

U2017 Global Uranium Symposium

Selenium Removal to Less than 2 µg/L from Mine Water at a Uranium Operation in Canada

Increasing regulatory requirements regarding selenium are leading mining companies to investigate cost effective selenium management options. One uranium operation in Canada has taken a proactive stance after observing gradual increases in selenium concentrations in their treated discharge. Unable to remove sufficient selenium to meet internal targets with their existing water treatment plant, the company identified BQE Water's Selen-IX™ process for selenium removal as potentially the best treatment option for integration into their existing operation. Results from the pilot demonstration of Selen-IX™ showed the process to be very effective at removing selenium to less than 2 µg/L and indicated that the technology was appropriate across a wide range of feed water chemistry. Selenium removed from the water was precipitated as a stable non-toxic solid suitable for co-disposal with tailings. The success of the Selen-IX™ pilot on the uranium producer's water followed several successful Selen-IX™ demonstrations that led to the issuance of environmental approvals for metal mining projects in Canada.

Presenter Bio

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Patrick joined BQE Water in 2013 as part of the company's Technology Development group. Patrick is co-inventor of the Selen-IX™ technology for selenium removal and is involved in the commercialization of BQE Water's Sulf-IX™ technology for sulphate removal. Patrick received his Masters in metallurgical engineering at the University of British Columbia and his PhD in chemical engineering at the University of Queensland.