

## Our Approach to Tailings Management

### Which Teck sites does this document apply to?

This document summarizes our approach to tailings management. This document applies to all Teck sites and projects, with a focus on operations and legacy sites with major tailings facilities, and on major development projects with proposed large tailings facilities. This does not include operations in which Teck has/had an ownership interest but is not the principal operator.

**Tailings Management performance information:** See our Annual Sustainability Report available for download on our [website](https://www.teck.com/Tailings/). Also see <https://www.teck.com/Tailings/> for further disclosure.



Highland Valley Copper Operations, Canada, 2015.

## Governance and Accountability

### Background

Tailings and mine waste rock are common by-products of mining practice. Tailings facilities are historically well managed with very few incidents; however, a tailings incident has the potential to have a significant impact on communities, local economies and the surrounding environment. Teck currently manages 55 tailings facilities, of which 16 are in active use and 39 are closed and no longer receiving tailings. This total includes 16 dry stack (unsaturated) facilities at our steelmaking coal mines. Of the closed facilities, 20 are located at the legacy properties that we manage, and the other 19 closed facilities are associated with our operating mines.

Tailings storage facilities at all of Teck's operating and closed sites meet or exceed regulatory requirements, and responsible management of tailings and waste rock is critical for our company. We are continually improving the management of our facilities by developing and incorporating best practices.

### Accountability and Resourcing

The Board of Directors, through its Safety and Sustainability Committee, oversees implementation of our Health, Safety, Environment and Community (HSEC) Management Standards and tailings guidance, including policies, systems, performance and auditing functions. Our activities associated with tailings and waste management are reported to the Safety and Sustainability Committee of the Board and/or to our HSEC Risk Management Committee.

The following senior leaders are involved in implementing the management of tailings and mine waste:

- The Senior Vice President, Sustainability and External Affairs reports directly to the President and CEO and is responsible for sustainability, health and safety, environment, community, and Indigenous affairs, including tailings management
- The Vice President, Environment oversees compliance with environmental standards for projects, operations and our legacy properties, and regularly reviews environmental performance risks and strategic issues, including tailings management, biodiversity, water, air and energy
- The Senior Advisor, Tailings & Mine Waste chairs our Tailings Working Group and reports directly to the Vice President, Environment

The Tailings Working Group includes members of our senior management team and tailings management subject matter experts from our operations and legacy properties department. The group provides oversight and guidance across the organization, and conducts reviews to ensure alignment with Teck's governance framework for tailings management.

### Policies and Standards

Teck's Tailings and Water Retaining Structures Governance framework provides a consistent company-wide approach to how we manage the risks inherent with tailings. This framework provides clear guidance on roles and responsibilities related to tailings management across all Teck projects, operations and legacy properties.



Highland Valley Copper Operations, BC, Canada, 2015.

Teck's HSEC Management Standards also include general guidance on tailings and mine waste management. The Safety and Sustainability Committee of the Board oversees these management standards and the associated guidance documents, and our adherence to them.

## Memberships, Partnerships and External Commitments

We work with various local, national and international organizations and programs to support improvements in tailings and mine waste management across the industry:

- **The Global Industry Standard on Tailings Management (GISTM):** Launched in August 2020, this standard sets a high benchmark for improving the safe management of tailings facilities and supports the ultimate goal of zero harm. Teck's existing corporate tailings program mirrors all key aspects of the GISTM related to this goal. In addition, Teck is committed to implementation of the GISTM across our sites. All of our tailings management facilities are or will be in conformance with GISTM within three years of the standard's launch. The Chair of Teck's Tailings Working Group was part of the advisory group that provided input to develop GISTM.
- **International Council on Mining and Metals (ICMM):** A global industry association that represents leading international mining and metals companies who are required to implement the ICMM 10 Principles, including Principle 6 on Environmental Performance. ICMM members committed that all facilities with higher potential consequences will be in conformance with GISTM by 2023, and all other tailings facilities by 2025. To support this, ICMM will be publishing two key documents in 2021 related to the GISTM, the *Good Practice Guide for Tailings Management* and the *ICMM Conformance Protocol*. Teck's tailings experts are supporting development of these documents.
- **Mining Association of Canada (MAC):** A national association that promotes the development of Canada's mining and mineral processing industry. Through MAC, we are committed to implementing the Towards Sustainable Mining (TSM) program, which aids in improving industry performance. Teck's Senior Advisor, Tailings & Mine Waste is the Chair of MAC's Tailings Working Group.

