Overview

Lundin Mining employs a comprehensive approach to tailings management. This provides us with confidence that potential environmental and social impacts can be reliably identified and minimized.

Efficient mining and mineral processing, along with disposal underground where practicable, allow our operations to minimize the quantities of tailings stored on surface. Our operations aim to minimize associated risk with a clear understanding of the tailings characteristics, the facility construction materials, and the final settings in which they are placed.

Lundin Mining’s Tailings Facilities

Lundin Mining operates five mines with six active tailings facilities and uses two widely accepted methods of tailings disposal:

(1) underground disposal involves mixing tailings with products, such as sand or cement, followed by disposal as a paste backfill or hydraulic backfill in previously mined areas of underground mines; and

(2) surface disposal involves placement in engineered surface impoundments or, in the case of Eagle, in a previously mined open pit.

Of the five Lundin Mining operations, Eagle Mine is the only operation that does not have a constructed tailings impoundment with dams.

The six active tailings facilities use various construction techniques for the main and secondary or perimeter dams, but none use upstream construction. Lundin Mining also maintains and monitors five inactive tailings facilities, one of which is a rockfill combination centreline and downstream design followed by rockfill upstream raises and buttresses (Enemossen tailings facility at Zinkgruvan).

All tailings facilities are operated or closed as per the currently approved design except for the San Esteban tailings facility which is undergoing final closure construction works scheduled for completion in 2019.

Full and complete engineering records including design, construction, operation, maintenance and/or closure exist for all tailings facilities except for the inactive and closed San Esteban and Ojos del Salado facilities at Candelaria. San Esteban has an updated detailed design closure plan and the three Ojos del Salado tailings facilities are legacy sites that ceased operations in the 1960s. The Ojos del Salado tailings facilities were fully closed in 2012 as per an approved engineered closure plan.

A full list of tailings facilities that Lundin Mining manages, including information on construction method, maximum dam height and volume, can be found in the table on pages 4 and 5.

Tailings Management at Lundin Mining

Surface tailings impoundments can represent one of the more significant environmental risks for the mining industry. Lundin Mining takes considerable care to ensure our tailings facilities are well-designed, built in accordance with leading industry practices and standards, well-maintained, inspected, independently reviewed, and carefully monitored.

Policies and Standards

Lundin Mining’s Responsible Mining Policy includes a specific tailings management technical standard. All Lundin Mining’s operations manage their tailings in accordance with this technical standard, developed in 2015, and currently under update.
This technical standard requires that all tailings facilities, including major water retention dams, are planned, designed, constructed, operated, and, in the case of inactive or closed facilities, decommissioned and closed in such a manner that:

- All structures are stable; and
- All aspects comply with regulatory requirements and conform to Company standards, accepted international practice and any commitments to local stakeholders.

Monitoring and Surveillance

A requirement of the Tailings Management Technical Standard is for all sites to conduct regular geotechnical, hydrogeological and environmental monitoring to meet regulatory requirements and prevent the uncontrolled release of tailings and/or water to the environment.

All sites employ monitoring and surveillance systems which may include surface prisms, piezometers, inclinometers, remote sensing and other technologies to monitor tailings dams and water levels. Trigger action response plans (TARPs) provide clear guidance on how to respond to pre-determined trigger levels for surveillance activities.

All active tailings facilities have a closure plan which includes long-term monitoring requirements. The monitoring plan for the San Esteban and Ojos del Salado tailings facilities is under development and will be implemented by the end of 2019.

Responsible Person

Sites are required to identify a Responsible Person (RP) to ensure ownership and proper management of the tailings facility. The RP guarantees procedures for each facility, including an Operating, Maintenance, and Surveillance (OMS) Manual and Emergency Preparedness and Response Plan, are regularly documented and made available to site personnel.

The RP is an appropriately qualified, experienced and site-dedicated individual employed directly by the site. This person typically has an environmental or engineering background.

Staff Inspections

Tailings dams are regularly inspected by trained operators and technical staff, sometimes as frequently as several times daily, with formal documented staff inspections at least quarterly.

Engineer of Record

Each active and inactive tailings facility has an appropriately qualified, licensed and experienced third-party geotechnical engineer to act as an external Engineer of Record or Design Engineer in the relative jurisdiction.

