

# HENDERSON MINE TAILINGS DISCLOSURE REPORT

DECEMBER 2023

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## Introduction

Freeport-McMoRan Inc. (FCX) is committed to transparency by ensuring relevant information regarding Tailings Storage Facilities (TSFs) at our operations is readily available through public disclosures and active engagement with stakeholders.

This report supports our efforts to publish and regularly update information on TSF management, implementation of our tailings governance framework, our policies, standards and approaches to the planning, design, construction, operation, monitoring, maintenance, closure and post-closure of tailings facilities in alignment with the Global Industry Standard on Tailings Management (Tailings Standard)<sup>1</sup> Requirement 15.1. It also supports our commitment to publish and update, at least on an annual basis, information on the TSF at the Henderson mill in Colorado in alignment with Tailings Standard Requirement 15.1B.

## Summary of FCX's Approach to Tailings Management

Effective and responsible tailings management is critical to mining safely, protecting people and the environment and to maintaining social license to operate. We strive to continuously manage, enhance and innovate our tailings system in a manner that minimizes impacts to stakeholders and the environment. We recognize the potential failure of a TSF at any of our mining operations could cause severe or catastrophic damage that could result in loss of life, property damage, or environmental harm. Using appropriate management approaches and technologies, we operate with a bias for action by quickly identifying and addressing issues to prevent and mitigate potential impacts at our TSFs.

The health and safety of our workforce, host communities, and the protection of the environment are fundamental to our extensive tailings management system and approach. Our objective is to have zero fatalities, zero catastrophic failures, and zero unplanned discharges from any of our TSFs.

Our **Tailings Management Policy** outlines our continued commitment to managing our tailings responsibly and effectively across our sites globally and includes our commitment to implement the Tailings Standard at applicable TSFs. This policy is intended to be implemented in conjunction with our **Environmental**, **Human Rights**, and **Social Performance** policies and associated management systems.

## Evolution of FCX's Tailings Management System and Implementation of the Tailings Standard

FCX established a Tailings Stewardship Program, which, over the last 20 years, has evolved into our comprehensive Tailings Management System (TMS) and applies to all TSFs by our operating subsidiaries. Our TMS, led by our expert team of tailings professionals, includes specific programs to address the various aspects of TSFs – over all phases of the TSF lifecycle – while promoting continuous improvement. Through our TMS, we systematically seek to identify and analyze, then eliminate or mitigate failure modes, to minimize the risk of failure scenarios associated with our TSFs. The TMS incorporates applicable regulations and international best practices.

Since the Tailings Standard was established in 2020, we worked to integrate the Tailings Standard within our existing systems. For example, we enhanced our multi-disciplinary collaboration and integration of our management systems. We also refined our risk assessment process and conducted gap-filling studies across our TSFs to enhance the knowledge base used for our risk assessments.

FCX's TSFs are designed and managed throughout their lifecycles using Risk Informed Decision Making (RIDM) with precautionary or performance-based design approaches identified by each

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<sup>1</sup> The Tailings Standard was established by the International Council on Mining and Metals (ICMM), the United Nations Environment Program, and Principles for Responsible Investment.

site's Engineer of Record (EoR) along with detailed inspections by the FCX Tailings Stewardship Team (TST) third-party reviewer and reviews by the Independent Tailings Review Board (ITRB). Our sites' EoRs design new TSFs and analyze existing TSFs using the stringent criteria for earthquakes and floods, applicable to Extreme TSFs, regardless of actual consequence.

In accordance with the Tailings Standard, FCX's updated consequence classification approach now incorporates each TSF's detailed information and analyses that have been enhanced over the past few years to reduce uncertainties as well as incorporate expert opinions on thresholds for Credible Failure Modes (CFM). Our approach is derived from the Tailings Standard, and we take a conservative approach to consequences where there is a potential Population at Risk (see Appendix). See Section 1.3 for more information. FCX's subsidiaries have been evaluating consequence classifications based on this updated approach, beginning with TSFs that were previously classified as Extreme or Very High based on hypothetical failure.

In line with RIDM, we continue to conduct additional investigations, analyses, and, when necessary, enhancements of our controls or take additional actions to reduce residual risks to as low as reasonably possible. In doing this work, we have reduced our uncertainties and increased our confidence in understanding our TSFs.

Monitoring our TSFs and striving to minimize potential risks is an ongoing process, and our disclosures will be updated as required by the Tailings Standard.

## 1.0 Our TMS

FCX has comprehensive measures in place to help ensure our TSFs are designed, built, operated, closed, and monitored to minimize risk.

The TMS comprises specific programs to address aspects of tailings planning, design, operation, maintenance, surveillance, and risk management over the TSF lifecycle. Although there is some overlap among the categories, our safeguards generally fall within four categories as illustrated by the examples for each provided below:

### 1. Engineering practices and safe designs

- We have robust stage-gate processes for engineering and design; our technical experts either manage or are embedded in projects to enhance shared knowledge and consistency in rigor and quality. In collaboration with the EoR, we conduct extensive site investigations and detailed site characterization to inform state-of-practice (or leading practice) engineering analyses and build a comprehensive knowledge base. Our EoRs design new TSFs and analyze existing TSFs using the stringent criteria for earthquakes and floods, applicable to Extreme TSFs, regardless of actual consequence.

### 2. Adherence to construction and operational parameters through monitoring and use of technology

- Our programs for operations, maintenance, inspections, and monitoring incorporate on-the-ground, automatically collected, and remote sensing data to enable regular analysis and internal reporting. Monitoring results are compared to established performance criteria. Action plans are developed and tracked to completion to help verify the TSF is operated in accordance with the design intent. Our Early Indicator Dashboard provides a mechanism to communicate performance in a timely manner to appropriate stakeholders at our sites and with our corporate leadership.

### 3. Multi-tiered oversight

- Our TMS includes mechanisms for internal and external reviews, such as internal subject matter experts and the Responsible Tailings Facility Engineer (RTFE), the EoR, the TST, and the ITRB. See sections 1.2 and 1.4 for more information. Reporting on monitoring program results and findings from these reviews are distributed to site and corporate leadership, including the Accountable Executive (AE) to inform and drive our bias for action.

### 4. Adherence to practices grounded in continuous improvement and learning from past experiences, including industry failures and best practices

- We actively participate in industry technical conferences and research initiatives, apply lessons from case histories, and conduct regular operator and engineer education and training.

Our RIDM process is an example that spans all four categories of safeguards and is discussed further in Section 1.3.

Figure 1 shows the evolution of the FCX TMS and key programs that exemplify the categories discussed above.

