QMM – High level incident summary report

Water runoff from Mandena lakefront into adjacent wetland - 5 March 2022

Incident overview

In February and March 2022, the Fort-Dauphin region experienced a series of cyclones and extreme rainfall that placed QMM's water system under pressure. This led to water level increase in QMM mining ponds, whose level became critical. QMM immediately worked to strengthen and enhance the lakefront berms, and sent mining pond water for recirculation to available storage ponds to reduce high-water level. This involved circulating water from the mining pond through the other storage ponds (Paddock #10, Paddock #6, Paddock #7, the wetland trial and feed preparation pond).

In an anticipatory approach and to prevent an uncontrolled incident as extreme rainfall continued, on 4 March QMM asked the regulator to approve an exceptional controlled water release.

As the site continued to experience additional heavy rain, the storage ponds reached their maximum capacity and water started to make is way into the South Lakefront located within the mining site.

On 5 March, water then began to run off into the adjacent wetland near Besaroy Lake for approximately seven hours. It is estimated that 3600m3 of water overflowed into this area.

The regulator authorized an exceptional controlled water release on 8 March.

Timeline on March 5

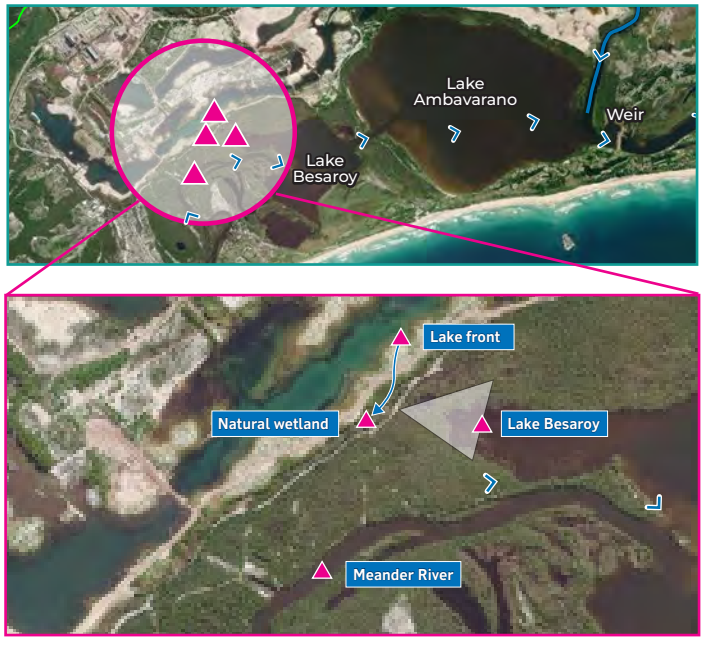
- **09.30** Water runoff detected
- **10.00** Mine team continues to further strengthen lakefront berms to contain runoff
- **11.00** QMM identifies emergency action
- **12.00** Run off stopped
- **14.00** Regulators and stakeholders informed
- **16.30** QMM meets the Water Ministry to request emergency release

Actions taken

- 23 February: QMM strengthens berms and recirculates water to manage water levels.
- 24 February: Biodiversity monitoring, direct observation and sampling of aquatic fauna (sensitive species included), launched with an external party (Tropical Biodiversity Social Enterprise).
- 4 March: Exceptional water release request to ANDEA.
- Throughout this entire period, QMM put in place increased water quality monitoring.
- 6 March: Joint visit and water sampling at meander river, Besaroy Lake and Lake front in presence of regulators and civil society.
- 8 March: Regulator authorises an exceptional controlled water release.
- 11 March: Joint visit and water sampling at release point and along MMM river in presence of regulators and civil society.

Results

- Results of water quality monitoring for both metals and radioactivity undertaken by the Regulator (ANDEA) have confirmed that there was no measurable and observable environmental impacts on the adjacent wetland and river.
- QMM internal results indicated water hardness confirming that water from the lake front had overflowed into the adjacent wetland. There was no sign that the overflow had impacted the MMM River or Lake Besaroy.



Water Sampling Points

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Incident root cause

The following internal processes were found to have contributed to the incident:

Social and Environment Management Plan failure

The presence of a berm low spot was hidden by fast-growing rehabilitation species.

