

Tailings Storage Facility Disclosure Report

**Quebrada Blanca Phase 2 Tailings 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 trapezoid with a diagonal cutout, creating a modern, abstract design.

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1. Tailings Facility Description

The Quebrada Blanca Phase 2 (QB2) Tailings Management Facility (TMF) is a part of the Quebrada Blanca mine in the Tarapacá Region of northern Chile. It is owned and operated by Teck, through its subsidiary Compañía Minera Teck Quebrada Blanca S.A. The Quebrada Blanca mine is located approximately 240 km southeast of the city of Iquique and 1,500 km north of Santiago.

The site is located in the Collahuasi Mountain range in a desert environment, where vegetation is limited and bare earth and rock is exposed over the site. The terrain is mountainous with steep sided valleys with alluvial and colluvial sediments in the valley bottom and over bedrock on the valley walls.

The QB2 TMF will include a cross valley dam to retain tailings into the impoundment area which includes three steep sided valleys. The QB2 TMF is located about 7 km south of the concentrator plant, downstream from the existing operations. The final area of the impoundment will be approximately 6 km², with an upstream catchment area of 44 km².

Operations startup is planned for 2023. The TMF is designed to store a total of approximately 1,240 Mt of tailings, including 870 Mt in the impoundment as tailings, and 370 Mt as sand in the dam. The structures comprising the Quebrada Blanca TMF include:

- QB2 Dam
- Seepage Collection Pond 1
- Seepage Collection Pond 2

A short description of the Quebrada Blanca Phase 2 Dam is summarized in the table below.

Table 1: Description of Quebrada Blanca Phase 2 Dam

TMF Design Summary	Description
Status	Under Construction
Number of tailings embankment structures	1
Type of Construction	Centerline Cycloned Sand Dam
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.

