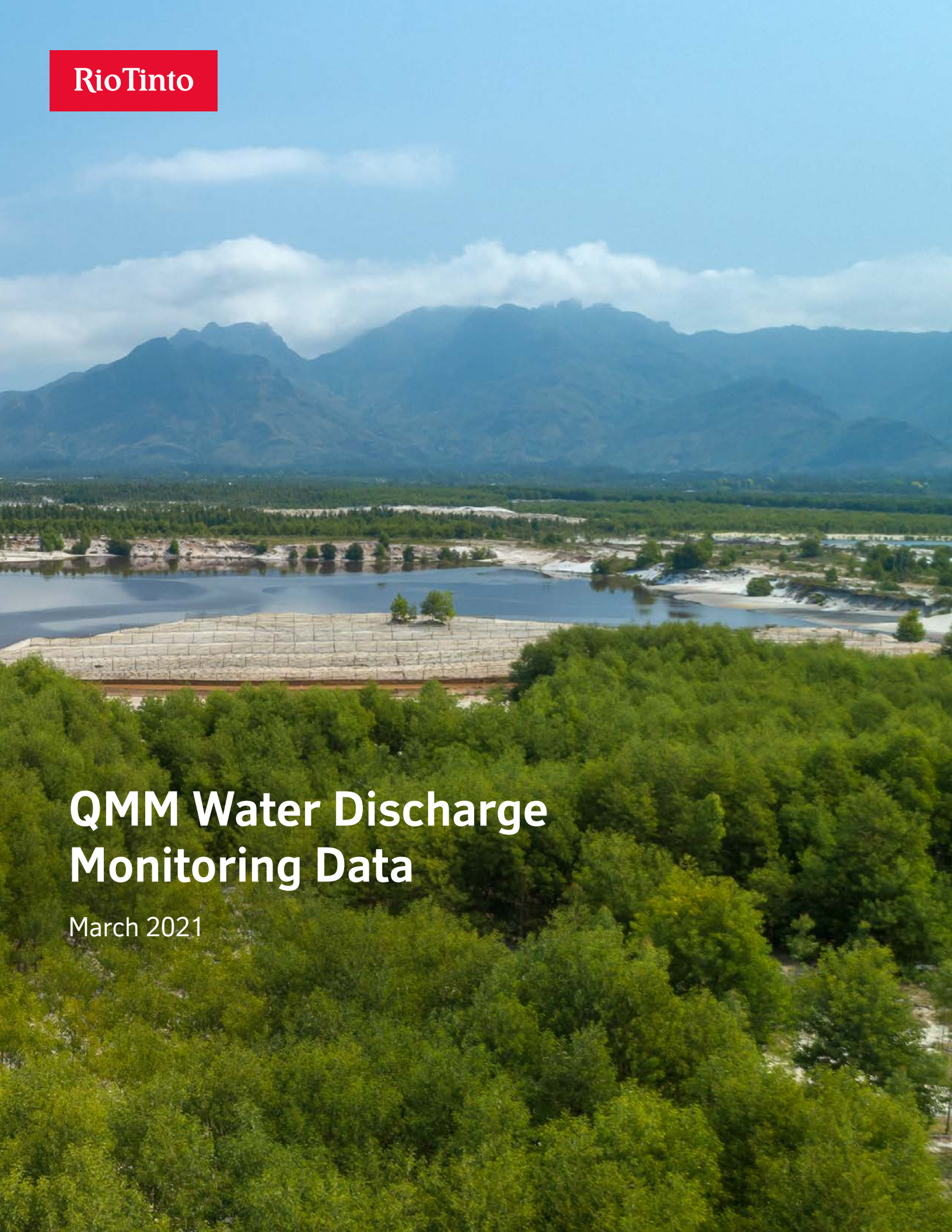


QMM Water Discharge Monitoring Data

March 2021

1. Context

Water resources management is one of the key elements identified during the Environmental and Social Impact Assessment (EISA) done by Rio Tinto's Madagascar operation, QIT Madagascar Minerals (QMM) in 2001. Studies have been carried out on surface water in the Mandena area and its surroundings[1]. The study results established the physico-chemical baseline characteristics of the surface water.

In order to comply with applicable laws and regulations in Madagascar, namely the Décret n° 2003/464 of 15 April 2003, a discharge permit has been granted by Malagasy water authority "Autorité Nationale de l'Eau et de l'Assainissement (ANDEA)". QMM currently has permits for three discharge points, WMC 603, WMC 703 (A) and WMC 803 (A), to discharge effluents from mining operations into the swamps in the mining lease area before discharged water enters the Mandromondromotra river. Monitoring of water quality parameters is also in place at two locations on the Mandromondromotra river: WS0501 (upstream of mining operations) and WS0502 (downstream of mining operations).

This document provides an overview of the water discharge monitoring data from QMM. It includes the 2019 quarterly reports to ANDEA on regulated water quality indicators. Further, this document comprises monitoring summaries of additional water discharge data and surface water monitoring from QMM over a five-year period (2015-2020).

[1] The studies comprised areas directly affected by the operation as well as neighbouring areas outside the area of impact.

2. Legal framework

Décret n° 2003/464 of 15 April 2003 on the classification of surface water and regulation of liquid effluent discharges.

Décret n° 2003-943 relating to discharges, flows, deposits in surface or underground water in the Legal Framework. The discharge permit applications are granted under this Décret n° 2003-943 and the Décret n° 2003-464

Décret n° 2004-635 of 15 June 2004, amending Décret n° 2003-941 of 9 September 2003 related to water monitoring, control of water intended for human consumption and priorities for access to the water resource.

Approved monitoring protocol for SEMP 2012-2018.
The 2020-2025 is still under review and approval with ONE (Office National pour environment) due to COVID-19 challenges.