Dam Safety Inspections

Formal dam safety inspections are conducted at least annually by the external Engineer of Record, and reports are issued to the Responsible Person for action on recommendations.

Risk Assessment

Tailings and water dam safety focused risk assessments are reviewed and updated at least annually and include input from site and corporate staff, the Engineer of Record and independent reviewers.

Independent Reviews

A component of the Tailings Management Technical Standard is the requirement for regular independent third-party tailings reviews, which are recognized as a leading practice for effective tailings and water dam stewardship. The reviews are focused on impoundment stability and integrity.
Independent Third-Party Tailings Reviews

- Requires annual reviews by independent qualified engineering specialists for all active and inactive facilities.
- Reviews are to provide an expert, independent opinion as to whether the tailings facility design and performance meet accepted international practice from a geotechnical and hydrogeological perspective.
- Includes all tailings facilities and water retention structures at each site.
- Program performance is reported quarterly to the Board-appointed HSEC Committee.

In 2018, independent third-party tailings reviews were completed at all Lundin Mining operations with qualifying dam structures (according to the definition provided in the Canadian Dam Association’s dam safety guidelines). No critical dam safety issues were identified during the third-party reviews.

Results from the third-party reviews are carefully tracked, and progress updates are sent to the Board-appointed HSEC Committee each quarter.

Continuous Improvement

Continuous improvement initiatives planned between over the next two to three years include the following:

- Mining Association of Canada (MAC) Towards Sustainable Mining (TSM) tailings management protocol gap analyses;
- Tailings management technical standard and governance framework update;
- Governance assurance reviews;
- Training modules;
- Tailings dewatering evaluation studies; and
- Smart tailings dam monitoring systems including satellite-based radar (InSAR).

/s/ Marie Inkster

Marie Inkster
President, CEO and Director
## Lundin Mining Tailings Facility Inventory