- **Canada's Oil Sands Innovation Alliance (COSIA):** An alliance of oil sands producers focused on accelerating improvement in environmental performance in Canada's oil sands through collaborative action and innovation.
- **Engineers and Geoscientists BC:** As a member company, Teck's Senior Advisor, Tailings & Mine Waste was a reviewer for the guideline that was issued in 2016 for the requirements of foundation investigations for dams.
- **Australian Research Council:** In 2017, Teck became part of an initial three-year applied research program, along with four universities in Australia and several other mining companies, that is focused on finding more effective tools for predicting and avoiding tailings facility failures.

## Approach to Tailings Management

### Tailings Management

Tailings storage facilities at all our operations meet or exceed regulatory requirements, including permit and license conditions and other relevant or appropriate requirements, and we work to continually improve the management of these facilities. Planning, design, construction, operation, decommissioning and closure are carried out in a manner such that:

- Structures are stable
- Solids and water are managed within designated/ approved areas
- Facilities comply with regulatory requirements
- Facilities conform to applicable standards, internal policies, industry best practices and the technical guidelines of the jurisdictions in which we operate

We have comprehensive systems and procedures in place for the safe operation and monitoring of tailings facilities that follow best practices, organized around interrelated activities that include:

1. **Surveillance Technology:** Sites employ surveillance systems such as GPS hubs, piezometers, inclinometers, pressure gauges, remote sensing and other technologies to monitor tailings dams, abutments, natural slopes and water levels.

**2. Staff Inspections:** Tailings dams are inspected by trained operators and expert technical staff as frequently as several times daily, with formal staff inspections at our operations at least once per month.

**3. Annual Dam Safety Inspections:** Formal dam safety inspections are conducted annually by an external Engineer of Record. Recent annual Dam Safety Inspections for our facilities are publicly available.

**4. Detailed Third-Party Reviews:** Comprehensive third-party dam safety reviews are conducted by a qualified independent tailings reviewer as frequently as every three years, based upon the risk profile for each facility.

**5. Internal Governance Reviews:** Teck's Tailings Working Group conducts internal management reviews of our tailings facilities as well as our major tailings projects on a regular basis.

**6. Independent Tailings Review Boards:** Our operations, higher consequence legacy facilities and major development projects have Tailings Review Boards made up of senior external independent experts who meet regularly, at least annually, to conduct a third-party review of design, operation, surveillance and maintenance.

Each facility also has a regularly updated detailed *Operations, Maintenance and Surveillance (OMS)* manual and *Mine Emergency Response Plan (MERP)*. We maintain site-specific Tailings Management Systems that conform to or exceed industry standards of practice, including leading protocols established by MAC-TSM and ICMM, which we report upon publicly.

These systems, which demonstrate leadership, and commitment to responsible tailings management practices, were developed through consultation with communities. We continually review our facilities and procedures and are committed to maintaining the highest standard of safety at our operations. See [Our Approach to Emergency Planning and Preparedness](#) for further information.

Antamina and Fort Hills, joint venture operations where Teck is not the operator, both have Tailings Review Boards in place as well. Teck also provides senior experts to Antamina's Tailings Technical Committee.

For information about Teck's approach to waste management, including tailings and fine coal refuse, waste rock and overburden, coarse coal refuse, and hazardous and non-hazardous waste, see [Our Approach to Responsible Production](#).

## Our Targets and Commitments

We are committed to the safe and environmentally responsible development, operation and management of tailings storage facilities. We continually review our facilities and procedures, and are committed to maintaining the highest standard of safety and environmental protection at our operations, including standards set by MAC and ICMM. We aim to have zero significant environmental incidents across the organization.