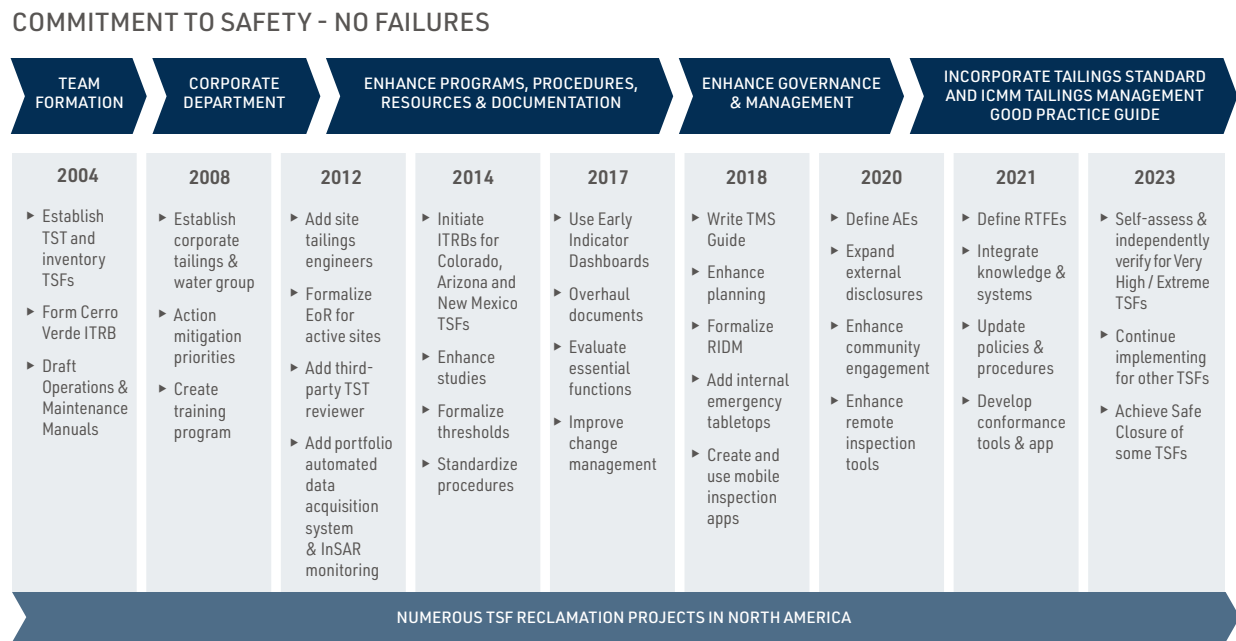


Figure 1. Tailings Stewardship & Management: A 20-Year Evolution.

## 1.1 TSF Lifecycle

A TSF lifecycle includes the design, construction, operation, closure, and post-closure phases. A TSF undergoes continual changes over its lifecycle, and these changes must be considered and managed to maintain safety and structural integrity. FCX works closely with internal and external experts, including the EoR, TST and ITRB for the full lifecycle management of the TSF.

FCX provides the “Status” of our TSFs in our public disclosures as follows:

- **Active** - TSFs with tailings distribution infrastructure in place for the intent of raising dam crest.

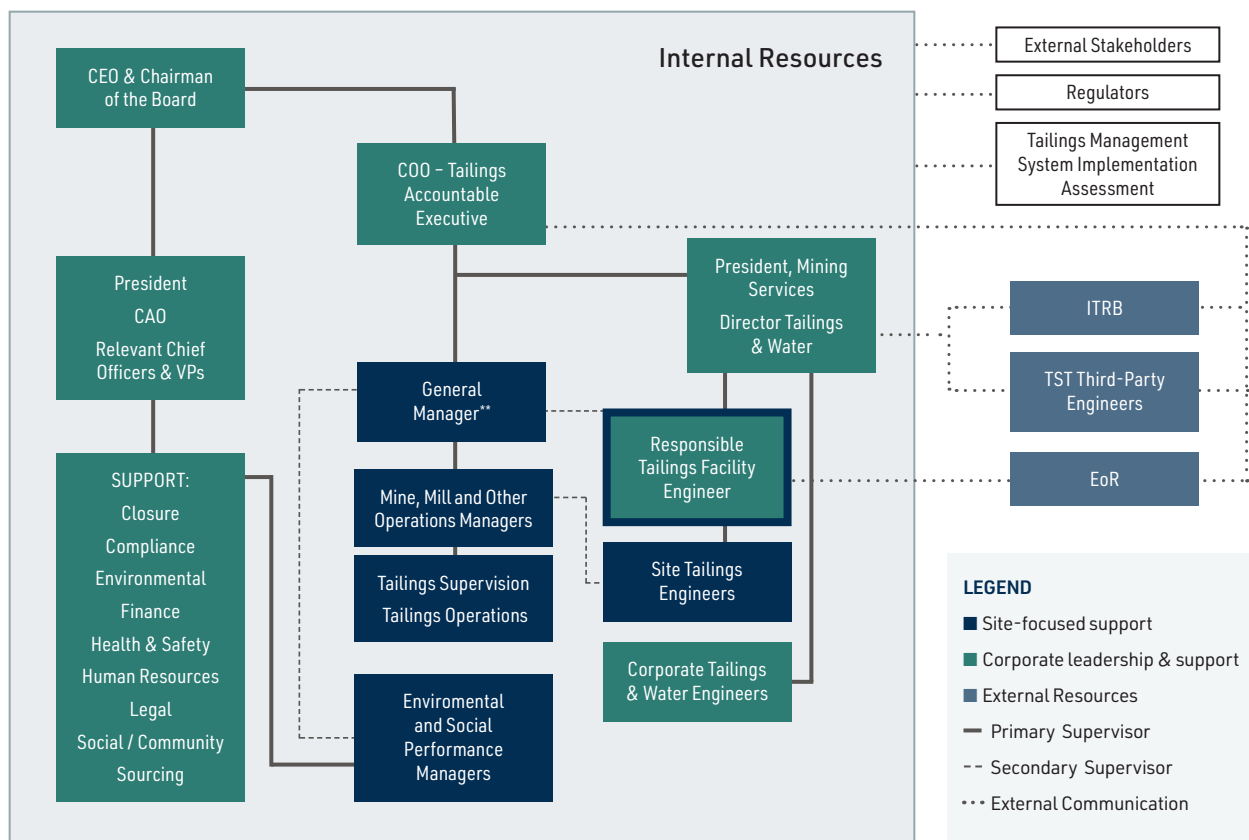
- **Inactive** - TSFs that are not intended to receive tailings deposition in the current operating plan but have not yet implemented final closure activities.
- **Closed** - TSFs having a closure plan approved and implemented, consistent with applicable government agency requirements and in consultation with relevant stakeholders.
  - **Safely Closed** - A subset of Closed TSFs that, upon collection and evaluation of additional data, have reached Safe Closure status as defined by the Tailings Standard. To receive this designation, TSFs require confirmation by an ITRB and approval by an AE. A Safely Closed TSF does not pose ongoing material risk to people or the environment.