3. Overview of QMM water management

QMM uses a natural system (without chemicals) to filter its effluents - called "process water" by QMM - before discharge into the natural environment. Water from the mine operations is directed through a circuit of settling paddocks to reduce the suspended solids load. Process water is then recirculated for operational uses. When paddocks level increases due to water runoffs, water is discharged to natural on-lease swamps connected to the Mandromondromotra river, the receiving environment. According to our water management plan, only excess water inside mine operations is discharged to swamps a few hundred meters long before reaching the Mandromondromotra river. The discharge of water is not continuous and may not occur for periods that could extend to more than one month. Figure 1 shows a high-level representation of water flow through the mining area and connection with the surrounding environment.

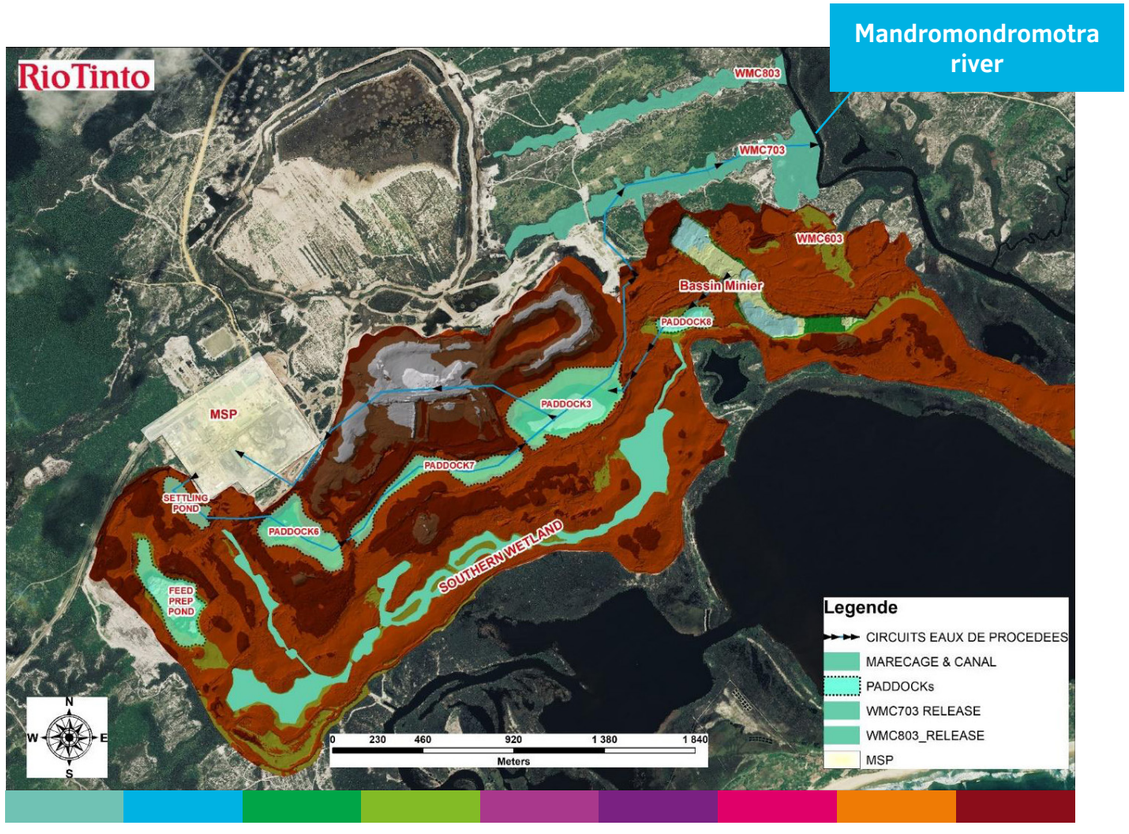


Figure 1: QMM current water flow

The permit n°009-12/ANDEA granted on 10 January 2012 gives authorization to Rio Tinto QMM to discharge effluents at two (2) discharge points, WMC 703 and WMC 803, in the swamps before they enter the Mandromondromotra River. The permit duration is five years, with monitoring parameters.

A new discharge point named WMC 603 was authorized on 30 August 2013. The receiving environment is also the Mandromondromotra river.

These permits were renewed by the n°07-17/ANDEA permit on 31 August 2017 for five additional years (until 2022). Monitoring stations WMC 703 and WMC 803 were relocated downstream of their corresponding swamps and were respectively renamed WMC 703 (A) and WMC 803 (A) in August 2018, as shown in figure 2 below.

Based on the permit requirements and the monitoring protocols approved by ONE[2], Rio Tinto QMM has implemented a water management plan to monitor the receiving environment's water quality and mining effluents. Hence, QMM is able to monitor water quality and intervene when deemed appropriate.

