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Elk Valley Water Quality Plan 2025 Implementation Plan Adjustment Overview

July 2025





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The 2025 Implementation Plan Adjustment (IPA)* Overview is a summary of Elk Valley Resources' (EVR) most recent plans and progress implementing the Elk Valley Water Quality Plan (EVWQP). The EVWQP is a long-term plan with the goal of stabilizing and reducing the trend of selenium and other constituents and improving the health of the watershed, while at the same time allowing for continued sustainable mining in the region.

The Elk Valley Water Quality Plan is working.

EVR's water treatment facilities are removing between 95% and 99% of selenium from treated water. Selenium and nitrate concentrations have stabilized and are now reducing downstream of treatment.

This overview includes historical background on water quality challenges, how the EVWQP was developed, how science is used to adapt the plan, water treatment progress to-date and future treatment plans.

The 2025 IPA provides a schedule of treatment to:

- Mitigate impacts on the environment and meet regulatory and permit compliance
- Support the objectives of the EVWQP
- Guide the data collection, engineering, design, permitting, construction, commissioning and operations of EVR's future water treatment facilities
- Support continued sustainable mining in the Elk Valley region

2025 IPA highlights include:

- Achieving one of the primary objectives of the EVWQP: stabilizing and reducing the selenium and nitrate trend in the Elk Valley, including in the Koocanusa Reservoir.
- Successful operation of four water treatment facilities and advancement of construction of two additional water treatment facilities, as well as two expansion phases of the existing water treatment facility at EVR's Fording River Operations.
- More efficient use of existing treatment facilities by optimizing water storage at our operations during higher flow periods to treat more water during lower flow periods.
- Source control for nitrate through improvements in blasting practices, product design, and the development of new techniques to line blast holes.

The full 2025 IPA can be found at evr.com/sustainability/water-quality

*The 2025 IPA meets the permit requirements in EVR's Environmental Management Act Permit and Mines Act C-Permits for the update and submission of a Water Quality Mitigation Plan.

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 mined rock that contains naturally-occurring substances such as selenium, an element that is essential for human and animal health in small amounts, but which may cause adverse impacts in high enough concentrations. Water from both precipitation and runoff flows through these rock piles and carries selenium and other substances, such as nitrate, into the local watershed.

Elk Valley Resources (EVR) operates four steelmaking coal mines in the Elk Valley, providing jobs for more than 5,000 people. In July 2024, Glencore acquired a majority interest in EVR from Teck. As one of the world's largest seaborne exporters of steelmaking coal, EVR is committed to responsible resource development, environmental performance and building strong partnerships with Indigenous Peoples and communities.



1. Implementing the Elk Valley Water Quality Plan

In 2013, in consultation with the Government of BC, the Ktunaxa Nation, scientists, and local communities, Teck, as the former operator of EVR, developed the Elk Valley Water Quality Plan (EVWQP), which was approved by the provincial government in 2014. This is a long-term plan with the goal of stabilizing and reversing the trend of selenium, calcite and other constituents and improving the health of the watershed, while at the same time allowing for continued sustainable mining in the region.

The EVWQP included an Initial Implementation Plan (IIP). This was the original water treatment mitigation plan established to achieve location-specific water quality limits for selenium, sulphate, nitrate and cadmium in surface water at specific locations throughout the Elk Valley and in the Koocanusa Reservoir. The IIP is updated based on evolving science and experience and up-to-date water quality modelling; and is done through the development of an Implementation Plan Adjustment (IPA).

Water Quality Improvements

EVR has made significant progress implementing the EVWQP. Water treatment facilities are operating now that are successfully improving water quality with more facilities planned and under construction.

These facilities are removing between 95% and 99% of selenium from treated water. Selenium and nitrate concentrations have stabilized and are reducing downstream of treatment.

Since the IIP, EVR has made progress towards stabilizing and reducing the trend of selenium and other constituents. EVR has four water treatment facilities that are operating and two new facilities that are in advanced stages of construction and are expected to be operational in 2026. Additionally, there are two expansions in progress at our Fording River North Saturated Rock Fill (SRF), with the first expansion expected to be operational by the end of 2025 and the second expansion is in the advanced planning stage and is expected to be operational at the end of 2026.