<table>
<thead>
<tr>
<th>Mine Site</th>
<th>Tailings Facility</th>
<th>Current Number of Tailings Dam Structures</th>
<th>Location</th>
<th>Ownership</th>
<th>Status</th>
<th>Date of Initial Operation</th>
<th>Construction Method</th>
<th>Current Max Dam Height (March 2019)</th>
<th>Current Tailings Storage Volume (March 2019)</th>
<th>Planned Tailings Storage Volume In 3 Years (January 2024)</th>
<th>Most Recent Independent Expert Review</th>
<th>Most Recent Dam Breach Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candelaria</td>
<td>Candelaria Tailings Facility</td>
<td>One main dam and three perimeter dams</td>
<td>Latitude: 27°30'21.36&quot;S, Longitude: 70°19'41.96&quot;W</td>
<td>Owned (80%) and Operated</td>
<td>Active (2)</td>
<td>2019 to Present</td>
<td>Downstream</td>
<td>170 m</td>
<td>310 Mm³</td>
<td>315 Mm³</td>
<td>November 2018</td>
<td>February 2017</td>
</tr>
<tr>
<td></td>
<td>Los Diques Tailings Facility</td>
<td>One main dam and one perimeter dam</td>
<td>Latitude: 27°32'13.74&quot;S, Longitude: 70°17'59.38&quot;W</td>
<td>Owned (80%) and Operated</td>
<td>Active (2)</td>
<td>2018 to Present</td>
<td>Downstream</td>
<td>80 to 90 m</td>
<td>8 Mm³</td>
<td>80 Mm³</td>
<td>November 2018</td>
<td>December 2014</td>
</tr>
<tr>
<td></td>
<td>San Esteban Tailings Facility</td>
<td>One main dam and one secondary dam</td>
<td>Latitude: 27°29'11.71&quot;S, Longitude: 70°17'29.07&quot;W</td>
<td>Owned and Operated</td>
<td>Inactive - undergoing closure works construction</td>
<td>2006 to 2010</td>
<td>Centerline</td>
<td>45 m</td>
<td>2.1 Mm³</td>
<td>Same as current</td>
<td>November 2018</td>
<td>Analysis planned for 2020</td>
</tr>
<tr>
<td></td>
<td>Ojos del Salado Tailings Facility - North</td>
<td>Two rehabilitated legacy dams</td>
<td>Latitude: 27°29'25.10&quot;S, Longitude: 70°15'41.26&quot;W</td>
<td>Owned and Operated</td>
<td>Closed (3)</td>
<td>Operated until the 1960s and closed in 2012</td>
<td>Centerline</td>
<td>22 m</td>
<td>less than 1 Mm³</td>
<td>Same as current</td>
<td>November 2018</td>
<td>Analysis planned for 2020</td>
</tr>
<tr>
<td></td>
<td>Ojos del Salado Tailings Facility - Central</td>
<td>One rehabilitated legacy dam</td>
<td>Latitude: 27°29'40.43&quot;S, Longitude: 70°15'36.44&quot;W</td>
<td>Owned and Operated</td>
<td>Closed (3)</td>
<td>Operated until the 1960s and closed in 2012</td>
<td>Centerline</td>
<td>20 m</td>
<td>less than 1 Mm³</td>
<td>Same as current</td>
<td>November 2018</td>
<td>Analysis planned for 2020</td>
</tr>
<tr>
<td></td>
<td>Ojos del Salado Tailings Facility - South</td>
<td>Three rehabilitated legacy dams</td>
<td>Latitude: 27°29'45.59&quot;S, Longitude: 70°15'36.44&quot;W</td>
<td>Owned and Operated</td>
<td>Closed (3)</td>
<td>Operated until the 1960s and closed in 2012</td>
<td>Centerline</td>
<td>34 m</td>
<td>less than 1 Mm³</td>
<td>Same as current</td>
<td>November 2018</td>
<td>Analysis planned for 2020</td>
</tr>
<tr>
<td>Chapada</td>
<td>Chapada Tailings Facility</td>
<td>One main dam and two perimeter dams</td>
<td>Latitude: 14°13’14.18”S, Long 49°24’13.37”W</td>
<td>Owned and Operated</td>
<td>Active</td>
<td>2007 to Present</td>
<td>Centerline</td>
<td>47.5 m</td>
<td>185 Mm³</td>
<td>270 Mm³</td>
<td>November 2018</td>
<td>May 2019 with update planned in 2019</td>
</tr>
<tr>
<td>Neves-Corvo</td>
<td>Cerro do Lobo Tailings Facility</td>
<td>One main dam, seven perimeter dams, and four internal berms</td>
<td>Latitude: 37°33'36.99&quot;S, Longitude: 49°24'13.37&quot;W</td>
<td>Owned and Operated</td>
<td>Active</td>
<td>1988 to Present</td>
<td>Downstream (4)</td>
<td>42 m</td>
<td>31 Mm³</td>
<td>39.5 Mm³</td>
<td>June 2018</td>
<td>August 2008 with draft update completed in May 2019</td>
</tr>
<tr>
<td>Zinkgruvit</td>
<td>Enernosco East Tailings Facility</td>
<td>Two main dams</td>
<td>Latitude: 58°46'38.28&quot;N, Longitude: 15°58'24.23&quot;E</td>
<td>Owned and Operated</td>
<td>Active</td>
<td>2017 to Present</td>
<td>Centerline</td>
<td>8 m</td>
<td>less than 1 Mm³</td>
<td>5 Mm³</td>
<td>June 2019</td>
<td>2015 with draft update completed in June 2019</td>
</tr>
<tr>
<td></td>
<td>Enernosco Tailings Facility</td>
<td>Two main dams and six perimeter dams</td>
<td>Latitude: 58°46'41.76&quot;N, Longitude: 15°58'48.58&quot;E</td>
<td>Owned and Operated</td>
<td>Inactive (3)</td>
<td>1977 to 2017</td>
<td>Centerline &amp; Downstream / Upstream (3)</td>
<td>35 m</td>
<td>12 Mm³</td>
<td>12 to 13 Mm³</td>
<td>June 2019</td>
<td>March 2016</td>
</tr>
<tr>
<td></td>
<td>Humboldt Tailings Facility</td>
<td>Zero dams, tailings stored sub-aqueously in an old open pit</td>
<td>Latitude: 46°29'26.57&quot;N, Longitude: 67°14'49.70&quot;W</td>
<td>Owned and Operated</td>
<td>Active</td>
<td>2014 to Present</td>
<td>N/A</td>
<td>N/A</td>
<td>1 to 2 Mm³</td>
<td>3 Mm³</td>
<td>January 2019</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Notes:
1. Candelaria tailings facility will become inactive in 2019 with all tailings reporting to the Los Diques tailings facility
2. Active deposition occurs periodically to assist in the establishment of final cover surfaces
3. Includes internal upstream thickened tailings discharge rockfill berms
4. Rockfill combination centerline and downstream design followed by rockfill upstream raises and buttresses

