

Tailings Storage Facility Disclosure Report

Greenhills Tailings Storage Facility

July 2023



Teck

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1. Tailings Facility Description

The Greenhills Operation (GHO) Tailings Storage Facility (TSF) is an active tailings storage facility at the Greenhills Operation site, which is owned and operated by Teck Coal Ltd. The Greenhills coal mine site is located approximately 14 km north of Elkford, in British Columbia.

Greenhills Operations is situated within the unceded traditional territory of the Ktunaxa Nation. The site is located between the Elk River and Fording River valleys along the Greenhills Mountain Range of the Rocky Mountains in southeastern BC. GHO is in mountainous terrain where the annual average precipitation typically exceeds the annual average evaporation. Precipitation in the region can vary substantially and localized conditions are expected within a small area. Local conditions are affected by altitude and local topography, most notably due to the rain shadow effect of the Rocky Mountains. The climate is characterized by warm dry summers and cool winters.

Tailings are retained by two tailings embankment structures, the Main Tailings Dam (MTD) and West Tailings Dam (WTD) and the facility occupies a footprint area of approximately 85 hectares. These embankments were constructed as downstream-raised structures with zoned earth fill embankments. Tailings and process water in the GHO TSF are impounded on the southeast side by the MTD and on the west side by the WTD. The GHO TSF contains an estimated 20.5 Mm³ of tailings.

A description of the GHO TSF is summarized in the table below.

Table 1: Description of GHO

TSF Design Summary	Description
Status	Active
Number of tailings embankment structures	2
Type of Construction	Downstream with zoned earth fill embankments
Most recent Annual Facility Performance Review	2022 www.teck.com/tailings
Independent Review Board	Yes

Note: Further details regarding the TSF configuration can be found in our facility inventory at www.Teck.com/tailings