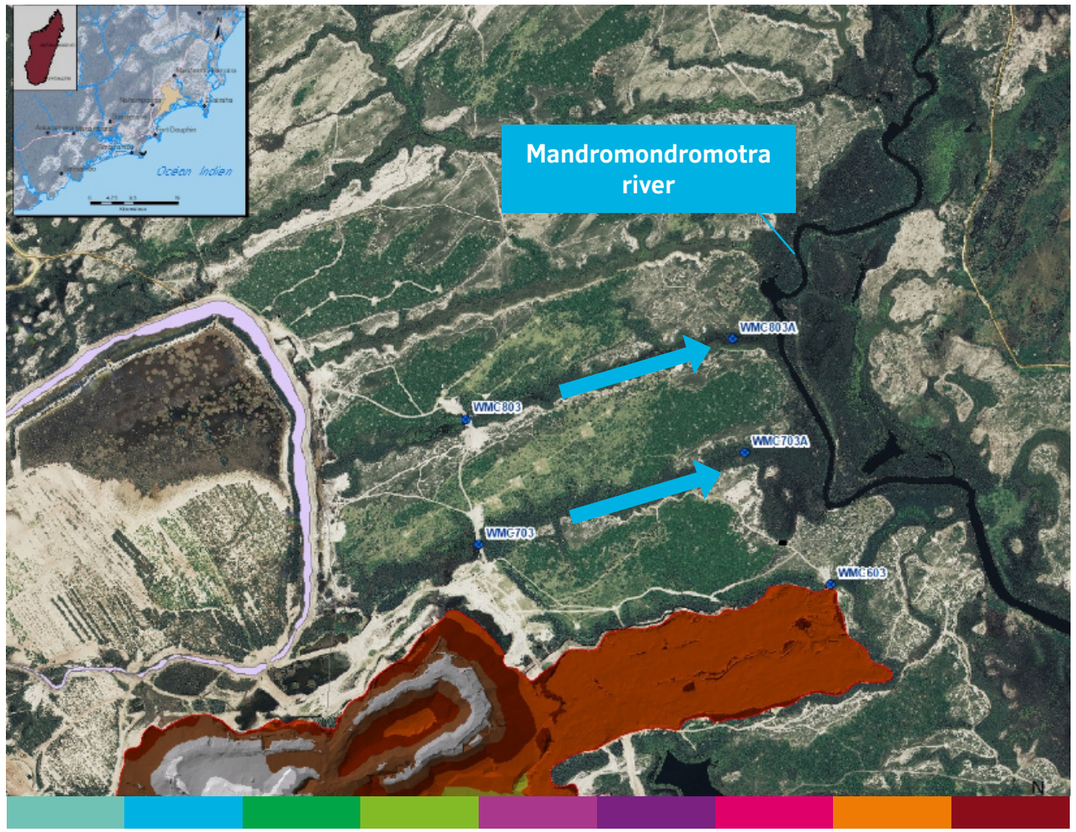


Figure 2: QMM permitted discharge points

[2] ONE : Office National pour l'Environnement (National Environment regulator).

4. Environmental monitoring – Mandromondromotra river

QMM conducts doing water quality monitoring on various water bodies around the area of Mandena. Two of those monitoring stations are presented in this report: WS0501, upstream of the mining operations, and WS0502, downstream of the mining operations. Based on its approved monitoring protocol, QMM samples the surface water surrounding the mining site on a quarterly basis.

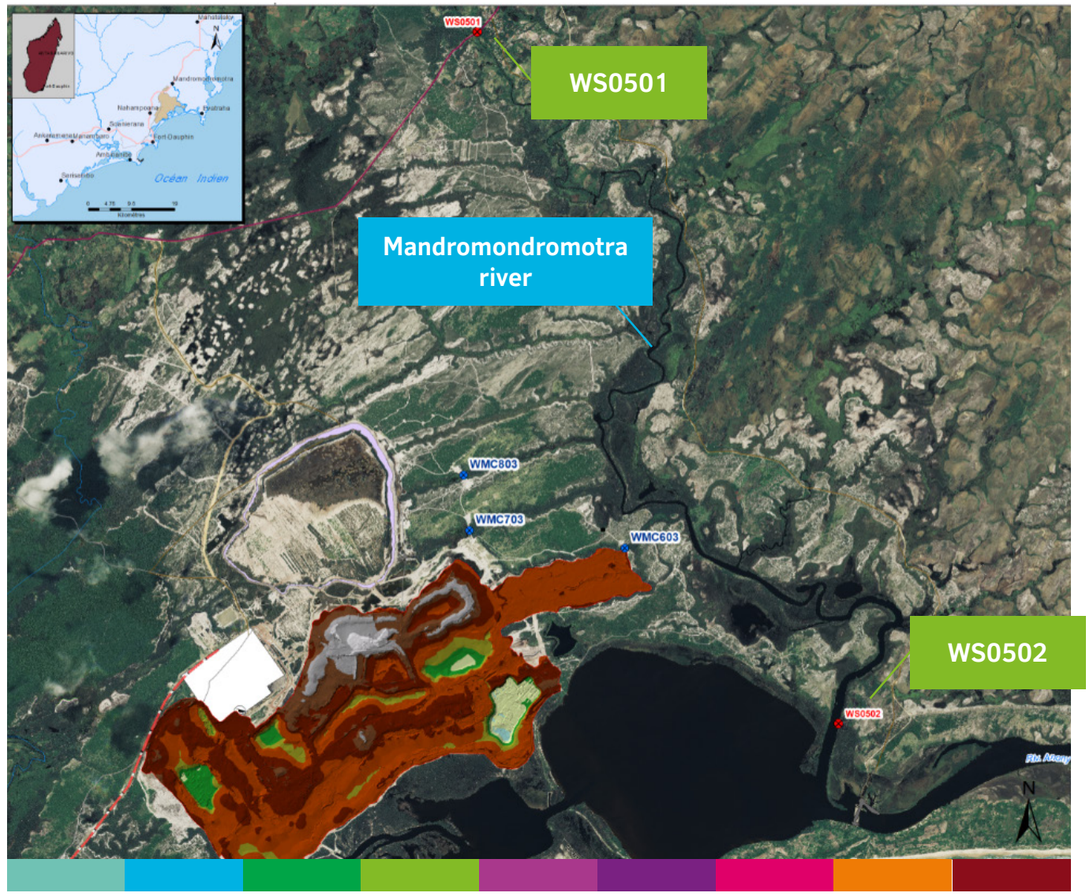
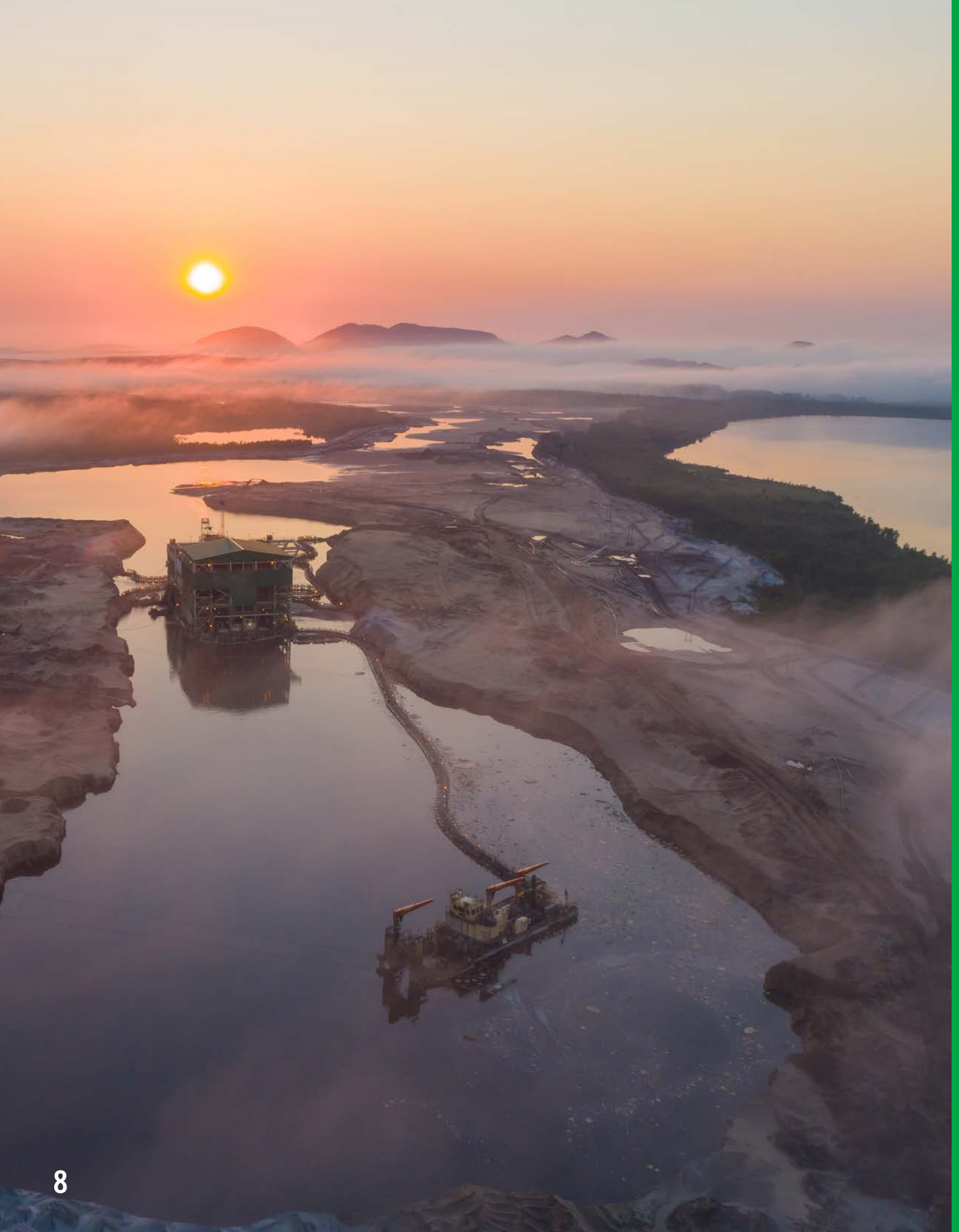