At Fording River Operations, the Kilmarnock Creek Clean Water Diversion has been constructed and is diverting up to 86 million litres of clean water per day. Water from the upper catchment of Kilmarnock Creek travels through a diversion pipeline and back into the creek at a location downstream of mine rock spoils. The No Name Creek diversion at Line Creek Operations, currently under construction and expected to be complete by November 2025, will convey up to 120 million litres of water per day. Clean water diversions can reduce the volume of water affected by mine rock, thereby reducing the amount of water that needs to be treated.

Since the creation of the EVWQP, more than $1.4 billion has been invested in the construction of water treatment facilities. EVR will invest an additional $700 million (approx.) in construction of water treatment facilities and expansions by the end of 2027.

The plan is working–selenium and nitrate concentrations have stabilized and are decreasing downstream of treatment.

Adaptive management based on science and data

The EVWQP is designed to be adaptive and to incorporate new findings and respond to change. As such, we are constantly researching new technologies to help meet our water quality goals faster and more efficiently. We have a comprehensive research and development program that has led to breakthrough technologies such as Saturated Rock Fill (SRF) water treatment technology.

Other innovative work is being advanced by our research and development team on source control options designed to reduce the release of constituents from mine rock in the first place. For additional information on our research and development see **section 4**.



2. 2025 Implementation Plan Adjustment

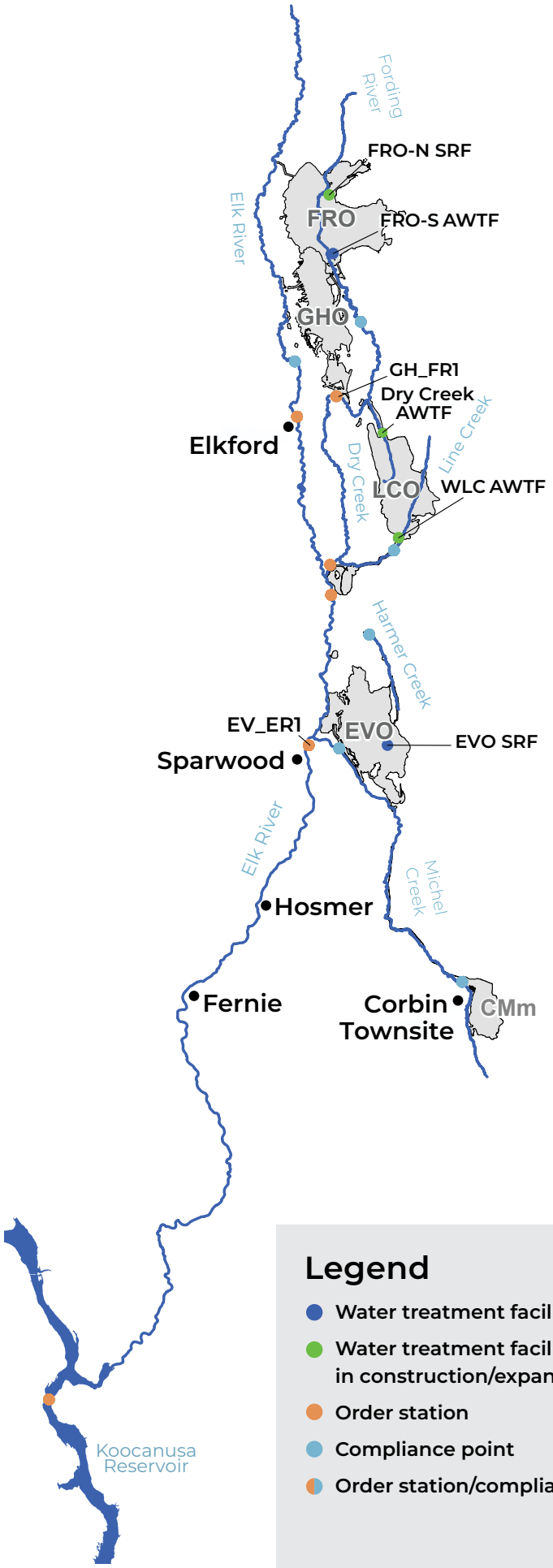
The 2025 IPA builds on previous plans and is designed to meet full compliance as soon as possible utilizing the best achievable technologies and incorporating learnings from EVR's Water Quality Adaptive Management Plan. The 2025 IPA was developed to meet permit requirements, as well as the requirements laid out in the Terms of Reference, which was developed in consultation with external parties, including the Ktunaxa and other governments.

The 2025 IPA includes new and expanded planned projects and outlines EVR's future mitigation plan for the continued management of selenium, nitrate, sulphate and cadmium for EVR's permitted mine plans.

