

## Introduction

*Centamin is committed to the highest standard of responsible tailings management and ensures that all necessary resources are available to meet this commitment.*

*There is currently one active downstream tailings storage facility (“TSF 1”) at our Egypt operation, Sukari Gold Mine with a second downstream facility (TSF 2) currently under construction and due to be completed in the second half of 2020. The latest independent reviews confirmed the integrity of TSF 1 and the design of TSF 2 and identified further measures that are to be implemented to improve the management of the current operational facility. These measures are summarised in the report below.*

*In particular, the review recommended reducing the water levels which can be managed given the arid environment where the TSF 1 is located and evaporation and re-use of the surface water through the plant. Three evaporation ponds and a Process water pond have been constructed to assist in reducing the water levels.*

*Set out in Annex 2 is the prescribed information table communicated to all mining companies at the request of the Church of England Pensions Board and the Swedish Council on Ethics who represent a significant number of institutional investors.*

**Martin Horgan, CEO**

## Tailings Management

Centamin has one active downstream TSF, (“TSF 1”) and no closed tailings facilities. Sukari Gold Mine has daily, weekly and monthly monitoring of the TSF 1. TSF 1 is also inspected and monitored regularly by specialist consultants Knight Piesold and P.L. Steenkamp Pr. Eng<sup>1</sup>. The last independent inspection was carried out in November 2019.

Monitoring processes are in place to verify the safety of TSF 1 and these include:

- Embankment Stability monitoring with the use of piezometers, wall movement monitoring including survey prisms and wall deformation surveys
- Groundwater monitoring water level and (TDS)Total Dissolved Solids content and environmental assessments
- Operational walkaround and observations by HSE/TSF staff
- Regular technical site based internal reviews
- Regular external technical reports fed back to site and group management with reviews and from 2019, enhanced reporting to the HSES committee of the Board of Centamin plc

Centamin has no history of tailings failures. The Sukari Mine has a well-developed emergency action plan in the event of any potential breach. The plan is communicated to all employees and contractors and emergency drills are held regularly. The emergency response plan is also reviewed internally at least annually.

Based on the ANCOLD principles, an assessment of the Population at Risk has been undertaken. The scenario modelling assessed the exposure to the camp and related employee facilities which resulted in the design and construction of a waste rock buttress to mitigate the consequences in the unlikely event of a catastrophic dam failure. The nearest external community to the Sukari Gold Mine, Marsa Alam, is located approximately 35 kilometres away from TSF 1 (following the natural path of the wadi).

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<sup>1</sup> Knight Piesold prepared the initial design and construction of TSF 1 in 2008 and have most recently provided technical assessments of TSF 1, with supporting recommendations in 2019. Knight Piesold have been appointed to design and construct TSF 2. P.L. Steenkamp Pr. Eng. provided external and independent assessments of TSF 1 from 2015 to date and will continue to provide independent technical assessments of TSF 1 and, when required, TSF

The community is potentially within reach, given a worst-case dam breach scenario modelled under certain conditions, and which was mitigated with the construction of a waste rock buttress downstream.

During 2020, Centamin commenced construction on an additional downstream TSF, as part of the long-term strategy and mine plan. The new TSF (TSF 2) design was independently verified by a Principal Engineer, and this and all future TSFs Centamin build will be in compliance with best practice guidelines.

## **Environment**

The Sukari Gold Mine does not discharge any process water back into the environment. Any water that remains after processing is stored at TSF 1 and pumped back to the process plant for reuse as required, or is lost through evaporation. To maximise water recycling at Sukari Gold Mine a number of closed loop cycles are used throughout the process plant, as well as in the onsite sewage treatment plant and tailings are thickened prior to disposal at the TSF 1.

TSF 1 is lined to reduce the impact of any seepage or contamination of soil and groundwater. It is regularly reviewed according to regulatory and internal requirements, and water samples taken from adjacent wells and boreholes to monitor for seepage. In response to the recommendations from Knight Piesold, further boreholes were drilled at key points surrounding the dam, to further improve monitoring of water levels.

**The information presented in on this report is true to the best of the Centamin directors' knowledge and understand as at the date of this report and based on the governance, technical and internal review systems**

**Annex 2: Disclosure requirements**

Overview question from the Church of England Pensions Board and the Swedish Council on Ethics:

Please:

- a) Provide an overview of your tailings management system and how you manage risk.
- b) Confirm whether your approach to tailings management has changed or will change in light of the recent tailings disasters at Brumadinho, Mariana, Mt Polley and others. Have you, for example, reviewed all tailings storage facilities with upstream dam construction and taken steps necessary to protect local communities and the environment e.g. buttressing, evacuations?