## 1.2 Governance Framework

We believe our programs and safeguards are effectively implemented through the promotion of open and ongoing communication throughout our organization and a bias for action at all levels.

We remain focused on the safe execution of our TMS by maintaining robust, multi-tiered governance of our tailings programs, which involves appropriately qualified personnel with clearly defined roles, responsibilities, and accountabilities. There are multiple layers of assurance we apply to all TSFs: site-level implementation, functional accountability, third-party review, and board and executive leadership oversight as shown on Figure 2 and described as follows.

## Active Operations\*



\* Sites with only Inactive and / or Closed TSFs utilize a parallel structure reporting through the Chief Sustainability Officer.

\*\* In some cases, the General Manager may report to a Division Vice President or President who in turn reports to the COO-President Americas.

**Figure 2. Organizational Structure for Tailings Management System for Operating Sites that Facilitates Collaboration, Engagement, and Review.**

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Brief description of key roles in FCX's governance structure

### 1. Site-Level Implementation

- **Site Tailings Management, Engineers, and Operators:** Internal team that implements the management program and regularly monitors, identifies, and addresses potential risks.
- **Responsible Tailings Facility Engineer (RTFE):** Internal engineer appointed by AEs responsible for the integrity of assigned TSFs. RTFE provides technical expertise, manages risk, and liaises with the EoR. Corporate discipline experts provide regular support to RTFEs.
- **Engineer of Record (EoR):** External engineer who provides expert design and engineering analysis, technical support, inspection, review, and guidance to support an RTFE in achieving design intent of their assigned TSF.

### 2. Functional Accountability and Responsibilities

- **Accountable Executive (AE):** Chief Operating Officer who reports directly to the FCX Chief Executive Officer (CEO) and is accountable for the safe management of TSFs and for minimizing the social and environmental consequences of any TSF failure.
- **Tailings and Water Director:** Oversees RTFE activities and has delegated responsibilities from the AE for engaging with and reviewing the site-implementation of TMS activities.

### 3. Third-Party Review

- **Independent Tailings Review Board (ITRB):** Third-party, internationally known expert panels who provide independent opinions and guidance on the physical integrity, safety, and performance of TSFs and have access to corporate senior leadership. Members have decades of experience in applicable disciplines.
- **Tailings Stewardship Team (TST):** Third-party professional engineers who have not been directly involved with the design or operation of the TSFs and internal experts who inspect all TSFs, review documents and monitoring data, identify potential deficiencies, and recommend corrective actions.
- **Tailings Management System (TMS) Implementation Assessment:** An external consultant with sufficient knowledge and understanding of the TMS to assess the efficacy of the TMS applied at a site-specific level, including key tasks, roles and responsibilities, and associated governance structure to support proper management and operation of the TSFs, and structural integrity.

### 4. Board and Executive Leadership Oversight

- **Corporate Senior Leadership:** Executive leadership that participates in major decisions related to the tailings management program, including allocation of resources for TSF-related operations, initiatives and projects.
- **Board:** Corporate governing body firmly committed to providing the necessary financial and technical resources to maintain the safety and integrity of our TMS globally, with a focus on risk management and continuous improvement. The AE regularly reports to the Corporate Responsibility Committee of the Board of Directors on matters related to the Tailings Management Policy including implementation of the Tailings Standard.

## 1.3 Risk Informed Decision Making

Risk is a combination of the potential consequences of an event and the probability, or likelihood, of that event occurring.

FCX applies RIDM throughout the full lifecycle of each TSF from design to post-closure. RIDM allows us to make informed decisions while linking the stability performance and risk level that is acceptable for a TSF; the process includes periodic updates, so that changes in the operation and/or performance, which may alter the risk profile of a TSF, can be considered.

As part of FCX's TMS, RIDM consists of three primary elements:

1. Risk Assessment
2. Risk Management
3. Surveillance and Review

### 1.3.1 TSF Risk Assessment and Consequence Classification

TSF risk assessments include risk identification, analysis (including consequence classification), and evaluation used to determine which measures are, or should be, in place to eliminate or minimize risk.

The risk assessment focuses on potential physical failures of each of the TSFs, which may include instability, slope failures, excessive slope erosion, overtopping of the impoundment, and internal erosion. For the purposes of the assessment, FCX defines a TSF failure as the unintended loss of the structural containment where the tailings and water released could be impactful.

Other risks related to TSFs include, but are not limited to, occupational health and safety, environmental (including climate change), social (including human rights), economic, value chain, and other potential long-term sustainability and business risks. These risks are documented in the site's sustainability risk register process; see the 2022 Sustainability Report for more information.

The TSF risk assessment is updated with our full stakeholder group and workshop process every three years for applicable TSFs, and between five and seven years for Safely Closed TSFs. In the interim, the risk assessment is reviewed annually by the RTFE, site engineering staff, and the EoR.

During the risk identification and analysis workshops, multidisciplinary teams including the EoR, RTFE and internal team members, use available information such as TSF-specific detailed data and engineering analysis, experience from team members, case histories, and regulatory data to identify a specific chain of events that could lead to a TSF failure. The group analyzes how a failure may occur, what factors exist that make the potentially credible failure mode more or less likely (considering the site-specific knowledge base, existing robust controls and uncertainties), and ultimately determine which are credible failure scenarios.

Risk analysis leads to an understanding of each credible failure scenario for a TSF; a scenario comprises a CFM and an associated consequence that is technically feasible considering analysis and expert opinion on a minimum threshold of possibility of occurrence during a structured analysis process. To determine whether a failure mode and an associated scenario are credible, workshop participants use tools such as semi-quantitative risk analysis to estimate the likelihood of occurrence of each potentially credible failure mode, the likelihood of an adverse structural response, and the magnitude of potential adverse consequences. The group's best-estimate conservative ranking is used for the likelihood categorization of each CFM guided by information described in the Appendix.

CFMs reflect the residual uncertainty that exists around physical conditions and controls in the TSF considering all site-specific information and analyses. The resulting consequence



classification is not an indication that a credible failure scenario will occur and having CFMs is not a reflection of TSF safety.

The credible failure scenarios are then used to create a TSF consequence classification, as defined by the Tailings Standard. The TSF consequence classification is based on downstream conditions and potential impacts of CFMs, including incremental losses to Population at Risk, potential loss of life, environmental impacts, health/social/cultural impacts, and infrastructure and economic impacts.