Figure 3: Monitoring station on Mandromondromotra river



5. Reporting to ANDEA

QMM is required by decree to provide quarterly technical reports based on an ANDEA template. Three of the four reports are derived from QMM Environmental Laboratory results, which are compiled monthly and reported quarterly. The results from an external laboratory are used for the fourth report. The ANDEA reports are based on the water discharge period and the available discharge points. Two reports are shown in Appendix 1 and 2 as an example. Exceedances are reported to ANDEA in the quarterly reports. Corrective actions and implementation plans are presented to ANDEA in follow-up meetings.

6. QMM Water quality monitoring – Data Summaries 2015-2020

In addition to the water discharge data submitted to the regulator, QMM also monitors a range of additional water quality indicators, including total dissolved solids, pH, lead and zinc. For the purpose of this water discharge data summary, five (5) monitoring points are included for consideration and review (refer to figure 2 and figure 3 for relative locations):

- **WMC603 /703 /703 A /803/ 803 A:** Licensed site discharge points where effluents from site operations enter swamps.
- **WS0501:** Reference surface water monitoring location on the Mandromondromotra river situated upstream of the mining operations.
- **WS0502:** Reference monitoring location on the Mandromondromotra river situated downstream of the mining operations.

For reference and where defined, Malagasy regulation limits are provided for effluents discharge points. Table 1 sums the different parameters, limits and locations of the monitoring stations presented in this report.

Table 1 – Water quality monitoring for mining effluents discharge points

Parameter	Unit	Mining effluents discharge points					
		Malagasy limit	WMC 603	WMC 703	WMC 803	WMC 703(A)	WMC 803 (A)
TDS (in situ)	mg/L	N/A	✓	✓	✓	✓	✓
TSS (in situ)	mg/L	60	✓	✓	✓	✓	✓
pH (in situ)	(-)	3,2 to 6*	✓	✓	✓	✓	✓
Pb	mg/L	0,2	✓	✓	✓	✓	✓
Cd	mg/L	0,02	✓	✓	✓	✓	✓
Zn	mg/L	0,5	✓	✓	✓	✓	✓
Al	mg/L	5	✓	✓	✓	✓	✓
U	mg/L	N/A	✓	✓	✓	✓	✓

*See footnote on page 13. ✓ : data provided/available

Table 2 – Water quality monitoring for reference monitoring station and receiving water body

Parameter		TDS (in situ)	TSS (in situ)	pH (in situ)	Pb	Cd	Zn	Al	U
Reference monitoring station	WS0501	✓	✓	✓	✓	✓	✓	✓	✓
Receiving water body	WS0502	✓	✓	✓	✓	✓	✓	✓	✓

✓ : data provided/available

6.1 Monitoring Summary for TDS

Total Dissolved Solids (TDS) historical values (2015-2020) for the QMM discharge points are presented in Figure 4. As no discharge limit is prescribed for TDS in Malagasy regulation, the industry-accepted standard freshwater TDS limit of 1,000 mg/L could be utilized for relative comparison *(ref: GRI Standard303 – Water and Effluents 2018)*. The figure shows that TDS level remained below this GRI standard 303.