Updates to the 2025 IPA, compared to the 2022 IPA, are driven by one or more of the following factors: optimized water management planning (i.e., storage), the amalgamation of sulphate treatment with selenium and nitrate treatment, and changes to the mine plans. These updates include:

- Improved treatment utilization and efficiency at Fording River Operations (FRO): One of the primary goals of the 2025 IPA was the focus on improved water treatment facility utilization through the optimization of storage. This change has resulted in planning for more efficient use of existing and near-term planned facilities.
- Combining sulphate treatment with selenium and nitrate treatment in future facilities at Line Creek Operations (LCO).
- Mine plan changes at Elkview Operations (EVO) that ensure mine rock is placed in optimized locations to efficiently use existing treatment capacity.





Water treatment facilities and treatment capacity (selenium and nitrate) to 2027

FRO-N SRF – Fording River North SRF

Treatment capacity = 30 million litres per day

- Phase 3a expansion
  (operational by Dec. 31, 2025)

  10 million litres per day
- Phase 3b expansion
  (operational by Dec. 31, 2026)

  20 million litres per day

FRO-S AWTF – Fording River South Active Water Treatment Facility (AWTF)

Treatment capacity = 20 million litres per day

Dry Creek AWTF

Treatment capacity = 10 million litres per day
(operational by Dec. 31, 2026)

WLC AWTF – West Line Creek AWTF

Treatment capacity = 7.5 million litres per day

- Expansion (operational by Oct. 1, 2026)
  10 million litres per day

EVO SRF – Elkview SRF

Treatment capacity = 20 million litres per day

Legend

- **Water treatment facility – operational**
- **Water treatment facility – in construction/expansion**
- **Order station**
- **Compliance point**
- **Order station/compliance point**

FRO – Fording River Operations
GHO – Greenhills Operations
LCO – Line Creek Operations
EVO – Elkview Operations
CMm – Coal Mountain (in care and maintenance)

3. Achieving compliance

EVR is required to monitor water quality at more than 130 locations in the Elk Valley and within the Koocanusa Reservoir under the conditions of Permit 107517. The purpose of this monitoring is to evaluate water quality and to allow for the early detection of emerging water quality concerns. Monitoring results inform management decisions for the protection of aquatic and human health.

The permit sets:

1. Site Performance Objectives (SPOs), which apply at Order stations
2. Compliance limits, which apply at compliance points

These objectives and limits are science-based and were set to protect aquatic and human health.

The Order stations and compliance points are water quality monitoring locations. The compliance points are set closer to EVR's mine operations than the Order stations. In total, there are seven Order stations and seven compliance points, and each one has specific limits for selenium, sulphate, nitrate and cadmium. The locations of the Order stations and compliance points are identified on the map on **page 8**. Please note, one of the locations is both an Order station and a compliance point.

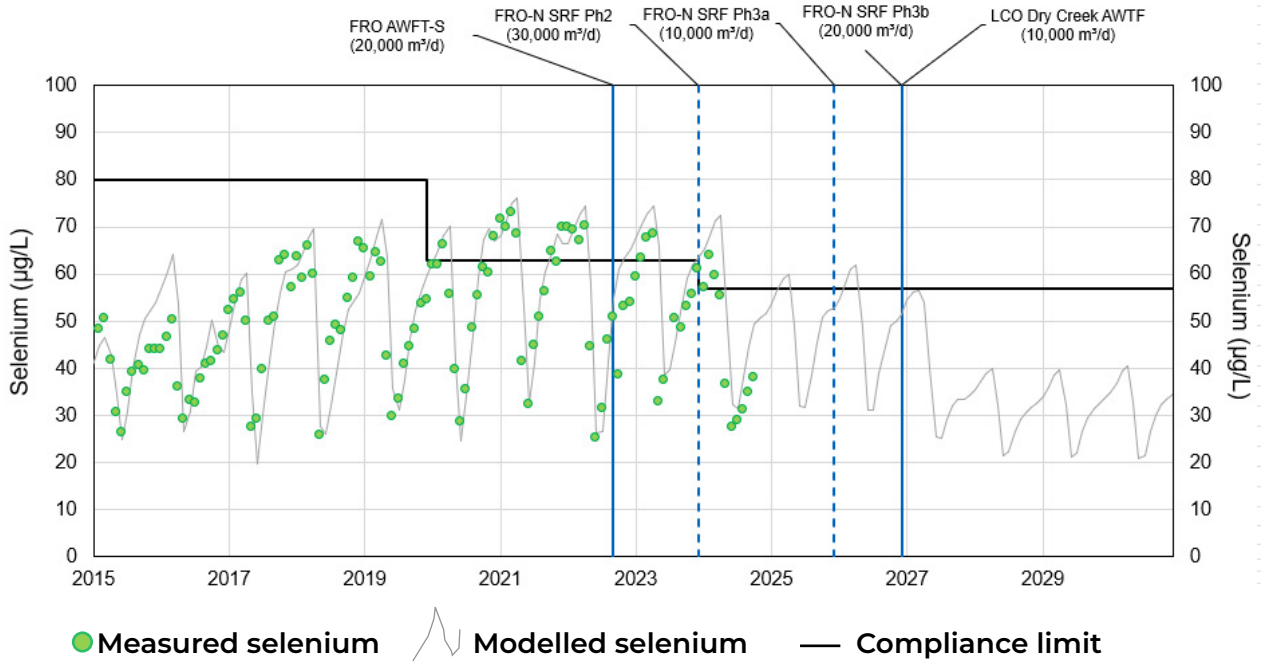
To maintain compliance with Permit 107517, EVR must meet requirements that include the construction and operation of water treatment facilities according to specified timelines, and the achievement of water quality limits.