FCX integrates our value of safety into our tailings programs by taking a conservative approach to consequence classification (see Appendix for additional detail). Our definitions for consequence classification align with the Tailings Standard except as outlined below.

- If there is one or more permanent Population at Risk (see Appendix) – including the public, employees, or contractors – the CFM is classified as Extreme. The Tailings Standard considers Population at Risk greater than 1,000 people to be classified as Extreme.
- If there is no permanent Population at Risk, but there is a transient Population at Risk (see Appendix), the minimum consequence classification is Significant.
- Other metrics (as defined in the Tailings Standard for environmental and health; social and culture; and infrastructure and economics) help further determine the consequence classification (see Appendix).

Appropriate modeling of credible failure breach flow or slump runout scenarios is used to inform our understanding of potential consequences. In accordance with the Tailings Standard, we assign a TSF a consequence classification based on the highest consequences of CFMs for that TSF. The consequence classification is primarily used for communications and disclosure purposes. The TSF consequence classification is formally revisited when the Risk Assessment is updated.

Regardless of the TSF consequence classification, all of FCX's operating TSFs and new TSFs are designed, analyzed, and operated using Extreme loading criteria. Design criteria for Inactive, Closed, and Safely Closed TSFs are informed by the Extreme loading criteria and assigned using the as low as reasonably practicable (ALARP) principle.

A risk assessment compares the outcomes of the risk analysis for existing conditions to determine if risks are within acceptable limits, whether existing risk reduction measures and controls are adequate, and what additional risk reduction measures should be considered (pursuant to the ICMM Tailings Management Good Practice Guide 2021). The risk of each CFM is reviewed following the ALARP principle. In some cases, the ALARP principle may not be satisfied, and further risk reduction measures to reduce the likelihood of occurrence or the potential adverse consequences may be required.

### 1.3.2 Risk Management

Based on learnings from the TSF risk assessment, our expert teams use engineering and operational controls to prevent, minimize, and / or mitigate risks to meet the ALARP principle. These controls include an ongoing focus on quality engineering design, construction, and operating discipline. Controls could include a buttress or other mitigating construction activity (e.g., foundation improvements, stormwater management enhancements). Additionally, part of managing risk is engaging with our host communities and external authorities to maintain a shared state of readiness through robust emergency preparedness and response planning for credible failure scenarios.

The risk assessment steps are repeated until the risk conforms to the ALARP principle and is followed by annual reviews and periodic TSF risk assessment updates.

### 1.3.3 Surveillance and Review

Surveillance and review in our RIDM program include activities as outlined in our Operations Maintenance and Surveillance Manual (OMS). Surveillance involves inspection and monitoring of the operation, structural integrity, and safety of the TSF. It consists of both qualitative and quantitative comparison of actual to expected behavior and its activities are performed by appropriately trained personnel. Review of surveillance information occurs throughout the year for each TSF and is facilitated via internal reporting.

### 1.4 Approach to TSF Safety Performance Reviews

The TMS programs and their results are reviewed and evaluated for effectiveness regularly as part of routine operations and in focused performance reviews.

Internal and external reviews enhance confidence in safe tailings management, helping to confirm each TSF is performing in accordance with the design intent and to support informed decision making.

The following multifaceted review mechanisms are in accordance with the ICMM Tailings Management Good Practice Guide and satisfy the requirements of the Tailings Standard.

- **Annual Performance Review:** Each year, all TMS activities are reviewed to evaluate overall TSF performance and are documented and serve as a record of tailings analyses, design, construction, inspections, and monitoring results from the preceding year with references to supporting documentation. The review summarizes key findings and assesses the cumulative impact of activities and changes to the TSF. The EoR provides an overall conclusion about the performance of each TSF and provides recommendations if deviances from the design intent or good practice are found. Opportunities are identified to improve or optimize TSF performance or other TMS activities. Where material changes have occurred, recommendations are made to update the design basis, performance objectives and monitoring criteria, or other OMS activities as relevant. Actions taken to address recommendations and open recommendations are summarized in the following year's annual performance review.
- **TST Inspection:** This inspection is a review of TSFs and supporting infrastructure with a focus on TSF safety. The TST inspects all TSFs, identifies potentially significant deficiencies, recommends corrective actions, and verifies that recommended actions were completed through acceptable measures. The TST performs annual inspections of all Active and select Inactive or Closed TSFs. Inspections of other Inactive/Closed TSFs occur every one to three years, depending on risk profile, status of ongoing care and maintenance programs, progress towards safe closure, and whether TSFs are in a drained condition.
- **ITRB Review:** The ITRB comprises a group of third-party experts that independently review and assess design, construction, and tailings management practices for the applicable North and South America TSFs. The ITRB holds periodic meetings that are at least every four years and reviews information from significant field investigations and geotechnical and hydrotechnical analyses, progress on recommendations, and otherwise provides input on technical or operational issues. The RTFE and site team work collaboratively with the EoR to develop an action plan to address each recommendation.
- **TMS Implementation Assessment:** This periodic review occurs approximately every four years and is conducted to assess the efficacy of the TMS applied at a site-specific level, including key tasks, roles and responsibilities, and associated governance structure to support proper management and operation for maintaining TSF structural integrity. The RTFE and site team develop actions plans and schedules to incorporate the recommendations.

For disclosure purposes, a material finding for TSF Safety Performance Review means that the finding would result in:

- A significant update to the TSF design and/or design criteria, operations, or monitoring system; and/or
- Activation of the Emergency Preparedness and Response Plan (EPRP).

In addition to review processes with the EoR and independent reviewers, regulatory or permit driven reviews are defined based on site- and TSF- specific factors.

## 2.0 Henderson TSFs

This report presents a summary of the 2022 Annual Performance Review and other pertinent information for the TSF at the Henderson mill. The reporting period is January 1, 2022, to December 31, 2022, unless otherwise noted. This summary provides information per Tailings Standard Requirement 15.1.

### 2.1 Description of the Henderson Mine, Mill and TSF Areas

This section provides a description of the Henderson operations, including general background on the site, history of the mining and milling operations, and details on the TSF.

Development of the Henderson molybdenum ore body began in 1967, with the first ore being produced in 1976. Ore is mined using a block-caving process. Due to topographic limitations at the Henderson mine site, the Henderson mill was developed across the continental divide in the Williams Fork Valley in Colorado. Ore generated at the Henderson mine is crushed underground and transported approximately 15 miles via underground and surface conveyors to the Henderson mill, where processing and tailings storage occurs. The Henderson mill has one TSF, the Henderson Tailings Storage Facility (Henderson TSF), as listed in Table 1. The Henderson mill is owned and operated by the Climax Molybdenum Company (Climax), a wholly owned subsidiary of FCX. Corporate employees of FCX provide technical services and support to Climax, which owns and operates the Henderson TSF.