As of July 5, 2019
<table>
<thead>
<tr>
<th>Mine Site</th>
<th>Tailings Facility</th>
<th>Consequence Classification</th>
<th>Classification System</th>
<th>Extreme Design Flood Event</th>
<th>Past Incidents of Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candelaria</td>
<td>Tailings Facility</td>
<td>Class C</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility is designed to store the Probable Maximum Precipitation (PMP) flood event</td>
<td></td>
</tr>
<tr>
<td>Los Diques</td>
<td>Tailings Facility</td>
<td>Class C</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility is designed to store the PMP flood event</td>
<td></td>
</tr>
<tr>
<td>San Esteban</td>
<td>Tailings Facility</td>
<td>To be classified</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility to be closed with a dry cover - undergoing closure works construction</td>
<td></td>
</tr>
<tr>
<td>Opa del Salado</td>
<td>Tailings Facility</td>
<td>To be classified</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility closed with a dry cover</td>
<td></td>
</tr>
<tr>
<td>Opa del Salado</td>
<td>Tailings Facility</td>
<td>To be classified</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility closed with a dry cover</td>
<td></td>
</tr>
<tr>
<td>Opa del Salado</td>
<td>Tailings Facility</td>
<td>To be classified</td>
<td>Chile: SERNAGEOMIN DS 246/2007 and DGA Decreto 50 (2015)</td>
<td>Facility closed with a dry cover</td>
<td></td>
</tr>
<tr>
<td>Chapada</td>
<td>Tailings Facility</td>
<td>Class B</td>
<td>Brazil: Tailings Dam Classification System - Departamento Nacional de Produção Mineral (DNPM) Portaria No 70.389 (May 17, 2017)</td>
<td>Emergency spillway is designed to pass the 1/10,000 year flood event</td>
<td>In 2002, erosion and internal drainage issues were identified. Mitigation measures were applied and the problem was permanently fixed.</td>
</tr>
<tr>
<td>Neves-Corvo</td>
<td>Tailings Facility</td>
<td>Class I</td>
<td>Portugal: Decreto Lei no. 344/2007, amended by Decreto Lei nº. 21/2018, which establishes the Regulamento de Segurança de Descargas (RSD)</td>
<td>Emergency spillway is designed to pass the 1/10,000 year flood event</td>
<td></td>
</tr>
<tr>
<td>Enemossen East</td>
<td>Tailings Facility</td>
<td>GruvRIDAS Dam Class 1 and DSK Dam Class B</td>
<td>Sweden: GruvRIDAS Dam Class (2012) and Environmental Code Dam Safety Class &quot;Gammasksäkerhetsklass&quot; (DSK) (2016)</td>
<td>Emergency spillway is designed to pass the PMP flood event</td>
<td>Between 1977 and 2016, a total of 13 incidents were reported on the two main tailings dams which required action.foCes included localized failures, crest settlement and the formation of localized sinkholes on the downstream shell of the two main dams. All have since been successfully repaired. In addition, dewatering wells and pumps were installed on the two main dams to maintain a depressed phreatic surface and low seepage gradients, and the supernatant water surface was pushed away from dam crests by tailings beaches. Since 2016 there have been no incidents and no fatal flaws were identified in an independent review at Zinkgruvan completed in 2015 or subsequent reviews. The Enemossen tailings facility is now inactive having been replaced by Enemossen East in 2017. Enemossen East will buttress one of the Enemossen main tailings dams.</td>
</tr>
<tr>
<td>Zinkgruvan</td>
<td>Tailings Facility</td>
<td>GruvRIDAS Dam Class 1 and DSK Dam Class B</td>
<td>Sweden: GruvRIDAS Dam Class (2012) and Environmental Code Dam Safety Class &quot;Gammasksäkerhetsklass&quot; (DSK) (2016)</td>
<td>Emergency spillway is designed to pass the 1/10,000 year flood event</td>
<td></td>
</tr>
<tr>
<td>Eagle</td>
<td>Tailings Facility</td>
<td>N/A</td>
<td>N/A</td>
<td>Facility is designed to store the snowmelt PMP flood event</td>
<td></td>
</tr>
</tbody>
</table>