Our sustainability strategy outlines our goals in relation to continuously improving tailings management at our operations. In 2019, we conducted broad engagement

## 2020 Status of Major Tailings and Water Retaining Structures

Location	Annual Dam Safety Inspections <sup>1</sup>	Dam Safety Reviews <sup>2</sup>	Independent Review Board Activity <sup>3</sup>	Tailings Governance Reviews
	Up to Date	Up to Date		
Carmen de Andacollo	☑	☑	☑	Current—next review in 2021
Elkview	☑	☑	☑	Current—reviewed in 2020
Fording River	☑	☑	☑	Current—next review in 2021
Greenhills	☑	☑	☑	Current—reviewed in 2020
Highland Valley Copper	☑	☑	☑	Current—reviewed in 2020
Red Dog	☑	☑	☑	Current—next review in 2021
Sullivan <sup>4</sup>	☑	☑	☑	Current—reviewed in 2020
Louvicourt <sup>4</sup>	☑	☑	☑	Current—next review in 2021
Quebrada Blanca Phase 2	Not yet operating	Not yet operating	☑	Current—reviewed in 2020

<sup>1</sup> The Engineer of Record performs a detailed examination of the facility, its related infrastructure and the records relating to these, to identify any conditions or changes that might contribute to, or signal the potential for, a compromise to the safety and reliability of the structure.

<sup>2</sup> A facility review by an independent, third-party engineer not affiliated with the Engineer of Record or the Tailings Review Board. The frequency of these reviews depends on the failure consequence risk-rating of that structure.

<sup>3</sup> Review by a team of independent senior subject matter experts who review the facility design approach, surveillance results and a site's overall approach to tailings management, including performance of the Engineer of Record.

<sup>4</sup> Legacy property.

with employees and external stakeholders to identify and prioritize global trends and issues and set a new sustainability strategy, including new goals in tailings management:

**Strategic Priority:**

- Continue to manage our tailings across their life cycle in a safe and environmentally responsible way

**Goals:**

- Preferentially consider milling and tailings technologies that use less water, both for new mines and any mine life extensions at existing mines
- Expand the use of digitally connected surveillance technologies to assist in monitoring our tailings storage facilities

For more information on our existing and new sustainability strategy goals, see the [sustainability strategy](#) section of our website.

**Assurance Related to Tailings Management**

In addition to the external review processes and the internal assessments of performance against our own guidelines and practices noted above, we assess our tailings management practices under MAC’s TSM Tailings Management Protocol. Achieving a minimum of a Level A rating under TSM is a requirement of our HSEC Management Standards. A Level A rating indicates that tailings management practices that meet industry best practice, as defined by the MAC Tailings Guidelines, have been developed and implemented. All of our operations meet or exceed this standard. Several of our facilities reached a verified Level AAA, which indicates excellence and leadership in tailings management, through validation by an external, independent evaluation.

Following each of these types of assurance, applicable management teams use the results to inform future actions and Teck’s five-year planning process.

We report on our performance against these indicators and our progress towards our tailings and environmental management goals on an annual basis in our [sustainability report](#).

**Assurance Related to Tailings Management**

Type	Organization	Items Reviewed
External	Mining Association of Canada: Towards Sustainable Mining	<ul style="list-style-type: none"> <li>• Tailings management policy and commitment</li> <li>• Tailings management system</li> <li>• Assigned accountability and responsibility for tailings management</li> <li>• Annual tailings management review</li> <li>• Operation, Maintenance and Surveillance manual</li> <li>• Mine Emergency Response Plan</li> </ul>
External	ISO 14001 external audits	<ul style="list-style-type: none"> <li>• Components of the environmental management system at each site</li> </ul>
Internal	Risk-based Health, Safety and Environment audits at each site	<ul style="list-style-type: none"> <li>• Adherence to regulatory and permit requirements; effectiveness of controls based on risk profile</li> </ul>
Internal	Tailings Governance Reviews	<ul style="list-style-type: none"> <li>• Assessment of operational tailings management activities relative to Tailings Governance framework</li> </ul>