Question	Notes	Answer
<b>1. "Tailings Facility" Name/identifier</b>	Please identify every <b>tailings storage facility</b> and identify if there are multiple dams (saddle or secondary dams) within that facility. Please provide details of these within question 20.	Sukari Tailings Storage Facility (TSF 1).
<b>2. Location</b>	Please provide Long/Lat coordinates	Sukari Mine site, Egypt. 24° 57' 40'' N 34° 41' 56'' E 23km (straight line) west of Marsa Alam.
<b>3. Ownership</b>	Please specify: Owned and Operated, Subsidiary, JV, NOJV, as of March 2019.	TSF 1 is operated by SGM. SGM is wholly consolidated within the Centamin Group.
<b>4. Status</b>	Please specify: Active, Inactive/Care and Maintenance, Closed etc.  We take closed to mean: a closure plan was developed and approved by the relevant local government agency and key stakeholders were involved in its development; a closed facility means the noted approved closure plan was fully implemented or the closure plan is in the process of being implemented. A facility that is inactive or under C&M is not considered closed until such time a closure plan has been implemented.	Active.
<b>5. Date of initial operation</b>	(date)	2010.
<b>6. Is the Dam currently operated or closed as per currently approved design?</b>	Yes/No. If 'No', more information can be provided in the answer to question 20.	Operated, and Open and constructed per original designs. All subsequent uplifts of the Dam were envisaged per the original design and engineered subsequently.
<b>7. Raising method</b>	Note: Upstream, Centreline, Modified Centreline, Downstream, Landform, Other.	Downstream
<b>8. Current Maximum Height</b>	Note: Please disclose in metres.	58m.

<b>9. Current Tailings Storage Impoundment Volume</b>	Note: (m <sup>3</sup> as of March 2019)	65million M <sup>3</sup> .
<b>10. Planned Tailings Storage Impoundment Volume in 5 years time</b>	(m <sup>3</sup> as planned for January 2024)	≈74 million M <sup>3</sup> .
<b>11. Most recent Independent Expert Review</b>	(date) For this question we take 'independent' to mean a suitably qualified individual or team, external to the Operation, that does direct the design or construction work for that facility.	November2019 by Knight Piesold and P.L. Steenkamp Pr. Eng <sup>(1)</sup> .
<b>12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure?</b>	(Yes or No) We take the word 'relevant' here to mean that you have all necessary documents to make an informed and substantiated decision on the safety of the dam, be it an old facility, or an acquisition, or legacy site. More information can be provide in your answer to Q20.	Yes.
<b>13. What is your hazard categorisation of this facility, based on the consequence of failure?</b>		Level 5/High (Per the internal risk assessment standards).
<b>14. What guideline do you follow for the classification system?</b>		Australian National Committee on Large Dams (ANCOLD)
<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>	<p>(Yes or No) We note that this will depend on factors including local legislation that are not necessarily tied to best practice. As such and because remedial action may have been taken, a 'Yes' answer may not indicate heightened risk.</p> <p>Stability concerns might include toe seepage, dam movement, overtopping, spillway failure, piping etc. If yes, have appropriately designed ad reviewed mitigation actions been implements?</p> <p>We also note that this that this question does not bear upon the appropriateness of the criteria, but rather the stewardship levels of the facility or the dam. Additional comments/information may be supplied in your answer to Q20.</p>	<p>No.</p> <p>Note: Recommendations to improve the safety and structural integrity of TSF 1 are actively monitored and where necessary actioned.</p>
<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>	Note: Answers may be 'Both'.	Both. From 2019 onwards we have independent external engineers.

<p><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></p>	<p>Note: Please answer 'yes' or 'no' and if 'yes', please provide a date.</p>	<p>Yes. From inception in 2009 with the latest report published in July 2019</p>
<p><b>18. Is there a) a closure plan in place for this dam and b) does it include long term monitoring?</b></p>	<p>Please answer both parts of this question (e.g. Yes and Yes).</p>	<p>a) Yes. See rehabilitation planning in the Sustainability Report <a href="#">[link]</a> b) Yes.</p>
<p><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></p>	<p>(Yes or No)</p>	<p>Yes, this is done annually</p>
<p><b>20. Any other relevant information and supporting documentation.</b></p> <p><b>Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.</b></p>	<p>Note: this may include links to annual report disclosures, further information in the public domain, guidelines or reports etc.</p>	<p>TSF 1 is the only TSF managed within the Centamin Group of companies and the Company has no other exposure in this area. Details of TSF 1 can be found in the Company's annual report <a href="#">[link]</a> and Sustainability report <a href="#">[link]</a></p>