Water level monitoring (KPIs dashboard)

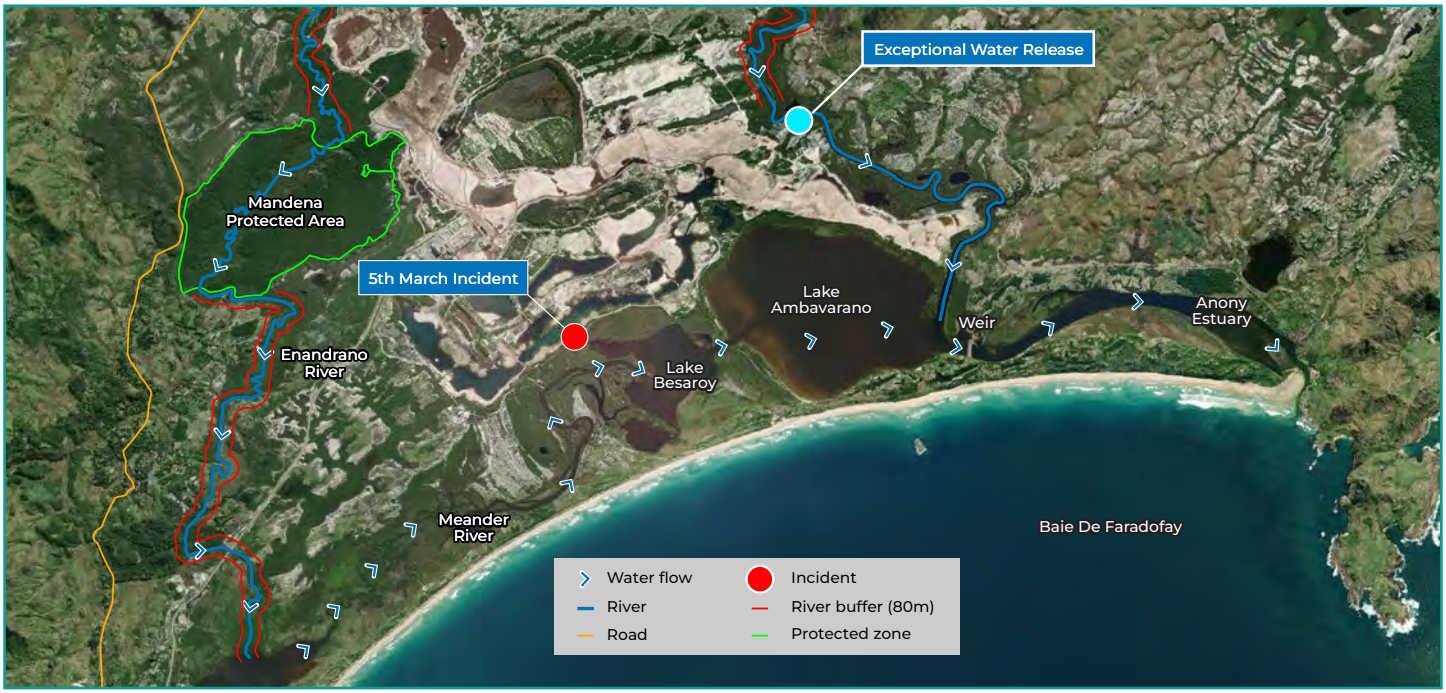
As a result of the low spot, the water dashboard did not accurately reflect actual berm topography and did not red flag signal QMM to intervene in adequate time.

Risk management

The Lakefront not being a storage pond, it was therefore not part of the risk assessment plan at the time of the incident.

Contributing factors

Extreme successive rainfalls led QMM water management strategy of no-release to reach its limits.



Incident Locations

Recommendations

Water storage risk analysis

Review water storage risk analysis by considering infrastructure (including berms, spill way and low spots).

Water dashboard

Review the water dashboard criteria to allow a greater intervention time.

Berm survey

Conduct a level survey of the berm to detect any low spots and implement the relevant actions.

Water release excalation process

Review the water release escalation process to meet trigger release criteria.

Actions

Review of water storage risk analysis during workshop with water technical panel in October 2022.

Water dashboard review undertaken during workshop with water technical panel in October 2022.

Level survey of the berm completed in June 2022.

Review of water esclation process undertaken and criteria approved by leadership in October 2022.