PUBLIEZ CE QUE VOUS PAYEZ MADAGASCAR

The Andrew Lees Trust

INVESTOR BRIEFING 2023

QMM mine at Mandena, Anosy region

Rio Tinto's QMM ilmenite mine in Madagascar

The Rio Tinto QMM mine in southern Madagascar is extracting ilmenite, which yields titanium dioxide, an ultra-white pigment used for paints, papers, cosmetics, food, and other products. Ilmenite sands in southern Madagascar contain other minerals including monazite and zircon, both of which contain the radionuclides uranium and thorium. Extraction began in Mandena in 2009 with a projected project lifespan of 40 years and the removal of 6000 hectares of littoral forest in one of the poorest and most environmentally sensitive areas of the island. QMM is a company jointly owned by Rio Tinto (80%) and the Malagasy Government (20%).

'Gagging' orders accompany QMM's compensation process

Antanosy Fisherfolk

It is just two years since the final report of the Australian joint parliamentary inquiry into the destruction of the Juukan Gorge Caves criticised and made recommendations to Rio Tinto to cease its insistence on confidentiality clauses in agreements with Traditional Owners. Such clauses magnify the power imbalance and undermine Free, Prior and Informed Consent.

Nevertheless, a year after two mine tailings dam failures at the QMM mine brought local fisherfolks' lives to a halt, when the appearance of hundreds of dead fish in downstream lakes precipitated a fishing ban, local negotiations for compensation to affected communities have lacked any transparency – largely due to confidentiality or "*gagging*" clauses.

A conflict resolution process set up in May 2022 demanded QMM recompense communities for losses not only for the period of the fishing ban, but also for up to 10-13 years of negative impacts on local livelihoods. Studies show rural producers have lost as much as 45-50% of their usual revenues as a result of the QMM mine's negative impacts (PWYP MG 2022[1]). A total of 8778 villagers submitted claims against the company for their losses.

Negotiations began in September 2022. By December, concerns had been raised in writing to Rio Tinto Plc's HQ that coercion and intimidation were being used to force villagers into agreements they did not accept. Despite the issues raised, QMM advanced their negotiations, which led to the start of payments being made to 5400 usufructuaries and fisherfolk in the first quarter of 2023. However, recent reports from the ground suggest that the process has been marred with ***human rights violations*** and QMM failing to meet IFC and other ***international standards,*** including:

- Illegal detentions, coercion and intimidation;
- Communities "gagged" by confidentiality clauses - told they cannot discuss the process outside of QMM talks;
- Resulting lack of third-party counsel for the villagers (advice on legal rights and entitlements);
- Lack of explanation of multiple documents requiring signature for payments;
- Failure to provide copies of signed agreements and other documents to villagers;
- Sums given that do not reflect the real value of the decade-long losses experienced by villagers;[2]
- Conditionality placed on the receipt of payments such as may deny villagers their rights;
- Some villagers being refused compensation for losses where they have more than one survival strategy/ livelihood activity (as is normal in this context), i.e., paid for only half their losses;
- Landowners still awaiting news of their payments (Malagasy state water utility expected to make payments);
- Villagers discovering new land grabs and constraints to access natural resources, as payments are being made.

Despite polite requests, Rio Tinto has refused to share any details about the QMM compensation arrangements with local villagers. This refusal alone is enough to justify an independent audit. Rio Tinto has already admitted that QMM's grievance process does not currently meet international standards. Local conflicts around QMM continue.

We demand transparency and accountability through a fully independent audit of QMM's grievance process, and the recent compensation process managed by QMM following the May 2022 commission.

[1] https://pwyp.mg/en/publications/
[2] http://www.andrewleestrust.org/blog/?p=3074

Contamination of local waterways

In the rural villages around the mine, local people are wholly reliant on local natural resources for their survival, including surface water for their drinking water. They complain about impacts to their health and to livelihoods from what they see to be negative impacts of QMM's activity on local water quality (PWYP MG 2020, 2022).

QMM mine basin and tailings dam

In 2021, QMM's Water Discharge Monitoring Data report showed that QMM's "passive" or "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.