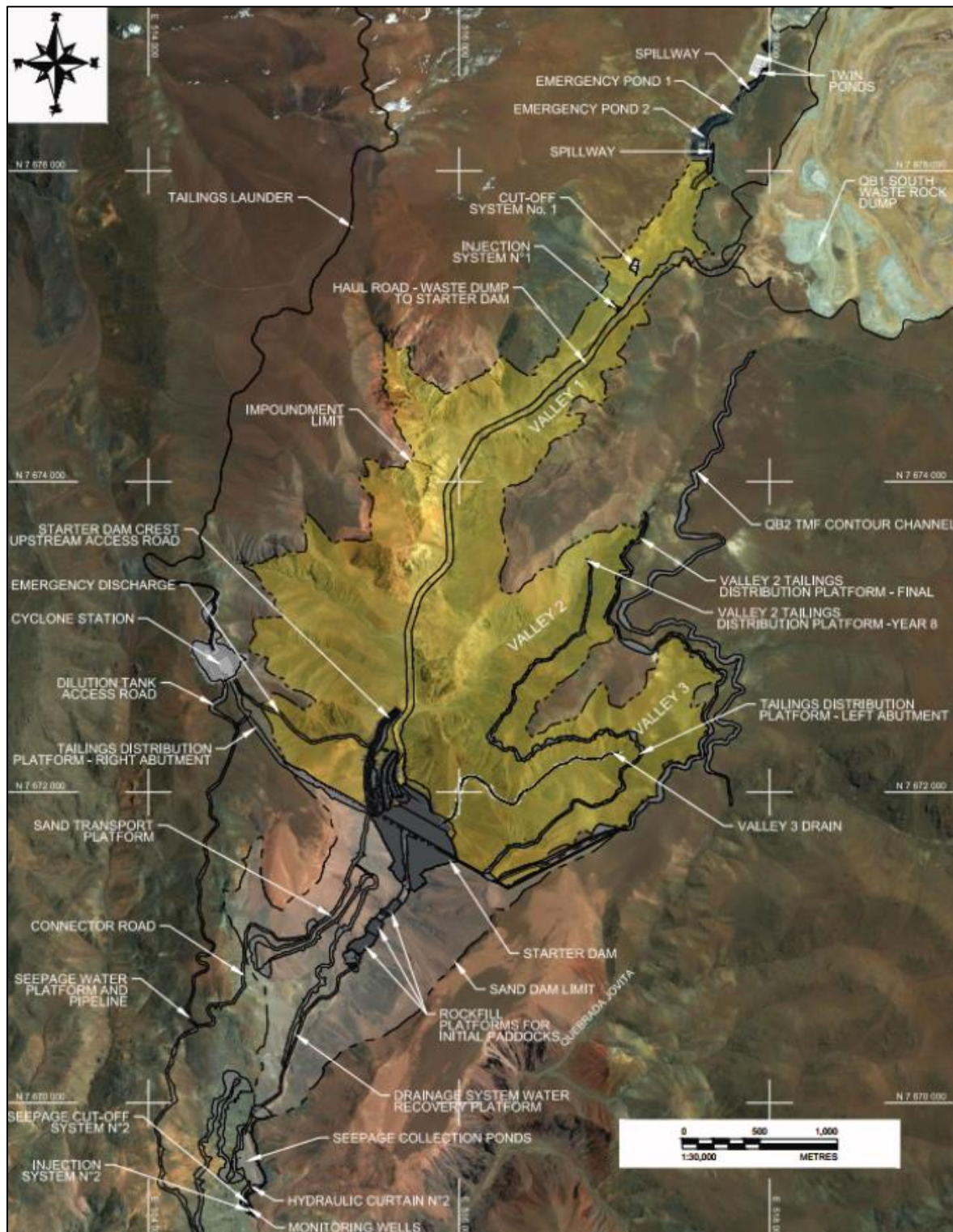


Figure 1: Quebrada Blanca Phase 2 TSF Site Plan

2. Consequence of Failure

All Teck tailings facilities are assessed for credible failure modes, and the impacts from these credible failure scenarios inform our risk management activities. For the purposes of assigning a facility 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 of a failure event, and the consequence of the event, which is performed through our risk assessment process described in the next section.

The Quebrada Blanca Phase 2 TMF is classified as an 'Extreme' consequence facility under the CDA guidelines and as 'Category C' in the Chile Dam Classification system. Using the GISTM classification, the consequence classification of the facility is "Low", as there are no credible catastrophic failure modes. Regardless of classification, these facilities have been designed to resist extreme loads, resulting in no credible catastrophic failure modes.

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 dam failures.

The most recent risk assessment for the Quebrada Blanca Phase 2 TMF was conducted in 2023, assessing potential failure modes for hazards up to and including extreme events (i.e., an event that occurs once in 10,000 years). As part of this assessment, failure modes are deemed as 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. 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.

The outcome of the assessment is that the TMF does not have any credible catastrophic¹ failure modes (CCFMs) in the Years 0 to 5, including flow failure scenarios that could impact the integrity of the Teck QB2 TMF, causing the loss of water and/or tailings downstream of the TMF.

The potential risks, whether credible or not, are well managed and well understood. The potential and credible risks, and the results of the performance monitoring and surveillance program to monitor for these risks are described in more detail in the Annual Facility Performance Report for the QB2 TMF at www.teck.com/tailings.

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

As noted in the section above, the most recent risk assessment was conducted in 2023, for the QB2 development period of Years 0 to 5. As part of this assessment, failure modes are deemed as credible or non-credible. The outcome of the assessment is that the TMF does not have any CCFMs, including flow failure scenarios, in the period from Year 0 to 5. Nevertheless, by regulatory requirements in Chile a formal inundation study (Distancia Peligrosa) was conducted in 2016 and reported to the regulator.

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

The TMF will be constructed in stages, initially as a cofferdam which becomes the upstream toe buttress of a rockfill starter dam, then raised by cyclone tailings sand by the centerline method and extended on the east abutment plateau. A rockfill wing dam will be built as an extension to the sand dam on the east abutment plateau to limit the requirement for pumping of sand for dam construction. There are two seepage collection ponds located downstream of the sand dam with leak detection systems and include spillways to pass flood events. Seepage cutoffs are also located downstream of the seepage ponds. General design information regarding the retaining structures for the operational phase are summarized in the table below. A conceptual closure design has been developed and includes a spillway that will be installed at closure to protect the dam against overtopping, decommissioning of the TMF contour diversion channel, seepage collection and water treatment plant and placement of a layer of granular material to prevent excessive wind erosion on the surface of the sand dam. Accumulated water in the TMF will remain as a permanent water feature that may require periodic water treatment.

¹ Catastrophic events typically involve numerous adverse impacts, at different scales and over different timeframes, including loss of life, damage to physical infrastructure or natural assets, and disruption to lives, livelihoods, and social order. (GISTM, 2020)

