

# **Tailings Storage Facility Disclosure Report**

**Swift South Spoil Co-Management Facility**

**July 2023**

The Teck logo is positioned in the bottom right corner of the page. It consists of the word "Teck" in a bold, dark blue, sans-serif font. The background of the page features a large, dark blue geometric shape on the left side, which is a right-angled triangle with its hypotenuse on the right, pointing towards the bottom right corner.

## Contents

Contents .....	1
1. Tailings Facility Description .....	2
2. Consequence of Failure .....	3
3. Summary of Risk Assessment Findings .....	4
4. Summary of Impact Assessments and of Human Exposure and Vulnerability to Tailings Facility Credible Flow Failure Scenarios .....	4
5. Description of the Design for all Phases of the Tailings Facility Lifecycle .....	5
6. Summary of Material Findings of Annual Facility Performance Reports (AFPRs) and Dam Safety Reviews (DSR) .....	6
7. Summary of Material Findings of the Environmental and Social Monitoring Program .....	6
8. Summary Version of the Tailings Facility Emergency Preparedness and Response Plan (EPRP) .....	7
9. Independent Reviews .....	8
10. Financial Capacity .....	8
11. Conformance to the Global Industry Standard on Tailings Management .....	9
Table 1: Description of SSCMF TSF .....	2
Table 2: SSCMF TSF Design Information Summary .....	5
Table 3: Categories of Conformance .....	9
Figure 1: SSCMF TSF Site Plan .....	3

# 1. Tailings Facility Description

The Swift South Spoil Co-Management Facility (SSCMF) is a stacked tailings storage facility (TSF) at the Fording River Operation (FRO) which is owned and operated by Teck Coal Ltd. (Teck). The Fording River Operation is located approximately 30 km north of Elkford in the interior of British Columbia.

The site is located within the southern interior of BC near the eastern Rocky Mountains. The topography is predominately characterized by a mix of fluvial valley bottoms and gentle side slopes leading to upper mountainous slopes. FRO is located within either the Engelmann Spruce – Subalpine Fir (ESSF) or Montane Spruce (MS) bio-geoclimatic zones. Common vegetation includes subalpine fir and Engelmann Spruce. Shrubs include false azalea, black huckleberry, grouseberry, low bilberry western meadow rue, heart-leaved arnica, and one-leaved foamflower. The climate is characterized by warm dry summers and cool winters. Climate conditions in the area are described based on data from the Fording River Cominco meteorological station, located within the Fording River Valley 4 km south of FRO. Climate conditions at FRO are strongly influenced by elevation, slope aspect and proximity to the Fording River Valley.

Tailings are contained within an active waste rock dump and are placed within the waste rock in a defined deposition area. The source tailings were re-mined from 3 Pit North as part of Swift Pit mining and transported via truck to the SSCMF. Operations started in 2021 and were ceased in July 2022 when the tailings were completely removed from 3 Pit North. The SSCMF has been completely buried in waste rock as part of the development of the Swift South Spoil. The facility occupies a total area of approximately 240 hectares.

The SSCMF is located approximately 3 km southwest of the processing plant, on the west side of the Fording River. The SSCMF stores approximately 7.4 million cubic metres of mixed waste rock and tailings. The mix ratio between waste rock and tailings is approximately 5 parts waste rock to 1 part tailings.

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

Table 1: Description of SSCMF TSF

Facility Design Summary	Description
Status	Inactive
Number of tailings embankment structures	N/A
Type of Construction	Co-mingled Stack – Bottom up, in 5 to 15 m lifts
Most recent Annual Facility Performance Review	2022 <a href="http://www.teck.com/tailings">www.teck.com/tailings</a>
Independent Review Board	Yes

*Note: Further details regarding the facility configuration can be found in our facility inventory at [www.Teck.com/tailings](http://www.Teck.com/tailings)*

