

## QIT MINERALS MADAGASCAR (QMM) ILMENITE MINE ANOSY MADAGACAR



*Collecting drinking water from flooded area, after two QMM tailings dam failures in 2022*

The Rio Tinto QMM mine in southern Madagascar is extracting ilmenite, which yields titanium dioxide, an ultra-white pigment used for paints, papers, cosmetics, and other products. The mine also extracts monazite and zircon, both of which contain the radionuclides uranium and thorium. Extraction began at the Mandena site in 2009 with a projected project lifespan of 40 years and removal of 6000 hectares of littoral forest in one of the most environmentally sensitive areas of the island where over 80% of the population are rural producers living in multidimensional poverty. QMM is a joint venture between Rio Tinto (80%) and the Malagasy Government (20%).

### Impact on People and the Environment: Mine Tailings and Water Management

QMM exceeded its permitted limits by 167m and extended its operations into an environmental buffer zone (2013-14), constructing its mine basin (Tailings Storage Facility- TSF) onto the bed of Lake Besaroy and permanently exposing the local estuary in which it sits to QMM mine tailings and their contaminants. There have also been four reported tailings dam failures at QMM in 2010, 2018, Feb 2022, March 2022. The overflow incidents in 2018 and 2022 resulted in the appearance of dead fish.<sup>1</sup> In 2022, fish deaths led to a government-imposed fishing ban due to health concerns, and months of conflict. QMM mine basin waters are rich in radionuclides (Swanson 2019), and independent studies using QMM water data have shown uranium and lead in waterways downstream of QMM operations 50 and 40 times respectively the WHO safe drinking water guidelines (Swanson 2019; Emerman 2019, 2020 and 2021).<sup>2</sup> Since 2019, Rio Tinto has claimed the high uranium levels detected are all “naturally occurring.” However, pre-mining water data show no elevated uranium or lead in lakes adjacent to the mine at Mandena before QMM operations began (Hatch & Assoc., 2001).

**Timeline:** <https://earthworks.org/blog/timeline-of-events-at-the-qmm-mine-in-madagascar/>

The Emerman analysis of QMM’s 2021 Water Discharge Monitoring Data report demonstrated that QMM’s “natural” water management system was not working. Heavy metal contaminants discharged from its mine basin water were concentrating in “settling ponds” before being released into the wider environment e.g., uranium and lead, also cadmium and aluminium. The elevated aluminium and cadmium were above Madagascar’s statutory permitted limits. QMM conceded their process was not working, temporarily ceased discharge of mine basin water, and subsequently advanced a new, 13m dollar treatment plant for addressing high aluminium and low pH level (Acid Mine Drainage). No community consultation was carried out and no results shared from pilot phase of this treatment plant, despite requests from civil society. QMM has declined to explain how toxic waste from the process e.g., aluminium hydroxide, will be managed. As well as imminent threats to aquatic life, legacy issues arise if waste is buried on site. There are no Malagasy statutory limits for uranium and its decay product, lead, which poses a serious health threat to local populations. Local people complain of new illnesses since the mine arrived. The recently released JBS&G study claims no health impacts from radiation exposure as a result of the mine. However, independent experts need time to review the report, which examines only the radiological aspect of water quality issues in this location. Concerns about heavy metal contaminants measured chemically in local water, reported by QMM over many years, remain.

**Operational Risk: Conflict** There has been repeated conflict around the QMM mine since 2007. The QMM weir changed local water chemistry, negatively impacting local fish stocks and diminished fishing livelihoods have been a source of conflict since 2009<sup>3</sup>. Water quality has been at the centre of protests since QMM’s tailings dam failures in 2022. Five protests with road blocks, military clashes and hostage taking have occurred within the last two years alone. More than 8,700 people submitted complaints against QMM in 2022. The ensuing compensation process has reportedly been marred by human rights violations<sup>4</sup>, including “gagging orders”, intimidation, and inadequate payments. Conflict in October 2023 has resulted in the death of at least three protestors. All of these developments are raising significant operational, reputation, and legal risks for the company, and consequently raise financial risks.

<sup>1</sup> See <https://news.mongabay.com/2023/05/fish-deaths-near-rio-tinto-mine-in-madagascar-dredge-up-community-grievances/>

<sup>2</sup> All studies available at: [http://www.andrewleestrust.org/studies\\_and\\_reports.html](http://www.andrewleestrust.org/studies_and_reports.html)

<sup>3</sup> : <https://pwyp.mg/en/publications/>

<sup>4</sup> <http://www.andrewleestrust.org/blog/>

### Other issues: Transparency

It took two years for Rio Tinto/QMM to admit QMM's breach of an environmental buffer zone, which placed QMM mine tailings on the bed of Lake Besaroy in the local estuary system. The company claimed that it was compliant and there was no impact, and supported its position by citing the environmental regulator (ONE). It was later revealed there was no impact assessment of the QMM breach. RT/QMM insisted there was no water baseline data available for the QMM site. However, water studies from pre-mining phases were identified through civil society research and finally obtained from QMM in 2022. The data does not support the company's position regards water contamination. Swanson's 2019 study revealed there had been no systematic monitoring of QMM's mine in the wider environment for radioactivity ingestion pathways, e.g., food and water. QMM's promised external investigation into the two tailings dam failures in 2022 never took place. A year and a half later, it was revealed that the company carried out its own internal investigation with only an external validation rather than a truly independent assessment. Water and fish death data, requested in April 2022, have still not been shared despite repeated requests. Civil society has repeatedly demanded independent audits of QMM.

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