The Henderson TSF at the Henderson mill consists of a single impoundment formed by two tailings embankments. Tailings are deposited into the Henderson TSF as a slurry, using header and spigot upstream deposition methods. Pumping systems are used to return the supernatant from the TSF back to the mill, via the East Branch Reservoir for reuse in the milling circuit. The fundamental characteristic of the process water system at the mill is that it is a “closed loop system,” meaning that process water is collected and returned to the mill for reuse. Only the amount of fresh water needed to operate the system is diverted into the process water boundary.

The Henderson mill and TSF site is located at an elevation of approximately 9,000 feet. At this elevation, the summers are relatively short, and the winters are usually long and harsh. Precipitation falls as snow in the winter and develops a snowpack that typically peaks in depth just before spring runoff in April. Summer precipitation is influenced by the North America monsoon and is therefore characterized by small to intense thunderstorms. This region of Colorado is characterized by a low to moderate level of seismicity, with a lack of large historical earthquakes. The seismic hazard at the mill site is controlled by the two closest faults (Williams Fork Mountains Fault and Frontal Fault).

The Henderson TSF is located in the Ute Park Basin and is enclosed on three sides by rounded ridges of the Williams Fork Mountains and opens eastward into the Williams Fork Valley. The ridges surrounding the Henderson TSF are formed primarily of biotite gneiss and schist, invaded locally by biotite granite and granite pegmatite. This complex underlies the Henderson TSF site as well, with bedrock estimated to be over 200 feet below ground surface. The Ute Park Basin overburden is sedimentary, filled with alluvial sands and gravels.

Figure 3 shows the general layout of the Henderson mill, which generally includes the mill buildings, East Branch Reservoir, and the Henderson TSF. The Henderson TSF is located northwest of the mill buildings, East Branch Reservoir, and County Road 3.

**Table 1. Henderson TSFs**

Name	Location	Status*	Description
Henderson TSF 1 Dam / 3 Dam	39°51'40.24"N 106°5'55.37"W	Active	Henderson TSF includes two embankments (commonly referred to as 1 Dam / 3 Dam), which were operated independently until the impoundments merged into one facility.

\* See Section 1.1 for description of "Status."



**Figure 3. General Henderson Mill Layout (August 29, 2023).**

## 2.2 Tailings Facility Design

This section presents a summary of the design for the Henderson TSF, including construction means and methods through the TSF lifecycle. The Henderson TSF design is based on assessment of TSF potential risk, site conditions, water management, mine plan operations, social and environmental impact studies, economic feasibility, and geotechnical evaluations. The design and operation of the Henderson TSF is regularly reassessed and updated to reduce risk and increase robustness. The updates are based on informed decisions accomplished through the regularly scheduled enhancements to instrumentation and geotechnical investigation data, regular inspections, instrumentation and operational monitoring, and geotechnical performance evaluations.

TSF designs and analyses are conducted by the site's EoR. Based on available documents, the EoR's company and its predecessors have been involved with supporting the Henderson TSF since the initial design effort in the 1960s.

The Henderson TSF was designed to be constructed using the upstream raise method. The starter dams for the initial TSFs generally were composed of compacted locally available borrow materials. As the TSFs were raised, their impoundments merged into a single impoundment due to the natural geometry of the valley. Operational raises use traditional header and spigot whole tailings upstream deposition. This method of construction has continued throughout the life of the Henderson TSF. The upstream method results in a relatively coarse free-draining sand shell with fine grained tailings deposited into the impoundment.

The initial Henderson TSF design included a downstream slope of 3 horizontal (H) to 1 vertical (V) and an ultimate height of approximately 91 meters. However, as the state of practice in geotechnical engineering has advanced over the years, increasingly detailed investigations and analyses have been completed by the EoR resulting in changes in design criteria and design. The current design is supported by:

- The limited raise rates (rate at which tailings are deposited on embankment crest) support stable performance of the TSF.
- The moderate overall downstream slopes of 4H to 1V (1 Dam) and 7H to 1V (3 Dam) enhance stability of the TSF, which has reached a maximum height of approximately 89 meters.
- The stability of the upstream TSF is dependent on the conservative material behavior assessment of the structural zone and foundation materials and pore pressure characterization of the tailings materials in the structural zone.
- A foundation drainage system promotes downward drainage through the embankment and seepage transport to a seepage collection system below the TSF. Horizontal drains have been installed as needed to supplement the foundation drainage system. Waters reporting to the seepage collection system are pumped into the TSF pond, where they rejoin the process water circuit and are eventually recycled back to the mill.

Henderson operates and maintains a series of groundwater controls, including a containment well system located downstream of the Henderson TSF seepage containment facilities that captures impacted groundwater and returns it to the Henderson TSF. Select design information for the Henderson TSF is included in Table 2.

As described in Section 1, the Henderson TSF is actively monitored for performance and periodically is re-evaluated for stability.

The closure strategy includes the following concepts:

- Climax's general closure concept for the Henderson TSF includes full reclamation of the TSF with a cover system that limits infiltration and a soil matrix that supports vegetation to integrate into the natural local ecosystem.
- The TSF embankment faces will remain at the same downstream slope as the active facilities (varies from 4H:1V to 7H:1V).

- The Probable Maximum Flood will be routed off the TSF with the intent to minimize infiltration on the reclaimed surface. A spillway to convey stormwater off the TSF will be constructed.

**Table 2. Select Design Information for Morenci TSFs as of December 31, 2022**

	<b>Henderson TSF 1 Dam / 3 Dam</b>
<b>Primary Construction Material</b>	<b>Tailings</b>
<b>Construction Method</b>	<b>Upstream</b>
<b>Tailings Embankment Downstream Slope (H:V)</b>	<b>Maximum of 4:1</b>
<b>December 2022 Embankment Height (meters)</b>	<b>89</b>
<b>Stored Tailings (million metric tons)</b>	<b>272</b>
<b>Permitted Capacity (million metric tons)</b>	<b>299</b>
<b>Inflow Design Flood<sup>2</sup></b>	<b>PMF</b>
<b>Safety Evaluation Earthquake</b>	<b>1/10,000-year annual exceedance probability</b>

### 2.3 Risk Assessment, Impact Assessment, and Consequence Classification

This section provides a summary of risk assessment findings for the Henderson TSF, consequence classification, and a summary of impact assessments and human exposure and vulnerability to credible failure scenarios.

In accordance with ICMM and the Tailings Standard, a comprehensive risk assessment for the Henderson TSF was completed in September 2023, which was presented to the ITRB. Our risk assessment process is described in Section 1.3.1.