Figure 4: QMM Discharge Points – Total Dissolved Solids – During discharge events

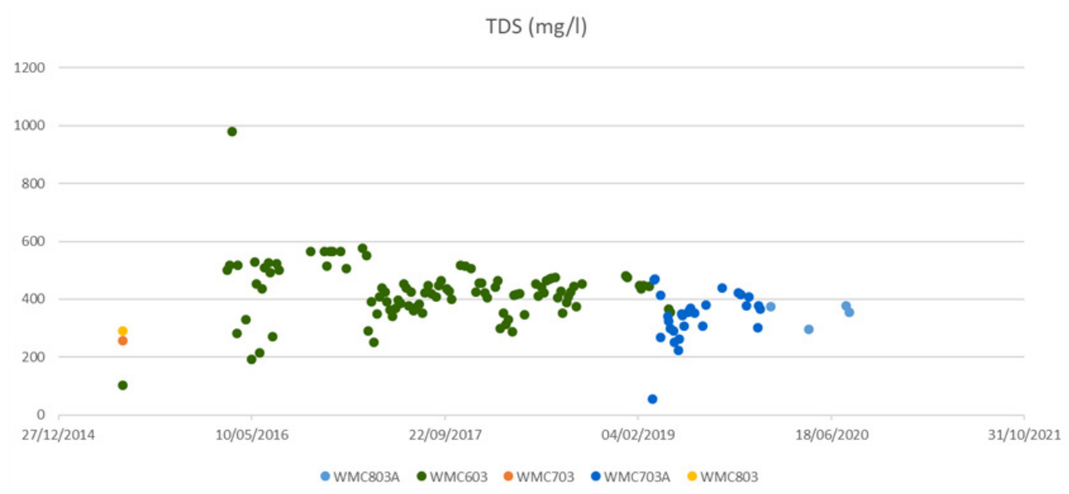
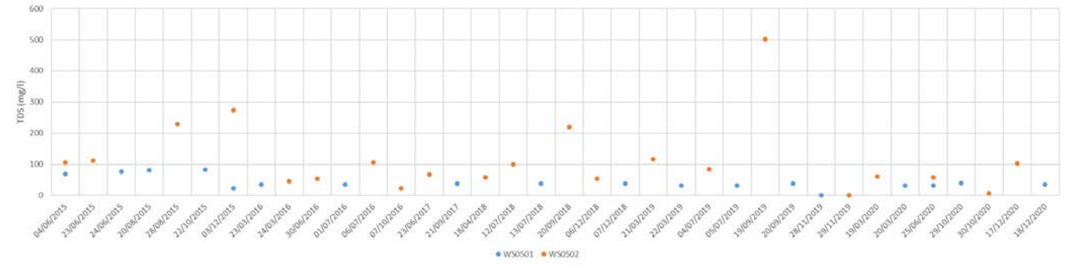


Figure 5: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Total Dissolved Solids



6.2 Monitoring Summary for Total Suspended Solids (TSS)

Total suspended solids (TSS) historical values (2015-2020) for the QMM discharge points are presented in Figure 6. The figure shows that QMM discharges have remained well below the permitted TSS discharge limit of 60 mg/L.

Figure 7 – Water surface Total Suspended Solids (2015-2020) is shown for surrounding environment monitoring points.

Figure 6: QMM Discharge Points – Total Suspended Solids - During discharge events

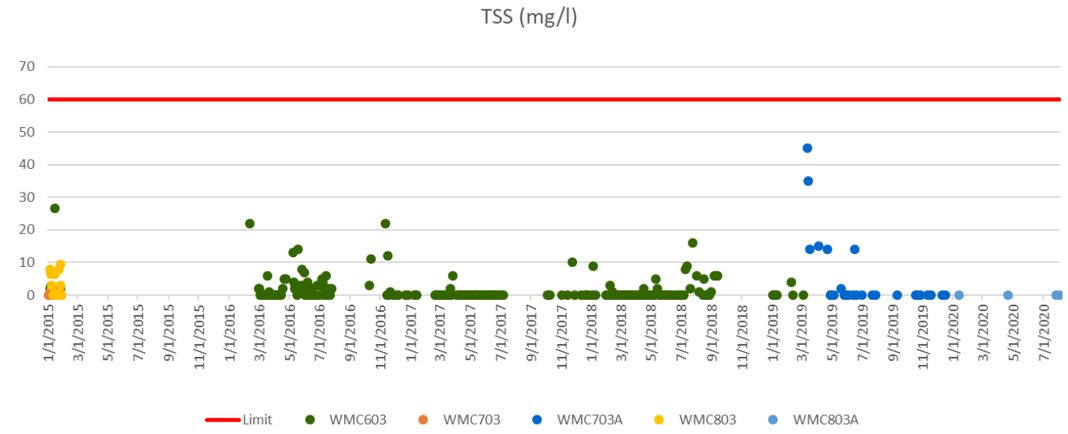
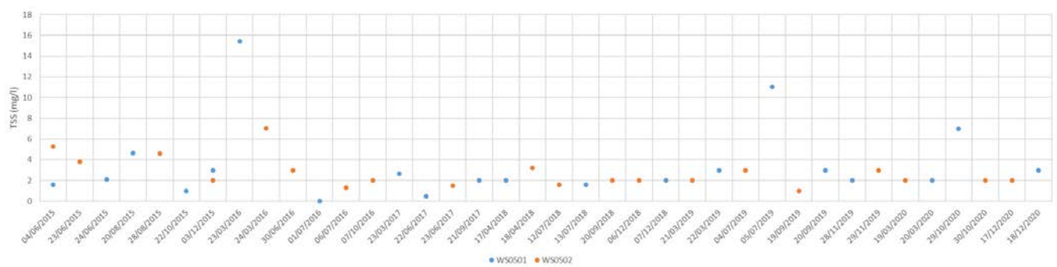


Figure 7: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Total Suspended Solids



6.3 Monitoring Summary for pH level

pH historical values (2015-2020) for the QMM discharge points are presented in Figure 8. The figure shows that QMM discharges have remained within the permitted pH discharge range of 3.2 – 6[3].

