts including scientists at Montana State University. Development of SRF technology, which is quicker to implement, will help to speed up implementation of the Plan. The SRF water treatment facility at Teck Elkview Operations has been successfully operating since January 2018, and is achieving near-complete removal of selenium and nitrate in 10 million litres of mine-affected water per day. The SRF water treatment facility uses existing biological processes in place within mined out areas to treat and improve water quality. We are working now to double the treatment capacity of at the Elkview SRF to 20 million litres per day.

Additionally, Teck's R&D program developed a new, first-if-its-kind technique that uses specially designed liners to prevent nitrate from explosives from coming in contact with water. This innovative development is predicted to reduce release of nitrate by greater than 90%.



Elk Valley Water Treatment Facilities





Teck