As treatment has come online, selenium and nitrate concentrations have stabilized and decreased at most monitoring locations. Compliance is projected to be achieved in varying years, as summarized in the 2025 IPA. We are currently in compliance and expect to remain in compliance at eight of the 13 locations, and we expect full compliance to be met and maintained for selenium and nitrate at 10 of the 13 locations by mid-2026 and at all locations by mid-2027.

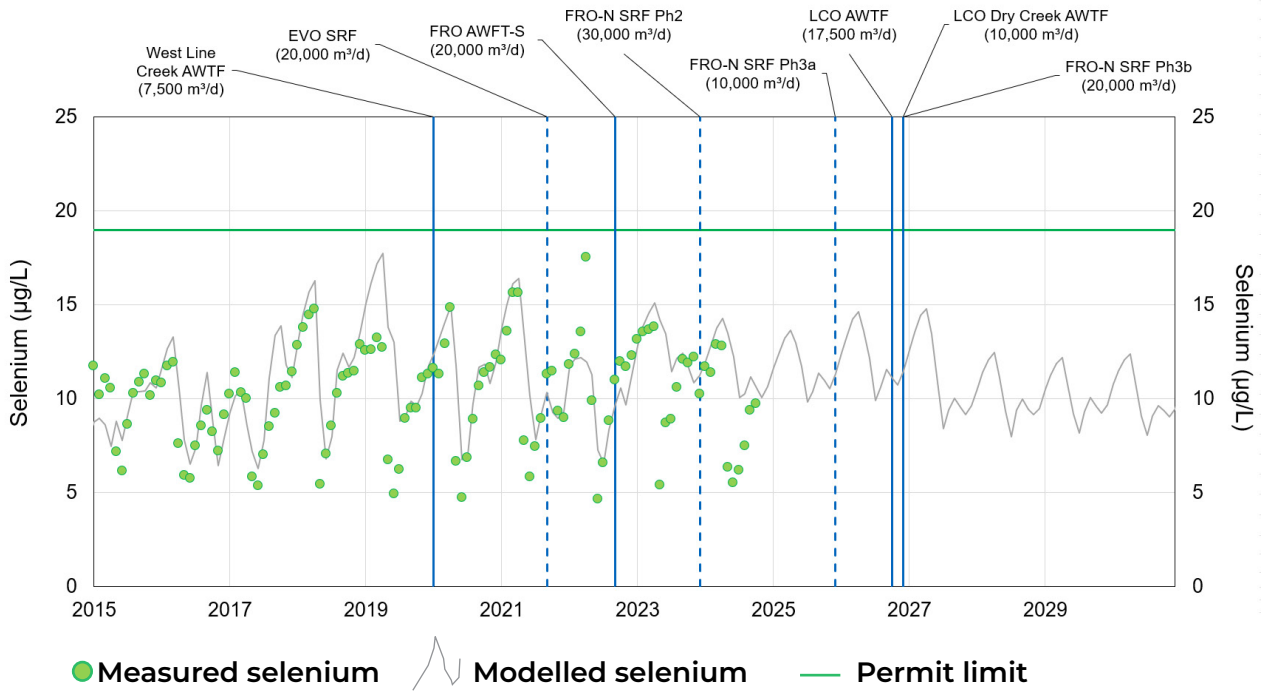
We have prepared the 2025 IPA to achieve full compliance as soon as possible. Our timelines consider design, permitting, construction and operating schedules. Facilities need to fit the specific environment for which they are designed and take into account important site-level information such as water flows and building footprints.