Using information collected over the life of the Henderson TSF, a multi-disciplinary stakeholder group – including the RTFE, EoR, and other internal stakeholders – led by an expert risk assessment facilitator, initially identified 54 potentially credible failure modes related to the Henderson TSF through a series of semiquantitative risk analysis workshops.

Extensive engineering, monitoring and instrumentation, operational practices, analyses (geotechnical and hydrotechnical), field investigation and laboratory test data were reviewed and utilized to analyze each potentially credible failure mode, understand how the failure may occur, what factors exist that make the potential failure mode more or less likely, and determine which are CFMs. Ultimately, the group determined that there were eight CFMs for the Henderson TSF.

These CFMs were further analyzed to determine the impact of the CFMs and the consequence classification of the TSF. As summarized in Table 3, the Henderson TSF is Consequence Classified as “Significant” based on a slump runout CFM’s potential impacts. See the Appendix for the consequence classification flowchart and matrix as well as the likelihood categorization matrix.

<sup>2</sup> “Probable Maximum Precipitation” (PMP) or “Probable Maximum Flood” (PMF) are terms often used to denote extreme hydrological events. Analyses show that the Henderson TSF’s available capacity exceeds the Extreme external flood design criteria for required capacity as referenced in the Tailings Standard and applicable regulations. The potential impacts of climate change are considered when evaluating robustness of designs.

**Table 3. Credible Failure Scenarios (Modes and Consequences) as of August 2023**

<b>TSF</b>	<b>Credible Failure Scenario</b>	<b>Likelihood</b>	<b>Consequence</b>	<b>Potential Impact</b>
Henderson TSF 1 Dam / 3 Dam	Unidentified weak zone during earthquake causes slope instability and slump runout	Low	Significant	Personnel infrequently at risk
Henderson TSF 3 Dam	Construction activity increases pore pressures causing slump runout	Low	Significant	Personnel infrequently at risk
Henderson TSF 1 Dam / 3 Dam	Piping of material along or into foundation or horizontal drains causes slump runout	Low	Significant	Personnel infrequently at risk
Henderson TSF 1 Dam / 3 Dam	Unidentified weak zone causes slope instability and slump runout	Low	Significant	Personnel infrequently at risk
Henderson TSF 1 Dam / 3 Dam	Tailings delivery line ruptures on the dam, goes unnoticed, and causes erosion	Moderate	Significant	Personnel infrequently at risk
Henderson TSF 1 Dam / 3 Dam	Mismanagement of leadoff deposition results in tailings overtopping the dam crest	Moderate	Low	Onsite infrastructure and economic impacts
Henderson TSF 1 Dam	Earthquake results in slump runout	Moderate	Significant	Personnel infrequently at risk
Henderson TSF 3 Dam	Earthquake results in slump runout	Moderate	Significant	Personnel infrequently at risk

The risk assessment considered whether there are any measures needed to minimize risk to ALARP. The risk of each CFM was evaluated following the ALARP principle. Resulting actions are summarized in Section 2.6.

Potential consequences in the event of a CFM were informed by slump runout models; the assessment of potential human exposure and vulnerability was most recently updated in August 2023. The term “Personnel” used in the table above refers to infrequently present Henderson employees and contractors working on the Henderson TSF.

We aim to update this assessment when there is a material change to the Henderson TSF or an update to the knowledge base, including the social and economic context characterized by the social baseline study.

## 2.4 ERP

The Emergency Response Plan (ERP) was updated in 2023. The update was developed using the CFMs in Table 3 and associated slump runout analyses where applicable. The Henderson TSF has no credible failure modes that could have off-site impacts and therefore does not require an Emergency Preparedness and Response Plan (EPRP) co-developed with local emergency management agencies and the broader community.

The ERP is updated annually and is informed by the Henderson TSF risk assessment, which is updated triennially. Appropriate personnel were trained on the ERP and participated in a tabletop exercise in April 2022.

## 2.5 Dates of Most Recent and Next Independent Reviews

Per Henderson's OMS, its internal site engineers performed routine inspections. The RTFE and multiple levels of internal leadership, as well as the EoR, received monthly early indicator reporting for review. The AE reviewed summaries of the quarterly early indicator reporting.

The EoR conducted six field inspections and data reviews and provided a detailed 2022 annual performance review with input from the RTFE, site engineers, and operators.

In addition, FCX's TST, led by the third-party reviewer, completed an annual inspection and data review of the Henderson TSF in July 2023. For context, the TST began its regular inspections at Henderson in 2005. The next annual inspection is planned for July 2024.

The ITRB for the Henderson TSF is engaged in periodic reviews over the TSF lifecycle. The ITRB for the Henderson TSF initially was engaged in 2014 and has had multiple quadrennial and update review meetings with the site. Specifically, the ITRB for the Henderson TSF completed a quadrennial review in 2022 and two updates in 2023 (February and June). The next ITRB quadrennial review is planned for 2026.

The most recent Tailings Management System Implementation Assessment was completed in 2019, with the next assessment planned for 2024.

## 2.6 Material Findings from TSF Safety Performance Reviews of the Henderson TSF and Mitigations to Reach ALARP

As described in Section 1.4, FCX and its subsidiaries conduct multifaceted reviews of TSF safety. Reviews consider annual performance data, observations, and documentation and provide conclusions on the overall performance of the TSF. Reviews may result in TSF Safety Performance material findings<sup>3</sup> as defined in Section 1.4.

Henderson TSF received no material findings or recommendations during the 2022 review process. Further, there were no activations of the ERP for the Henderson TSF in 2022.

Based on the multifaceted safety reviews, the Henderson TSF continues to meet the design intent and standards of good practice and is performing as expected. Several operational and sustaining projects were ongoing or completed in 2022. Based on the annual performance review, the EoR concluded that the Henderson TSF met the design intent and standards of good practice and is performing as expected.

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<sup>3</sup> The term "material findings" as used in this report, is based on a different definition of materiality than used in U.S. federal securities laws and regulations and other legal regimes. Please refer to Cautionary Statement on Page 20 18 of this report.



The risk of each CFM was reviewed following the ALARP principle. Risk reduction measures were identified and implemented including:

- Henderson is evaluating installation of local seismic monitoring stations to measure response to ground motions and help improve geotechnical and seismic models.
- Henderson has evaluated the response of the TSF to earthquakes larger than the 1/10,000 year mean event and used the results to inform our estimation of likelihood.

The completion of these risk reduction measures has demonstrated that the Henderson TSF meets the ALARP principle and additional planned risk reduction measures are not expected to be required. Although the ALARP principle has been met, there will be periodic Henderson TSF risk assessment updates and annual reviews (as summarized in Section 1.3).