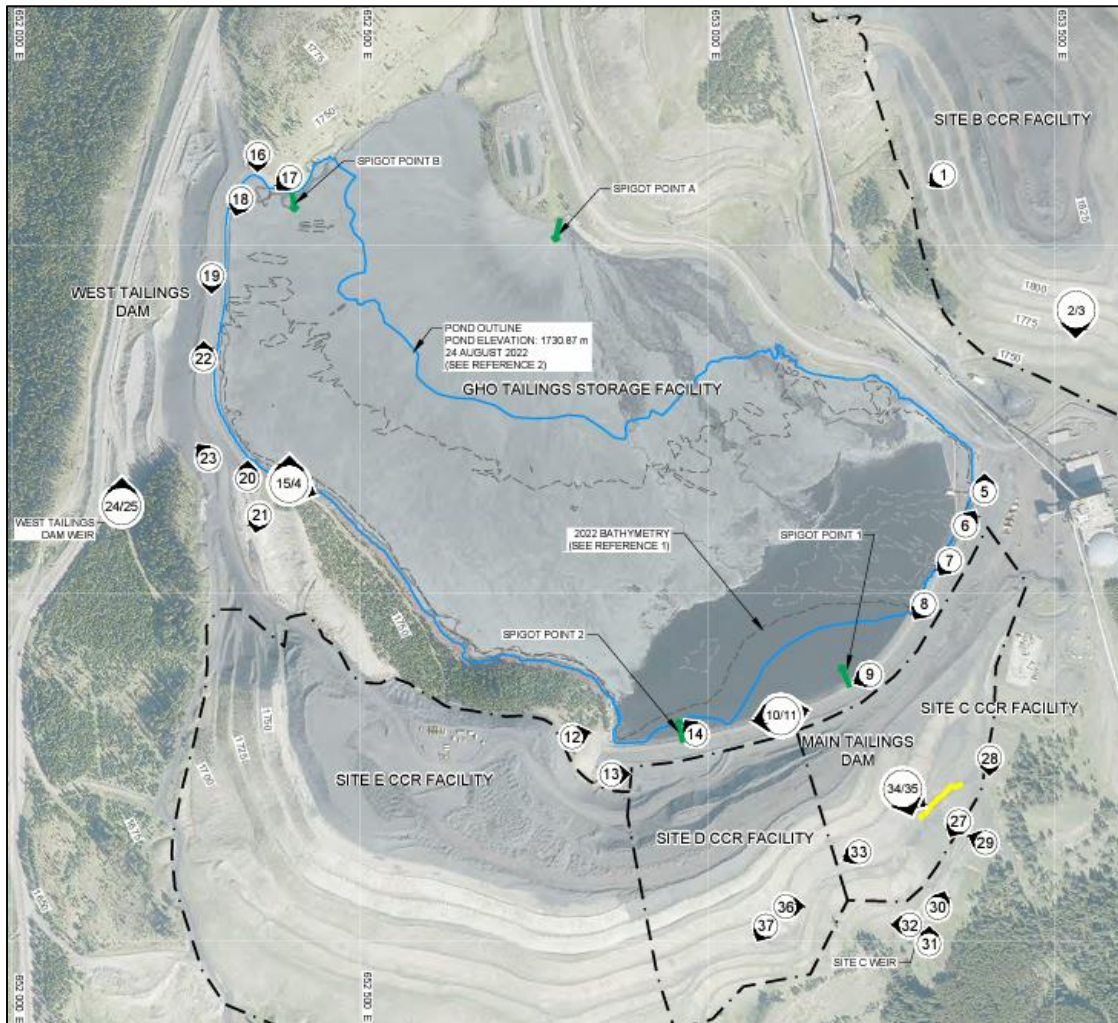


Figure 1: GHO Site Plan

2. Consequences of Failure

All Teck tailings facilities are assessed for credible failure modes, and the outcomes from these credible failure scenario assessments inform our risk management activities. For the purposes of assigning a facility consequence classification, the consequences of *potential* failure modes (not considering whether they are credible or not) are used, as per the Canadian Dam Association (CDA) guidelines and the requirements of the jurisdictions in which we operate. The Global Industry Standard on Tailings Management (GISTM) bases consequence classification on credible failure modes only, which may result in a lower stated classification.

Consequence classification should not be confused with risk, as risk also requires the consideration of the likelihood of the event occurring. To better understand the risk that a tailings facility presents, it is necessary to consider both the likelihood of a failure event, and the consequence of the event, which is performed through our risk assessment process described in the next section.

The GHO TSF is classified as a “High” consequence facility under the CDA guidelines, and with the lack of a credible failure mode, is considered Low consequence as per the GISTM.

3. Summary of Risk Assessment Findings

Teck applies risk-based design approaches, whereby risk assessments are used to demonstrate the resilience of our facilities to extreme loading criteria, and to inform decisions to manage risks to as low as reasonably practicable (ALARP). This approach focuses our efforts on credible failure modes, reducing risks at our facilities by reducing the likelihood of occurrence and mitigating downstream impacts, regardless of the consequence classification from hypothetical embankment failures.

The most recent risk assessment for the GHO was reviewed and updated in 2021, assessing potential failure modes for hazards up to and including extreme events (i.e., an event that occurs once in 10,000 years). Following on from that risk assessment, a review was conducted to evaluate potential failure modes as either credible or non-credible, considering the greatest combination of events or operational errors, and then the risk of such events are evaluated.

All failure modes are sorted according to Teck’s risk matrix, with risk mitigation controls identified and tracked. These failure modes are also described in the publicly available Annual Facility Performance Reports. Teck regularly updates these detailed risk assessments, and the key findings from the most recent assessment are described below. These risk assessments are prepared with assistance from the Engineer of Record and are reviewed by the Independent Tailings Review Board.

Based on the risk assessment for the facility, there are no credible flow failure scenarios for this TSF, and no high or extreme risks.

4. A Summary of Impact Assessments and of Human Exposure and Vulnerability to Tailings Facility Credible Flow Failure Scenarios

There are no credible flow failure modes for this TSF. As a result, there are no associated potential impacts to humans.

5. A Description of the Design for all Phases of the Tailings Facility Lifecycle

General design information regarding the GHO retaining structure design for the operational phase is summarized in the table below. Updates to closure planning and designs are currently in progress for GHO.