Since May 2024, we have been meeting all site performance objectives at all order stations.

This graph shows selenium concentrations over time at the combined Order station/ compliance point (GH_FR1) located in the Fording River downstream of Greenhills Creek. Measured selenium concentrations, shown by the green dots, are stabilizing and decreasing.



This graph shows selenium concentrations over time at our first Order station (EV_ER1) location downstream of all our operations in the Elk Valley which is in the Elk River at Sparwood, B.C. Measured selenium concentrations, shown by the green dots, are stable compared to the permit limit at this location which is shown with the solid green line. The vertical blue lines show timing of the four operational treatment facilities.



Aquatic Health

While we work towards full compliance with the limits and SPOs outlined in Permit 107517, monitoring results indicate some areas with local effects on benthic invertebrates (bugs that are a source of food for fish). The spatial extent of effects occurs in less than 10% of flowing habitats, which is not expected to impact fish populations. Most of the watershed (>90% of flowing habitat) appears to be healthy and stable with no indication of adverse effects on invertebrates or risk to fish.

Results of the Human Health Risk Assessment (Ramboll 2023), undertaken in consultation with representatives from Interior Health, Ktunaxa Nation Council, First Nations Health Authority, and the Ministry of Environment, show that average and upper percentile consumption levels of fish caught in the Elk River watershed and Koocanusa Reservoir result in negligible risk for selenium and are considered safe. There are no fish consumption advisories for selenium in place for the Elk Valley or Koocanusa Reservoir.

- Eating fish from the Elk Valley at an average rate (up to 64 meals* per year) has a low risk of health effects.
- Eating fish from the Elk Valley at the preferred Ktunaxa rate (365 meals* per year) has a higher risk of health effects.
- Eating fish from the Koocanusa Reservoir at an average rate has a negligible risk of health effects and low risk at the preferred Ktunaxa rate. Average selenium levels in fish from the Koocanusa Reservoir are comparable to those found in Canadian grocery stores.

Fish Population

EVR works with external registered professionals to undertake fish population monitoring. The most recent results show a positive fish population trend in the Upper Fording River, located immediately downstream of Fording River Operations and Greenhills Operations. In 2024, the population of Westslope Cutthroat Trout in the Upper Fording was estimated at ~6,800 adults and ~17,000 juveniles.



4. Water treatment technologies

The mitigations included in the 2025 IPA are proven water treatment technologies and water management (i.e., diversions and storage).

There are two major types of water treatment technologies utilized at EVR's mine sites:

(1) Tank-based active water treatment facilities (AWTFs)

There are two categories of tank-based water treatment utilized in the 2025 IPA, one that is a biological treatment process that removes nitrate from mine affected waters (through conversion into inert nitrogen gas) and transforms selenium into a solid which is removed offsite, and the other that is a membrane-high density sludge (membrane-HDS) process that removes nitrate, selenium, sulphate and cadmium. The biological and membrane-HDs treatment technologies can be combined, where appropriate and feasible, which can reduce the quantity of treatment by-products (i.e., brine from membrane-HDS being treated by the biological process).

(2) Non-tank based facilities called Saturated Rock Fills (SRFs)

SRFs use a naturally occurring biological process that is enhanced to treat selenium and nitrate, and built within former mine pits that are backfilled with rock and saturated with mine-affected water. This process converts dissolved selenium into a solid that becomes trapped within the rock fill, while converting nitrate into inert nitrogen gas that is safely released.

Clean water diversions are evaluated on a project-by-project basis and, where feasible, are included in the mitigation plan. Storage options are also incorporated into the mitigation plan, where feasible, to support improved utilization of existing and future treatment facilities.



Fording River South AWTF

Research and development

In addition to treating water, preventing constituents from entering the watershed in the first place and reducing the need for water treatment is a priority for EVR. Best practices for water management and blasting have been implemented to help reduce the release of constituents. EVR is also working to incorporate water quality considerations earlier in the mine planning process to minimize impacts where possible.

We are constantly researching new technology, and we have more than 20 research and development projects underway to help reach our water quality goals. Technologies from this research and development include:

Nitrate reduction: Our research and development program led to the development of a new nitrate prevention technique that uses liners that help prevent nitrate from blasting from coming in contact with water. This technique has been applied across our operations in the Elk Valley and the majority of blast holes now utilize a liner.