## 2.7 Material Findings of Annual Performance Review of Environmental and Social Monitoring Programs

Social and environmental monitoring programs were completed and reported per the company requirements as well as regulatory requirements. The Henderson TSF falls under the jurisdiction of the Colorado Division of Reclamation, Mining and Safety.

The Social Performance Management System (SPMS) is an internal system designed to drive increased communications and coordination across operations and various other functions of the business to help ensure the actual or potential social impacts of any of our activities are eliminated, managed, or mitigated and performance is continuously improved.

The SPMS monitoring program included community related grievances, ongoing engagement / dialogue / feedback with the community, and a social baseline study to characterize the social and economic conditions of the areas proximate to the Henderson TSF to determine vulnerabilities and human rights issues, particularly those associated with identified CFMs, as well as provide the necessary contextual information to inform future decisions about the TSF for the continued protection of public safety. Further, the SPMS monitoring included identification of social risks associated with the Henderson TSF via a TSF-specific and site risk register processes. There were no material findings<sup>4</sup> from the SPMS monitoring program in 2022.

The Environmental Management System (EMS) includes monitoring and management of water, air quality, soil quality, vegetation, and wildlife, as well as waste generated by Henderson. There were no material findings<sup>5</sup> resulting from the EMS monitoring program, no material environmental changes associated with Henderson TSF, and no material environmental impacts due to events during the year.

## 2.8 Confirmation of Adequate Financial Capacity

As stated in our 2022 [Annual Report on Form 10-K for the year-ended December 31, 2022](#), we have the financial capacity to meet current estimated lifecycle costs, including estimated closure, post-closure and reclamation obligations associated with our TSFs.

<sup>4</sup> As used in this report, a material social performance finding is identified from social performance monitoring and reviews of aspects related to or impacted by TSFs. Material findings may be caused by a material change in the local social, economic or environmental context (including climate) that would reasonably be expected to have a significant effect on the quality of life or stability of the local community or any change in the business / operation (or its assets, liabilities or capital) that would reasonably be expected to have a significant effect on the nature of the operation and / or its positive or negative effect / impact on the local community and / or other project-affected people.

<sup>5</sup> As used in this report, a material environmental finding or material findings resulting from a review of environmental monitoring is information that is identified from environmental monitoring and audits of TSFs that may result in a significant consequence to human health or the environment, have a significant legal component, or have a significant operational impact.

## CAUTIONARY STATEMENT

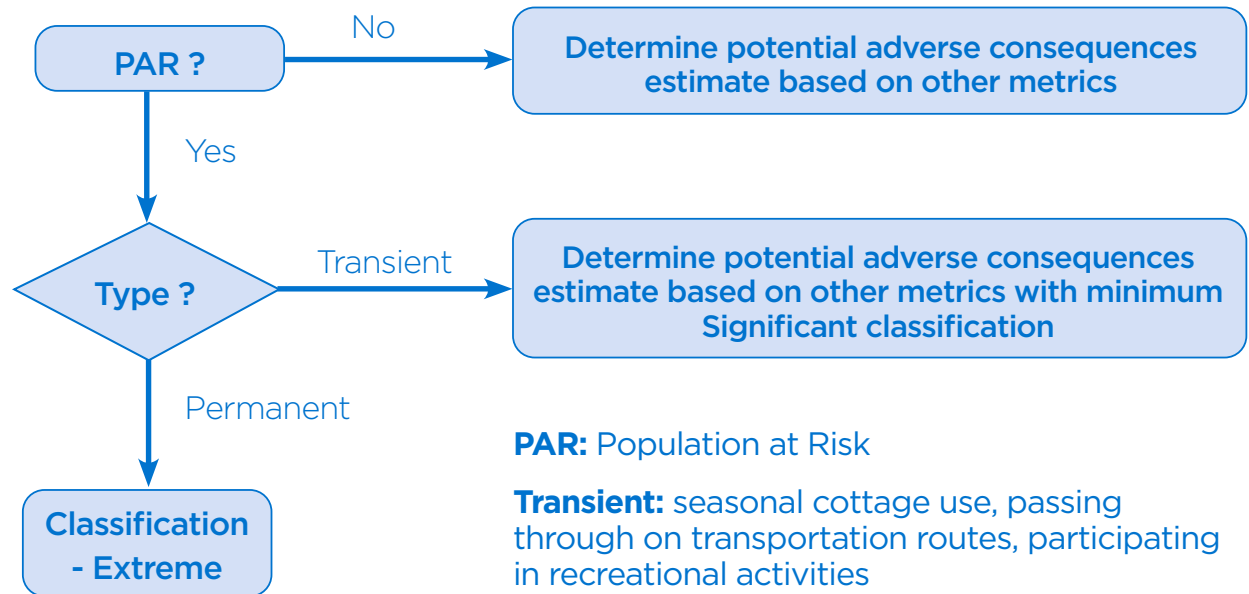
This report contains forward-looking statements in which we discuss potential future TSF-related performance, operations, and projects. Forward-looking statements are all statements other than statements of historical facts, such as plans, projections, expectations, targets, objectives, strategies, or goals relating to TSF-related performance, operations, risks, and projects, and the underlying assumptions and estimated impacts on our business and stakeholders related thereto; future risk mitigation; our continuing commitment to safe and reliable operations; our commitment to operating our TSFs in conformance with the Tailings Standard; the anticipated benefits of the Tailings Standard, including improved tailings management practices across the industry and reduced risks to people and the environment due to TSF failures; our commitment to ensuring our TSFs meet global best practice standards for safety; our tailings management programs, standards and practices, including with respect to engineering, inspection, and surety; closure or divestment of certain operations or TSFs, including associated costs; improvements in operating procedures and technology innovations relating to tailings management; anticipated tailings production; anticipated productive lives of TSFs; post-closure liabilities; regulatory developments; and our commitment to deliver responsibly produced copper and molybdenum, including plans to implement, validate, and maintain validation of our operating sites under specific frameworks. The words “anticipates,” “may,” “can,” “plans,” “believes,” “efforts,” “estimates,” “expects,” “seeks,” “goals,” “strategy,” “objective,” “projects,” “targets,” “intends,” “likely,” “will,” “should,” “could,” “to be,” “potential,” “assumptions,” “guidance,” “forecasts,” “future,” “commitments,” “initiatives,” “opportunities,” and any similar expressions are intended to identify those assertions as forward-looking statements. We caution readers that forward-looking statements are not guarantees of future performance and actual results may differ materially from those anticipated, expected, projected or assumed in the forward-looking statements. Important factors that can cause our actual results to differ materially from those anticipated in the forward-looking statements include, but are not limited to, the factors described under the heading “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the U.S. Securities and Exchange Commission (SEC), as updated by our subsequent filings with the SEC, and available on our website at [fcx.com](http://fcx.com).