The water surrounding surface pH analysis shows a pH around 5 to 6.

Figure 8: QMM Discharge Points – pH - During discharge events

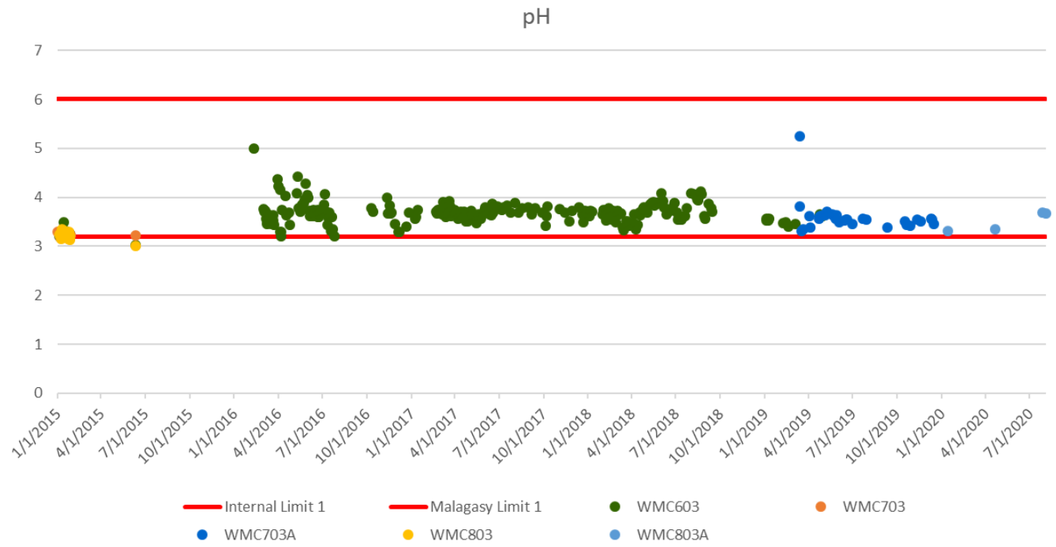


Figure 9: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – pH

*3 Because natural surface water around the mine is naturally acidic, instead of the pH range of 6-9 of the Decree, ANDEA authorised discharge to QMM at a pH range from 3.2 to 6. This was done in order to prevent potential ecological shock of releasing higher pH values into the naturally acidic natural surface water.

6.4 Monitoring Summary for Total Suspended Solids (TSS)

Lead historical values (2015-2020) for the QMM discharge points are presented in Figure 10. The figure shows that except for one (1) sample on 25/4/2019 at WMC 603, QMM discharges have remained below the permitted lead discharge limit of 0.2 mg/L.

Figure 11 lead value over the same period for surrounding environment monitoring points.

Figure 10: QMM Discharge Points – Lead (Pb) - During discharge events

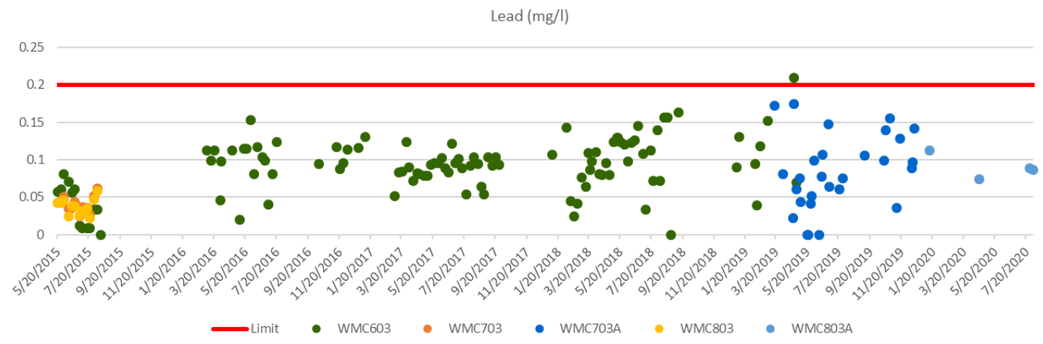
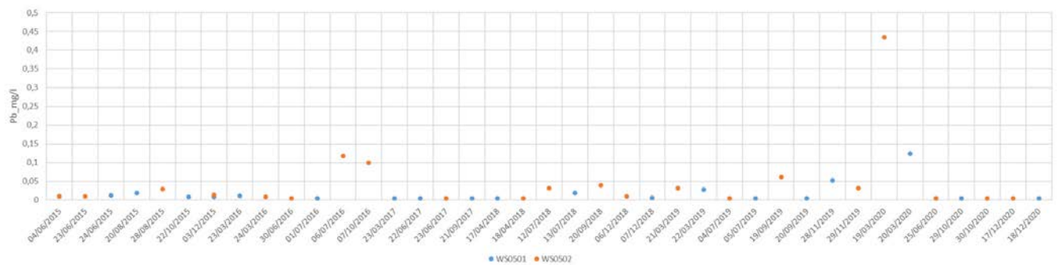


Figure 11: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Lead (Pb)



6.5 Monitoring Summary for Cadmium levels

Cadmium historical values (2015-2020) for the QMM discharge points are presented in Figure 12. The figure shows that exceedances of the permitted cadmium discharge limit of 0.02 mg/L have occurred over the historical period for WMC 603, WMC 703A and 803A.

WMC 603 has been the main discharge point since the permit approval. At the beginning of the use of discharge point WMC 603, the swamps were able to fully filter the discharged water. However, after a certain period of time, the swamps were less efficient, and exceedances occurred. Mitigating actions validated and agreed with ANDEA include:

- Reducing flow for WMC 603 by splitting discharge water volume between WMC 603 and WMC 703.
- Optimizing swamp efficiency by increasing the length of the swamps; WMC 703 and WMC 803 were relocated to WMC 703A and WMC 803A to allow a longer filtration time in the swamp area (see also section 3).
- New discharge point requested in March 2020 (WMC 903).