Table 2: GHO Design Information Summary

Structure	Main Tailings Dam	West Tailings Dam
Containment or Design Type	Downstream with zoned earthfill	Downstream with zoned earthfill
Estimated Crest El. (m)	1,736	1,736
Current Embankment Height (m)	52	27
Initial Operation	1982	1993
Final Permitted Embankment Height (m)	1,740	1,740
Current Tailings Volume (m ³)	20,500,000	
Final Permitted Tailings Capacity (m ³)	23,500,000	
Crest Length (m)	860	550
Overall Downstream Slope	2.5H:1V	2.5H:1V
Design Storm Event	Probable Maximum Flood (PMF)	Probable Maximum Flood (PMF)
Design Earthquake	Maximum Credible Earthquake	Maximum Credible Earthquake

6. Summary of Material Findings of Annual Facility Performance Reports (AFPRs) and Dam Safety Reviews (DSR)

Annual Facility Performance Reports (AFPRs) are compiled each year by a third-party Engineer of Record to summarize the past year’s monitoring and surveillance information into a concise review. Dam Safety Reviews (DSRs) are performed every 5 years by an independent reviewer in order to provide an independent assessment of the design and performance of the tailings facility. These reports document the safe operation, maintenance, and surveillance of the facility and identify and make any recommendations for continual improvement. Recommendations from these reports are tracked in the site tailings management system through to completion.

The recommendations from the AFPRs and DSRs are considered ‘material¹ findings’ when the observation relates to credible failure modes of the facility that could result in a very high or extreme consequence, regardless of the likelihood of such an occurrence. It is important to note that a ‘material finding’ does not mean a high probability of occurrence. The urgency with which recommendations are to be addressed are defined by the Engineer of Record or independent reviewer by assigning a priority rating, which then informs the timeline to complete the action.

¹ Material: Important enough to merit attention or having an effective influence or bearing on the determination in question. For the Standard, the criteria for what is material will be defined by Operator, subject to the provisions of local regulations, and evaluated as part of any audit or external independent assessment that may be conducted on implementation. (GISTM, 2020)

The most recent AFPR for this facility was completed for the period of September 2021 and August 2022 and the most recent DSR was performed in 2022. There were no material findings in either the 2022 AFPR or 2022 DSR to indicate any tailings facility safety issues.

7. Summary of Material Findings of the Environmental and Social Monitoring Program

There were no material findings associated with GHO from the 2022 social monitoring program. Key indicators of interest include feedback from the community and our annual sustainability report,

As part of ongoing efforts to continuously improve our social performance, Greenhills Operation recently completed human rights, human exposure, and vulnerability assessments of credible failure scenarios. Further, a socio-economic profile was updated in 2023 to ensure the mine has updated knowledge for the area of influence of GHO. An updated Global Industry Standard on Tailings Management (GISTM) Engagement Plan was created and is in the process of being implemented. This Plan outlines the activities that will be undertaken to inform and gather feedback from identified project affected people (PAP) and local emergency response organizations. All feedback gathered is tracked and continually updated within the Greenhills Knowledge Base. Material findings from social monitoring across Teck sites can be found in the Teck Sustainability Report.

GHO has implemented an Environmental Management System (EMS) that is certified to the ISO 14001:2015 standard and applicable Teck corporate standards for health, safety, environment and community (HSEC) management. Teck is committed to environmental management best practices and to achieve continual improvement in our environmental performance. Through this policy GHO commits to:

- Complying with applicable legal, regulatory and other requirements which relate to the operations' identified environmental aspects.
- Ensuring effective implementation, maintenance, and documentation of the EMS.
- Setting environmental objectives which measure progress towards continual improvement and utilizing accepted assessment processes.
- Prevention of pollution.
- Minimizing environmental impacts of activities and services related to mining operations.
- Making this policy available to employees, persons working on Teck's behalf and the public.
- Raising the environmental awareness of employees and those working on Teck's behalf.

Monitoring and review requirements are defined in the EMS in order to track the overall effectiveness in controlling environmental impacts, verifying conformance with operational controls, tracking regulatory compliance status, and progress toward achieving objectives and targets. Audits are also conducted at least annually from external or third parties.

Teck has a robust internal audit program to monitor compliance to legal and internal requirements. These audits are conducted once every three years. In 2022 the audit scope included tailings facilities at GHO.

The GHO EMS was also externally audited by a third party in 2022. This resulted in no major non-conformances, and there were no findings associated with the GHO.

8. Summary of the Tailings Facility Emergency Preparedness and Response Plan (EPRP)

The GHO TSF has no credible failure modes. Regardless, information regarding the facility is contained in an Emergency Preparedness and Response Plan (EPRP) and included in the Greenhills Mine Emergency Preparedness and Response Plan (MERP). This plan identifies emergencies that may arise from various hazards across the mine site and describes generalized actions to prepare for and respond to emergencies arising from those hazards. The plan describes roles and responsibilities of site personnel and of provincial emergency response organizations, alert and notification procedures including off-site contacts, an inventory of response equipment, and training requirements for site personnel.