Table 2: Quebrada Blanca Phase 2 TMF Design Information Summary

Structure		Containment or Design Type	Estimated Crest El. (m)	Current Dam Height (m)	Initial Operation	Final Permitted Dam Height (m)	Current Tailings Volume (m ³)	Final Permitted Tailings Capacity	Crest Length (m)	Overall Downstream Slope	Design Storm Event	Design Earthquake
Quebrada Blanca Dam	Cofferdam	-Constructed with an upstream LLDPE liner and granular filter and transition zones.	3,768	25	2020	25	1,885,233	870 Mt	355	2V:1H	Probable Maximum Flood (PMF) 6.8 Mm ³	Maximum Credible Earthquake at 84 th percentile estimate 0.56 g
	Starter Dam	-Constructed with an upstream face that includes an LLDPE liner and a concrete curb above an upstream toe berm. Behind the upstream face the dam is constructed using rockfill filter and transition zones.	3,855	120	2023	120			642	1.4H:1V		
	Sand Dam	-Centerline constructed using cyclone sand.	4,045	n/a		310			1,650	4.7H:1V		
	Wing Dam	-Constructed as a rockfill embankment with a liner on the upstream face.	4,045	n/a		25			808	3H:1V		
Seepage Collection Pond Dam 1		-Constructed with a double LLDPE liner and leak detection system, include spillways to pass flood events.	3,594	n/a	2023	2.5	n/a	n/a	137	2V:1H	50-year, 24-hour rainfall event (spillway)	n/a
Seepage Collection Pond Dam 2			3,586	n/a	2023	2.8	n/a	n/a	71	2V:1H		

n/a – Not Applicable.

6. Summary of Material Findings of Annual Facility Performance Reviews (AFPR) 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 'material² findings' when the observation relates to potential 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 first AFPR for this facility was completed for the period of January through December 2022. 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

QB2 maintains a community engagement plan, as part of Teck's Social Management System, which incorporates participatory water monitoring activities with communities that have expressed interest in water quality downstream of the TMF, as well as community site visits related to the construction process of the TMF. QB2 maintains a community Feedback Mechanism Procedure and tracks grievances or incidents related to tailings. Socio-economic baseline information was updated in 2021. In the context of these monitoring activities, there were no material findings. Material findings from social monitoring across the site in general can be found in the Teck Sustainability Report.

Quebrada Blanca Phase 2 has implemented an Environmental Management System (EMS) that follows the Teck corporate standards for health, safety, environment and community (HSEC) management. The standard integrates Teck's risk-based approach and continual improvement of HSEC incident and event Management. Teck is committed to environmental management best practices and to achieve continual improvement in our environmental performance. Through this policy QB2 commits to:

- Complying with applicable legal, regulatory and other requirements which relate to the operation's identified environmental aspects.
- Ensuring effective implementation, maintenance, and documentation of the EMS.

² 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)

- 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 on a regular basis by external third parties.

In 2022 there were no material findings from the environmental monitoring program related to the tailings facility.

8. Summary Version of the Mine Emergency Response Plan (MERP)

The QB2 TMF has no credible failure modes. Regardless, information regarding the facility is contained in the site-specific Quebrada Blanca Mine Emergency Response Plan. This plan identifies emergencies that may arise from various hazards associated with major risk scenarios across the mine site and describes actions to prepare for and respond to emergencies arising from those hazards. The Quebrada Blanca MERP includes a site risk analysis, describes roles and responsibilities of site personnel, defines alerting and notification procedures, includes an inventory of emergency response equipment, and specifies training requirements for site personnel.

The Emergency Response Plan (MERP) program is linked to the PAS Activation Protocol, which is associated with the tailings surveillance and monitoring program. The objectives of the MERP 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 MERP.

In the highly unlikely event of an imminent tailings related emergency on site, response actions would be taken to save human lives and reduce potential consequences. The actions identified in the MERP 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:
 - Servicio Nacional de Prevención y Respuesta ante Desastres SENAPRED
 - Potentially affected downstream communities
 - Teck Corporate Crisis Response Team
 - The Engineer of Record

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. Specifically, the MERP contains emergency response measures that apply to project affected people, including joint emergency simulations and training exercises between the company, project affected people and public sector agencies. Further, the capability of emergency response services of project affected people to respond to emergencies is assessed, and a plan is in progress with project affected people to improve their preparedness for emergencies.

The mine emergency response plan (MERP) includes a Public Relations Plan as well as consultation with Communities of Interest (COI). The Public Relations Plan establishes, maintains and strengthens links with communities, in accordance with Teck's sustainable practices in environmental and social aspects and compliance with permit commitments to communities, oversight bodies and authorities. Teck is committed to having fluid communication with COIs so that they are informed and aware of MERPs. It also gives the COIs an opportunity to ask questions about tailings management, and the corresponding plans, in addition to providing and obtaining information and expressing their concerns.

As part of our commitment to continuous improvement, Quebrada Blanca mine MERP will continue to develop over time in collaboration with communities to improve the state of preparedness for emergencies.

9. Independent Reviews

The last visit of the Independent Geotechnical Review Board (GRB) took place in July 2023. The next GRB meeting is scheduled for May 2024.

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 QB2 TMF 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 QB2 TMF. 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 completed 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 QB2 TMF, 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.