Many of the assumptions upon which our forward-looking statements are based are likely to change after the forward-looking statements are made. Further, we may make changes to our business plans that could affect our results. We undertake no obligation to update any forward-looking statements, which speak only as of the date made, notwithstanding any changes in our assumptions, changes in business plans, actual experience, or other changes.

This report contains statements based on hypothetical scenarios and assumptions, and these statements should not be viewed as representative of current risks or forecasts of expected risks. Any third-party scenarios discussed in this report reflect the modeling assumptions and outputs of their respective authors, and their use or inclusion herein is not an endorsement of their underlying assumptions, likelihood, or probability. While certain matters discussed in this report may be significant and relevant to our investors, any significance should not be read as rising to the level of materiality for purposes of complying with the U.S. federal securities laws and regulations or the disclosure requirements of the SEC. The goals and projects described in this report are aspirational; as such, no guarantees or promises are made that these goals and projects will be met or successfully executed.

## Appendix: Consequence of Failure Classification

### Flowchart for Population at Risk (PAR)



**PAR:** Population at Risk

**Transient:** seasonal cottage use, passing through on transportation routes, participating in recreational activities

**Permanent:** household, commercial and/or mine site work offices or facilities

## Other Metrics

Consequence Classification	Incremental Losses		
	Environmental	Health, Social and Cultural	Infrastructure and Economics
Low	Minimal short-term loss or deterioration of habitat or rare and endangered species.	Minimal effects and disruption of business and livelihoods. No measurable effect on human health. No disruption of heritage, recreation, community or cultural assets.	Low economic losses: area contains limited infrastructure or services. <US\$1M.
Significant	No significant loss or deterioration of habitat. Potential contamination of livestock / fauna water supply with no health effects. Process water low potential toxicity. Tailings not potentially acid generating and have low neutral leaching potential. Restoration possible within 1 to 5 years.	Significant disruption of business, service or social dislocation. Low likelihood of loss of regional heritage, recreation, community, or cultural assets. Low likelihood of health effects.	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes.
High	Significant loss or deterioration of critical habitat or rare and endangered species. Potential contamination of livestock / fauna water supply with no health effects. Process water moderately toxic. Low potential for acid rock drainage or metal leaching effects of released tailings. Potential area of impact 10-20km <sup>2</sup> . Restoration possible but difficult and could take > 5 years.	500-1000 people affected by disruption of business, services or social dislocation. Disruption of regional heritage, recreation, community or cultural assets. Potential for short term human health effects.	High economic losses affecting infrastructure, public transportation, commercial facilities or employment. Moderate relocation / compensation to communities. <US\$100M.
Very High	Major loss or deterioration of critical habitat or rare and endangered species. Process water highly toxic. High potential for acid rock drainage or metal leaching effects from released tailings. Potential area of impact >20km <sup>2</sup> . Restoration or compensation possible but difficult and requires a long time (5-20 years).	1000 people affected by disruption of business, services, or social dislocation for more than one year. Significant loss of national heritage, community, or cultural assets. Potential for significant long-term human health effects.	Very high economic losses affecting important infrastructure or services (e.g. highway, industrial facility, storage facilities for dangerous substances) or employment. High relocation / compensation to communities. <US\$1B.
Extreme	Catastrophic loss of critical habitat or rare and endangered species. Process water highly toxic. Very high potential for acid rock drainage or metal leaching effects from released tailings. Potential area of impact >20km <sup>2</sup> . Restoration or compensation in kind impossible or requires a long time (>20 years).	5000 people affected by disruption of business, services or social dislocation for years. Significant national heritage or community facilities or cultural assets destroyed. Potential for severe and/or long-term human health effects.	Extreme economic losses affecting critical infrastructure or services (e.g. hospital, major industrial complex, major storage facilities for dangerous substances) or employment. Very high relocation / compensation to communities and very high social readjustment costs >US\$1B.

## Likelihood Categorization

Failure Likelihood Categories	
Likelihood	Description
Very High	There is direct evidence or substantial indirect evidence to suggest it has initiated or is likely to occur in the near future. The annual failure likelihood is more frequent than 1/1,000.
High	The fundamental condition or defect is known to exist; indirect evidence suggests it is plausible; and key evidence is weighted more heavily toward more likely than less likely. The annual failure likelihood is between 1/1,000 and 1/10,000.
Moderate	The fundamental condition of defect is known to exist; indirect evidence suggests it is plausible; and key evidence is weighted more heavily toward less likely than more likely. The annual failure likelihood is between 1/10,000 and 1/100,000.
Low	The possibility cannot be ruled out, but there is no compelling evidence to suggest it has occurred or that a condition or flaw exists that could lead to initiation. The annual failure likelihood is between 1/100,000 and 1/1,000,000.
Remote	Several events must occur concurrently or in series to cause failure, and most, if not all, have negligible likelihood such that failure likelihood is negligible. The annual failure likelihood is more remote than 1/1,000,000

US Army Corps of Engineers and US Bureau of Reclamation (USACE/USBR). 2019. Best Practices in Dam and Levee Safety Risk Analysis. Version 4.0, July

## ANNEX 1: Acronym Definitions

<b>AE</b>	<b>Accountable Executive</b>
<b>ALARP</b>	<b>As Low As Reasonably Practicable</b>
<b>CDA</b>	<b>Canadian Dam Association</b>
<b>CFM</b>	<b>Credible Failure Mode</b>
<b>EOR</b>	<b>Engineer of Record</b>
<b>EMS</b>	<b>Environmental Management System</b>
<b>EPRP</b>	<b>Emergency Preparedness and Response Plan</b>
<b>ERP</b>	<b>Emergency Response Plan</b>
<b>FCX</b>	<b>Freeport-McMoRan Inc.</b>
<b>GISTM</b>	<b>Global Industry Standard on Tailings Management</b>
<b>ICMM</b>	<b>International Council on Mining and Metals</b>
<b>ITRB</b>	<b>Independent Tailings Review Board</b>
<b>OMS</b>	<b>Operations, Maintenance and Surveillance</b>
<b>RIDM</b>	<b>Risk Informed Decision Making</b>
<b>RTFE</b>	<b>Responsible Tailings Facility Engineer</b>
<b>SPMS</b>	<b>Social Performance Management System</b>
<b>TMS</b>	<b>Tailings Management System</b>
<b>TMSIA</b>	<b>Tailings Management System Implementation Assessment</b>
<b>TSF</b>	<b>Tailings Storage Facility</b>
<b>TST</b>	<b>Tailings Stewardship Team</b>

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