Figure 12: QMM Discharge Points – Cadmium (Cd) - During discharge events

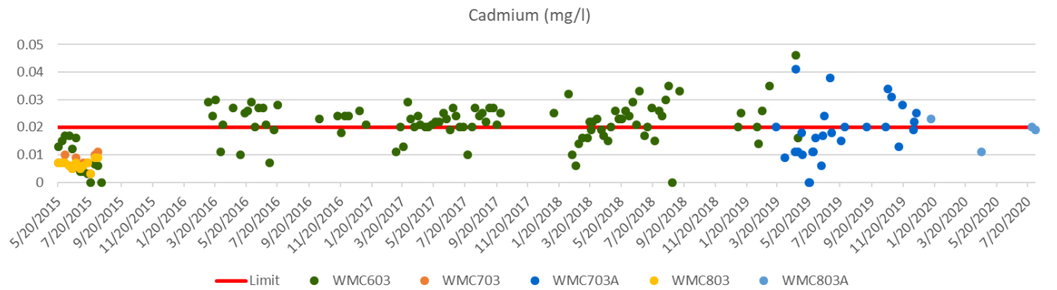
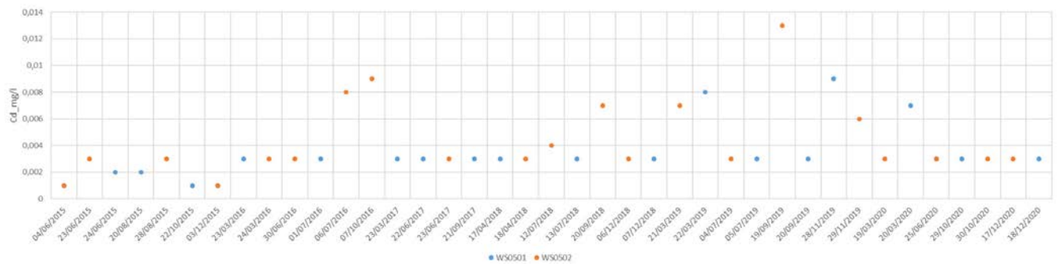


Figure 13: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Cadmium (Cd)



6.6 Summary Monitoring for Zinc Levels

Zinc historical values (2015-2020) for the QMM discharge points are presented in Figure 14. The figure shows no exceedance compared to the Malagasy regulations, which is 0.5 mg/L.

Figure 15 shows zinc value over the same period for surrounding environment monitoring points.

Figure 14: QMM Discharge Points – Zinc (Zn) - During discharge events

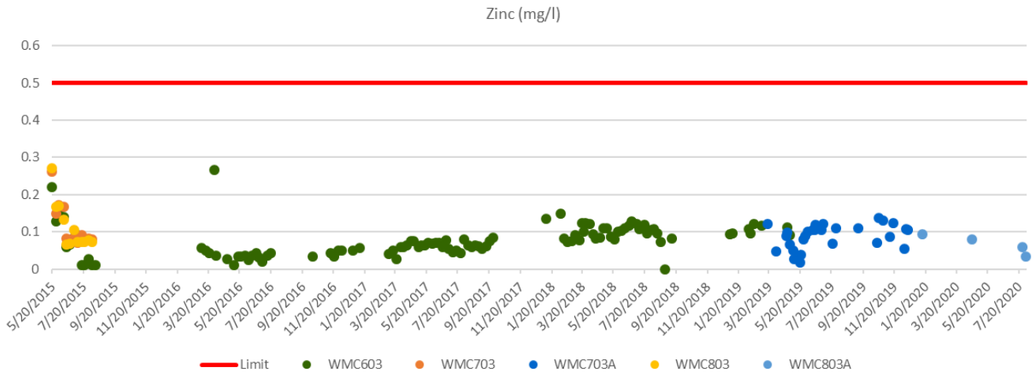
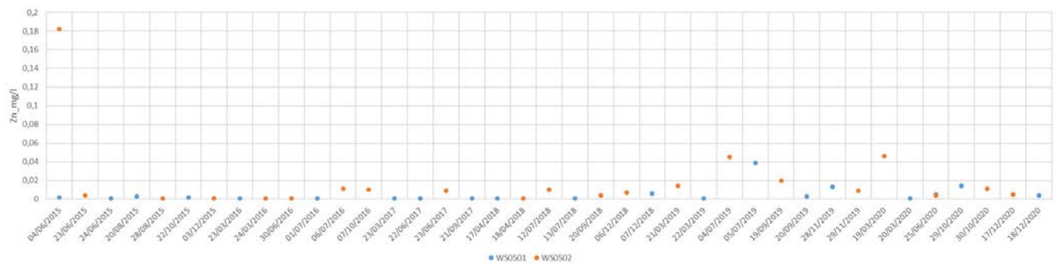


Figure 15: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Zinc (Zn)



6.7 Summary Monitoring for Aluminium Levels

Aluminium historical values (2015-2020) for the QMM discharge points are presented in Figure 16. The figure shows exceedances of the permitted Aluminium discharge limit of 5 mg/L at the discharge points.

WMC 603 was the main discharge point since his permit approval. In the beginning, the swamps were able to fully play their filtering role. After a certain period of time, the swamps were less efficient, and there were some exceedances. Actions validated with ANDEA were:

- Reducing flow for WMC 603 by splitting water between WMC 603 and WMC 703.
- Optimizing swamp efficiency by increasing the length of the swamps; WMC 703 and WMC 803 were relocated to WMC 703A and WMC 803A to allow a longer filtration time in the swamp area (see also section 3).
- New discharge point request since March 2020 (WMC 903).

Figure 17 shows aluminium value over the same period for surrounding environment monitoring points.

