



<b>1. "Tailings Dam" Name/identifier</b>	Copper Mountain Mine Tailings Management Facility (TMF) (East Dam and West Dam)
<b>2. Location</b>	Lat. 49° 19', Long. 120° 32',
<b>3. Ownership</b>	Copper Mountain Mine (BC) Ltd.
<b>4. Status</b>	Operating (Production rate ~45,000 tpd)
<b>5. Date of initial operation</b>	Open pit mining and use of the TMF commenced in 1972. The mine continued to operate until November 1996 at which time operations were suspended due to unfavourable market conditions. The mine and the TMF remained inactive until the mine was reactivated in 2011, and has continued to operate since.
<b>6. Is the Dam currently operated or closed as per currently approved design?</b>	Yes
<b>7. Raising method</b>	<p>The TMF incorporates two tailings dams located at the east and west ends of the valley. After the earthfill starter dams were completed, the dams were constructed using the centerline method of construction, with the cyclone tailings sands and talus materials mechanically placed and compacted downstream of centerline. From 1980 to 1996, the dams were raised using both centerline and upstream construction methods with the cyclone sand being placed by direct deposition (spigotting) without compaction. The reactivation of the TMF continues this deposition style using a modified centerline construction methodology from 2011 to the present.</p> <p>The TMF design incorporates three primary risk control elements:</p> <ol style="list-style-type: none"> <li>1. Drained dam condition (and low phreatic surface) promoted by pond management, wide above-water beaches, and cyclone sand shell and underdrainage (i.e., permeable fill and foundation zones).</li> <li>2. Stability provided by the cyclone sand shell (configuration and material properties) and natural bedrock confinement narrowing towards toes of both dams).</li> <li>3. Surveillance (i.e., construction quality assurance, visual observation, and instrumentation monitoring) that assures the dam is constructed and performs in accordance with the design intent.</li> </ol>
<b>8. Current Maximum Height</b>	Approximately 160 m measured vertically from toe to crest
<b>9. Current Tailings Storage Impoundment Volume</b>	~200 million m <sup>3</sup> (estimate only, due to uncertainty in historic topography and production records)
<b>10. Planned Tailings Storage Impoundment Volume in 5 years time.</b>	~250 million m <sup>3</sup> (estimate only, due to uncertainty in historic topography and production records)

<b>11. Most recent Independent Expert Review</b>	A third-party Dam Safety Review (DSR) was completed in 2016. As regulated in British Columbia, another DSR is in progress in 2021 (required every 5 years) by a new third-party engineer to ensure independence from the previous DSR. Independent Tailings Review Board meets 1-2 times per year since 2015. External Consultant (Engineer of Record) performs annual Dam Safety Inspections.
<b>12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.</b>	Full and complete records available for reactivated TMF (2011 onwards). Historic records have gaps in early construction as-built information (1970s).
<b>13. What is your hazard categorisation of this facility, based on consequence of failure?</b>	Extreme
<b>14. What guideline do you follow for the classification system?</b>	2007 Canadian Dam Association Dam Safety Guidelines (revised 2013).
<b>15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).</b>	No, the TMF has well documented good performance for the nearly 50 years of operations since 1972.
<b>16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?</b>	Internal: Tailings Qualified Person is a registered Professional Engineer. External: Engineer of Record is a registered Professional Engineer.
<b>17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?</b>	Yes, Dam Breach Inundation Study Updated in 2018 for currently permitted ultimate configuration.
<b>18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?</b>	a) Yes, there is a solid closure concept in place based on achieving a dry landmass as previously achieved during an extended shutdown period. The fully detailed engineered closure plan will be finalized closer to closure. b) Yes, there is a long term plan to monitor the facility following closure.
<b>19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?</b>	Yes, Inflow Design Flood is the Probable Maximum Flood which is not anticipated to increase in magnitude due to climate change during the next 10 years of permitted operations. Closure plan includes a dry surface and considers impacts of climate change with up to a 20% increase in storm event magnitude by year 2100 in line with standard practice.
<b>20. Any other relevant information and supporting documentation.</b>  Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.	CMML is a member of the Mining Association of Canada (MAC) and subscribes to MAC's Towards Sustainable Mining Initiative with a "AA" Rating on the TSM Tailings Protocol confirmed by an external auditor.