The objectives of the EPRP are:

- Establish procedures for emergency preparation, including escalating levels of response,
- Respond to developing, imminent or actual emergency scenarios in a way that reduces potential consequences; and,
- Identify training and testing requirements for effective implementation of the EPRP.

In the highly unlikely event of an emergency on site, response actions would be taken to save human lives and reduce potential consequences. The actions identified in the EPRP generally include:

- Immediate physical actions that could potentially be taken in response to an unexpected triggering event to prevent further deterioration of the situation or condition.
- Emergency call out procedures to establish internal and external communication lines. These contact lists are verified annually to confirm accurate contact information. The groups that would be contacted include, but are not limited to:
 - Emergency Management BC
 - Indigenous Government Organizations
 - Potentially affected downstream communities
 - Teck Corporate Crisis Response Team
 - The Engineer of Record
- Procedures for coordination with Emergency Management BC in order to conduct an evacuation of downstream potentially affected areas.

As part of Teck's preparation for emergencies, simulations and training exercises are conducted annually, and include participation by emergency preparedness agencies and representatives of the downstream project affected people. During these exercises, GHO requests input on the capability and capacity of emergency response services of downstream communities and project affected people to respond in an evacuation situation. As part of our commitment to continuous improvement, Greenhills's EPRP will continue to develop over time in collaboration with project affected people to improve the state of preparedness for emergencies.

The EPRP is tested and reviewed every three years. The last test was in 2022.

9. Independent Reviews

The last Independent Tailings Board Review meets three times per year. The most recent meeting was in July 2023. The next Independent Tailings Board review is scheduled for November 2023.

10. Financial Capacity

Teck confirms that it has adequate financial capacity to cover estimated costs of planned closure, early closure, reclamation, and post-closure of the GHO and its appurtenant structures. These costs are disclosed annually in aggregate form in our annual financial statements contained within our [Annual Report](#). These cost estimates are based on the tailings facility closure designs described in Section 5.

Further, Teck maintains insurance for our tailings facilities to the extent commercially available.

11. Conformance to the Global Industry Standard on Tailings Management

Teck has performed a self-assessment of conformance to the Global Industry Standard on Tailings Management (GISTM) for the GHO TSF. This self-assessment has been performed in accordance with the ICMM Conformance Protocols issued in May 2021.

Categories of conformance for individual Requirements in the GISTM are set out below. These take into account guidance from ICMM. Where some requirements represent ongoing community engagement or other ongoing activities, and the systems and/or practices are substantively implemented such that the intended outcome is functionally achieved, and there is no physical risk to tailings facility safety, then these requirements can be considered conformance with the GISTM.

Table 3: Categories of Conformance

Conformance Level	Description
Meets	Systems and/or practices related to the Requirement have been implemented and there is sufficient evidence that the Requirement is being met.
Meets with plans in place	Where an Operator is required to undertake engineering work or other measures to conform to some Requirements (e.g., for Requirements 4.7 or 5.7, which might include remedial engineering measures for existing facilities), the expectation is that these shall be carried out as soon as reasonably practicable. It is not necessary for such measures to be complete by the implementation deadlines for an Operator to be in conformance, but both the measures and associated timelines should be clearly documented by an Accountable Executive.
Partially meets	Systems and/or practices related to meeting the Requirement have been only partially implemented. Gaps or weaknesses persist that may contribute to an inability to meet the Requirement, or insufficient verifiable evidence has been provided to demonstrate that the activity is aligned to the Requirement.
Does not meet	Systems and/or practices required to support implementation of the Requirement are not in place, are not being implemented or cannot be evidenced.
Not applicable	The specific Requirement is not applicable to the context of the asset.

For the GHO TSF, all requirements have been met, or are met with a plan in place, for Principles 1 to 4 and 6 to 15. Ongoing work to meet all requirements in Principles 4 and 5 will continue beyond August 5, 2023, and these principles are considered partially met. Importantly, there are no immediate physical safety risks at the facility related to the work in progress. The ongoing work to address the outstanding recommendations is as follows:

- Principle 5: Work is ongoing to demonstrate that risks are as low as reasonably practicable (ALARP). The facility was designed and built to meet extreme loading criteria, and as such has a robust design with no credible failure modes. Further, appropriate tailings management and governance systems are in place, with established independent reviews and ongoing community engagement.