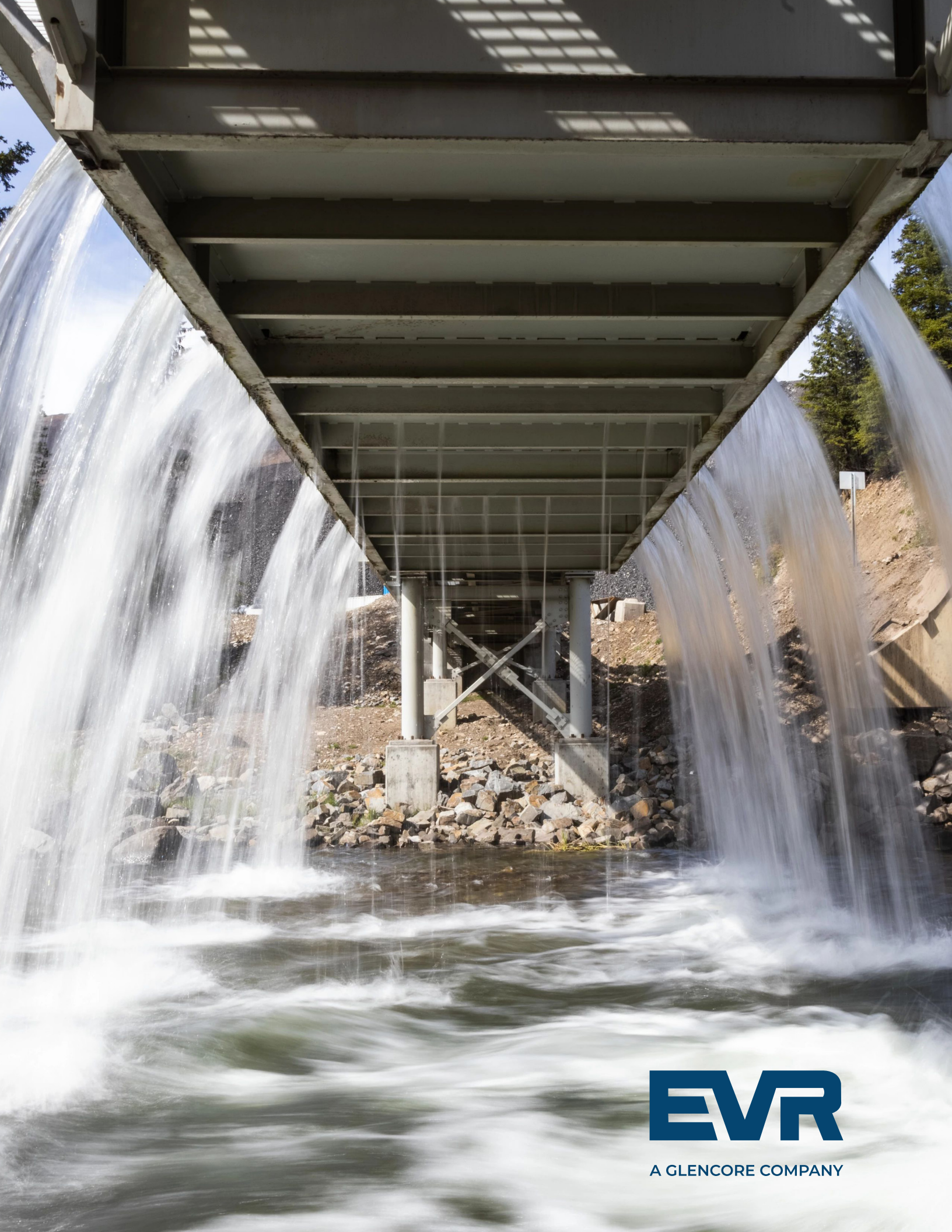
Suboxic zones are designed to limit oxygen supply to the mine rock resulting in the development of conditions that have the potential to reduce leaching of selenium and nitrate. EVR is currently undertaking two full-scale suboxic zone source control research and development trial projects at out Elkview and Fording River Operations.

EVR also continues to evaluate other source control options that can be incorporated into planning and operations. We will look for opportunities to trial these methodologies.

The Elk Valley Water Quality Plan is working.

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To learn more and view the full 2025 Implementation Plan Adjustment, visit evr.com/sustainability/water-quality



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