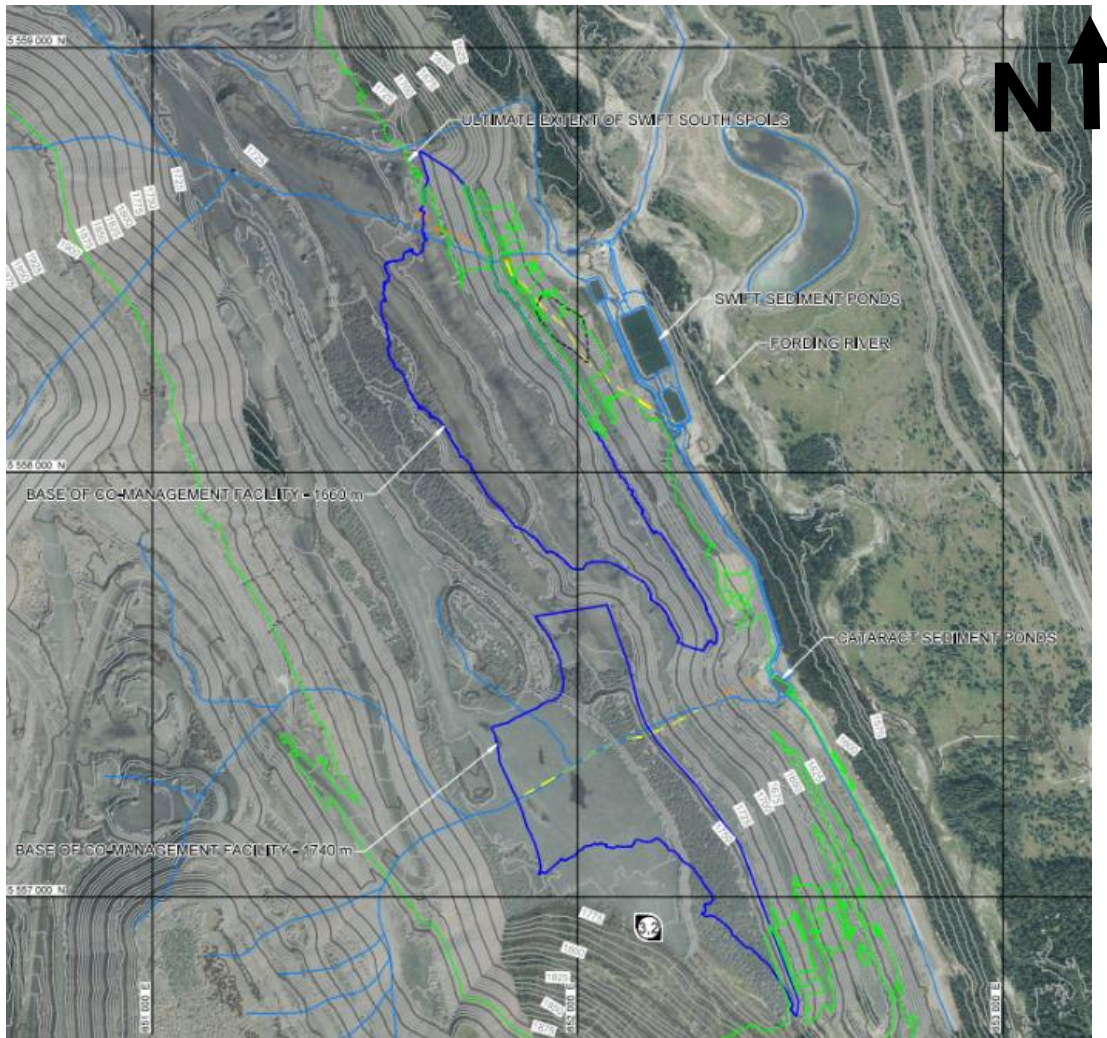


Figure 1: SSCMF TSF Site Plan

## 2. Consequence 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 downstream 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 and the consequences of a potential failure event. That analysis is performed through our risk assessment process described in the next section.

The SSCMF is classified as a “Low” consequence facility under both the CDA guidelines and 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 assumed hypothetical embankment failures.

The most recent risk assessment for the SSCMF TSF was conducted 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. Failure modes are also described in the publicly available Annual Facility Performance Reports. These risk assessments are prepared with assistance from the Engineer of Record and are reviewed by the Independent Tailings Review Board. Teck regularly updates these detailed risk assessments.

Based on the risk assessment for the facility, there are no credible catastrophic failure modes or high risks for the SSCMF.

The above risks, and the results of the performance monitoring and surveillance program that monitors these risks are described in more detail in the Annual Facility Performance Report at [www.teck.com/tailings](http://www.teck.com/tailings).

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

The design of the SSCMF has eliminated any credible flow failure modes. As a result, there are no associated potential impacts to humans.

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

General design information regarding the SSCMF retaining structure is summarized in the table below. The closure design for the SSCMF TSF is accomplished by encapsulating the tailings within the surrounding waste rock dump.

Table 2: SSCMF TSF Design Information Summary

Structure	Comingled Tailings and Waste Rock Facility
Containment or Design Type	Contained within a waste rock spoil
Estimated Crest El. (m)	1,800
Current Height (m)	1,800
Initial Operation	2021
Final Permitted Height (m)	N/A
Current Tailings Volume (m <sup>3</sup> )	2.95
Final Permitted Tailings Capacity (m <sup>3</sup> )	N/A
Crest Length (m)	2,720
Overall Downstream Slope	2H:1V
Design Storm Event	N/A - Stack
Design Earthquake	1:10,000 Earthquake or loads consistent with 0.3 g

## **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 'material'<sup>1</sup> 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.

The most recent AFPR for this facility was completed for the period of September 2021 through August 2022. No DSR has been completed for this facility as operations began in 2021. There were no material findings in the 2022 AFPR that would 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 Swift South 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, FRO 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 Swift South. 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 Knowledge Base. Material findings from social monitoring across the site in general can be found in the Teck Sustainability Report.

---

<sup>1</sup> 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)

FRO 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 FRO 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 defined in the EMS are tracked to verify 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 FRO.

The SSCMF 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 SSCMF.

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

The SSCMF has no credible failure modes. Regardless, information regarding the facility is included in the Fording River Operations Mine Emergency Preparedness and Response Plan. 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, Fording River Operations 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, Fording River Operations EPRP will continue to develop over time in collaboration with project affected people to improve the state of preparedness for emergencies.

## **9. Independent Reviews**

The Independent Tailings Review Board meets three times annually. The most recent meeting was in July 2023, and the next one 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 SSCMF 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 SSCMF at FRO. 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 SSCMF at FRO, all requirements have been met, or are met with a plan in place, for Principles 1 through 15. 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.