This is a concern because the QMM mine basin waters are rich in radionuclides, such as uranium (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 guidelines (Swanson 2019; Emerman 2019, 2020 and 2021).[3]

Uranium can affect kidneys and bones (Health Canada, 2019). Low levels of lead exposure can damage the nervous system, and are linked to learning disabilities, shorter stature, impaired hearing, and impaired formation/function of blood cells (US EPA, 2019). Cadmium and aluminium can also have negative effects on human and health.

Since 2019, Rio Tinto has claimed the high uranium levels detected are all "naturally occurring." However, pre-mining water data from 2001 (obtained from QMM finally in 2022, after four years of being told there were no baseline data), show no such elevated uranium or lead in lakes adjacent to Mandena (QMM's mine site) before operations began.

Iron T-Fe	0.98	1.35	1.42	1.59	0.28	<0.03	0.81	0.99	1.15	0.65	0.08		0.3 AO
Lead T-Pb	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.001	<0.001	<0.001	<0.005	<0.001	0.01	0.01
Magnesium T-Mg	0.74	0.85	0.75	0.94	51.6	337	1.17	1.92	1.64	18.2	41.4		
Manganese T-Mn	0.013	0.017	0.016	0.039	0.01	<0.01	0.01	0.013	0.013	0.009	<0.001	0.5	0.05 AO
Mercury T-Hg	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.001	0.001
Potassium T-K	0.78	0.58	0.8	0.7	19.9	121	0.94	1.14	0.98	6.8	14.7		
Selenium T-Se	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.005	<0.0005	0.01	0.01
Sodium T-Na	6.45	6.6	6	6.86	476	3350	9.8	17.2	14.7	158			200 AO
Uranium T-U	0.00002	0.00002	0.00002	0.00002	0.0003	0.0008	0.00003	0.00003	0.00002	0.0001	0.0001	0.002	0.1
Zinc T-Zn	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.03	<0.005		5 AO

Values in mg/L unless otherwise specified

*Data from Hatch & Assoc 2001: **Pre-mining** measurements of uranium in surface water around Mandena were mostly at readings of 0.0002 mg/l – 0.008 mg /l – and groundwater readings between 0.00005 – 0.00007 mg/l (Hatch & Assoc 2001). **Post-mining** data include uranium in QMM mining basin water, process water and paddocks at maximum concentration of 2.029 mg /l. Downstream readings were highest near the QMM weir at 1.073 mg /l (Swanson, 2019, Emerman, 2019) **The WHO safe guideline for uranium in drinking water is 0.03mg/l.***

While it has yet to resolve the elevated uranium and lead, QMM has also to manage another problem with its mine wastewater: elevated aluminium and cadmium above Malagasy statutory permitted levels. QMM has advanced a new treatment plant for high aluminium and low pH level which, in combination, pose a threat to aquatic life in the region. However, despite requests, no community consultation has been carried out, and no results shared about QMM's pilot testing of this treatment plant. Local people complain they are being "***experimented upon***" by Rio Tinto/QMM.

Rio Tinto claims no environmental or health impacts from QMM's activities – but without studies that can support these claims. The levels and complexity of water quality issues around QMM have been an ongoing field of contestation since 2017 with no resolution. QMM's failure to include methodology in its reports e.g., the QMM Wastewater Discharge Data Report 2021, and its continual delays to sharing QMM water data, all contribute to ongoing denials, "data wars," lack of transparency and any meaningful solution to the water contamination issues.

Water quality issues relate to QMM's management of its mine tailings and mine basin waters: **see below.**

We demand a fully independent audit of QMM water management and local water quality, including all water data, available studies and analysis to date.

[3] All studies available at: http://www.andrewleestrust.org/studies_and_reports.html

Tailings Management

There have been four reported tailings dam failures at Rio Tinto's QMM mine: 2010, 2018, Feb 2022, March 2022. The incidents in 2018 and 2022 received significant attention as a result of local people reporting the appearance of dead fish.[4] One additional incident was reported by the local community on 24th April 2022, but was denied by QMM.

In response to questions at the company's 2022 AGM about the QMM dam failures in February and March of last year,[5] Rio Tinto's Chair asserted that there are "no tailings" and "no tailings dam" at the QMM mine.[6]

In reality, what is left after QMM extracts ilmenite is *reject sands.* This is another way of saying *"mine tailings".*[7] These are put back into the mine basin, thereby making the basin a Tailings Storage Facility (TSF) or Tailings Disposal Facility.

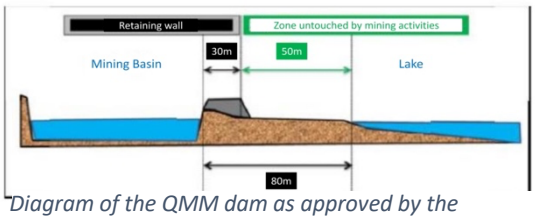

Diagram of the QMM dam as approved by the national regulator in the environmental management plan 2014-18 I would clarify that this is their diagram with overlay of English labels.

QMM is required to build a "berm" 30m wide and 4m high, in order to *prevent water flowing from the mine basin into the surrounding environment"* (QMM Social and Environmental Management Plan (2014-2018)).

The QMM "berm" has the performance objective of a dam: *to retain mine process wastewater in the mine basin.* [8] The QMM "berm" around the TSF is therefore a *mine tailings dam*.

Rio Tinto has eluded a serious discussion on tailings management and dam safety since 2018, after studies showed QMM had violated an environmental buffer zone (2013-14) and by doing so constructed its mine basin (TSF) right onto the bed of Lake Besaroy, permanently exposing the local estuary to QMM mine tailings and their contaminants.

Rio Tinto has failed to demonstrate transparency around QMM's tailing management. For example, in failing to produce any study that could support its claim to shareholders that the QMM buffer breach had "no significant impact." Again, by failing to release a promised external evaluation of the 2022 dam failures, thereby avoiding technical discussions about the cause of QMM's dam failures and how future overspills will be prevented.

Questions remain as to how QMM can meet Rio Tinto's pledge to comply with the Global Industry Standard for Tailings Management (GISTM)[9] by August 2023, when the company insists QMM has no mine tailings and by calling the QMM mine tailings dam by any name (i.e., berm, barrier, levee, embankment) other than a dam.

We demand a fully independent audit of the tailings dam failures of 2022, all related events and issues arising.

Audits: Independence and inclusivity

Audits for QMM dam and tailings management and all related issues e.g., water quality, aquatic health, fish health, human health etc, as well as the QMM grievance and compensation processes, must provide transparency and accountability that will meet GISTM, IFC and other international standards, and allow the region to repair and redress all outstanding questions, damages and conflict. We ask that communities and civil society:

1) Be included in identifying and approving appropriate organisations to undertake the audit work;
2) Assist in the scoping, framing and methodology of the audit process;
3) Enjoy the full public disclosure of results and reports without censure;
4) Benefit from follow up resolution and reparation processes for outstanding issues determined by the audits.

If Rio Tinto is confident QMM is doing everything correctly, then such audits pose no threat.

CONTACT: Yvonne Orengo, yorengo@andrewleestrust.org/ Mob: 07905 406 303
Ketakandriana Rafitoson, krafitoson@transparency.mg

[4] See http://www.andrewleestrust.org/blog/?p=2671
[5] https://news.mongabay.com/2022/07/on-hazardous-mine-tailings-dams-safety-first-should-be-the-rule-commentary/
[6] See Q& A reporting at: http://www.andrewleestrust.org/blog/?p=2309
[7] Contrary to the Chair's assertion to Rio Tinto shareholders in April 2022, multiple Rio Tinto/QMM documents refer to "tailings" at QMM.
[8] Rio Tinto confirms that QMM "berm" has the performance objective of a dam, saying "*Designating them as 'dams' as a semantic alternative to 'berms' does not fundamentally alter the expected function and associated risks with the structures*." (Rio Tinto response 23 March 2019)
[9] Rio Tinto claims it currently uses its own internal D3 and D5 standards