Figure 16: QMM Discharge Points – Aluminium (Al) - During discharge events

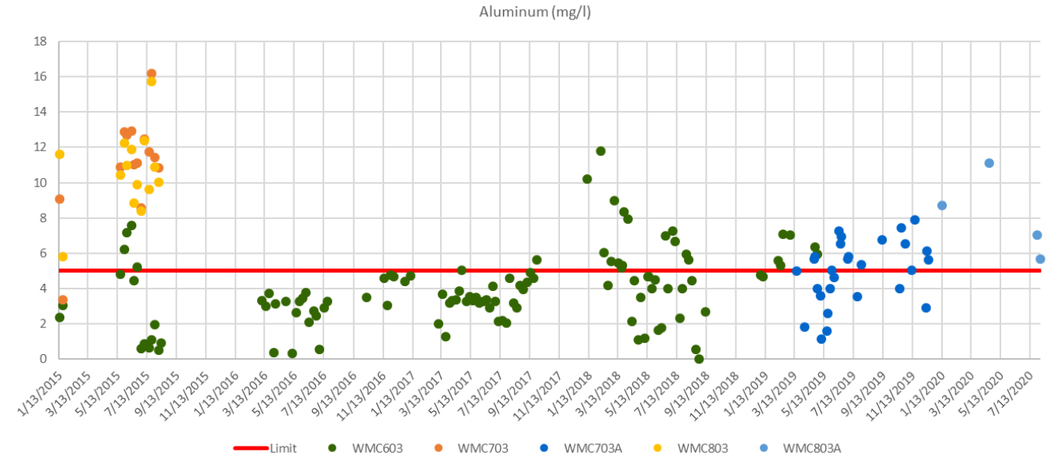
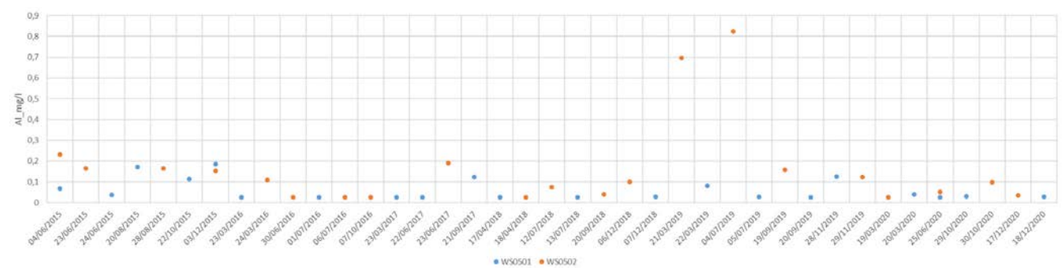


Figure 17: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Aluminium (Al)



6.8 Summary Monitoring for Uranium Levels

Uranium historical values (2015-2020) for the QMM discharge points are presented in Figure 18. No discharge limit is prescribed for uranium.

Figure 19 shows uranium value over the same period for surrounding environment monitoring points.

Figure 18: QMM Discharge Points – Uranium (U) - During discharge events

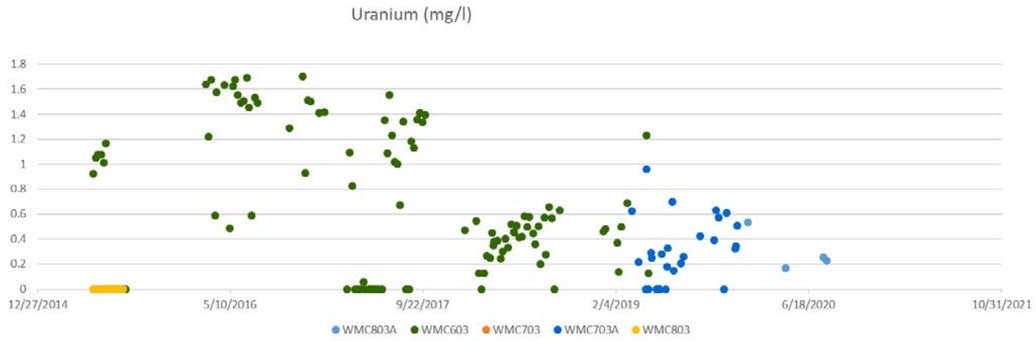
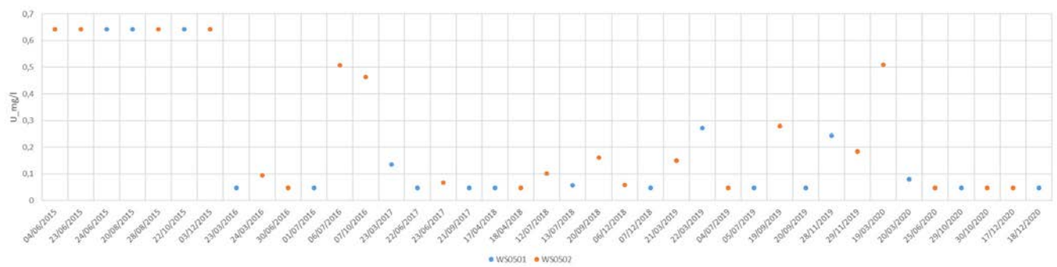


Figure 19: Water Monitoring locations located upstream and downstream of QMM discharge points on the Mandromondromotra River – Uranium (U)



7. Conclusion

The health of the receiving environment is always a top priority for QMM. Water management is based on chemical free processes, natural sedimentation into a paddock system and natural filtration through swamps. According to our water management plan, only excess water is periodically discharged as per permit requirements.

After a certain period of time, the current water management system did not perform as expected, resulting in some exceedances of aluminium and cadmium at the discharge points in the mining lease. Current data and internal investigations do not demonstrate perceptible impacts in the receiving environment. However, more monitoring data needs to be collected to be conclusive. One of the main actions to resolve those exceedances was the usage of longer swamps to allow a longer filtration time to meet discharge limits, which ANDEA authorized.

QMM continuously develops its understanding of impact and mitigation and is committed to finalizing the JBS&G Public Radiation study and share its results publicly. Preliminary results indicate that it is highly unlikely that exposures to naturally occurring radiation in the area surrounding the QMM mine exceed IAEA[4] dose limits.

No chemicals are used to process QMM products. Water treatment uses a natural system of swamps to manage the discharge water. As with all natural systems, there is variability in the performance of the system based on a variety of environmental conditions.

The approved monitoring protocol and discharge management procedures are in place to monitor water discharges and the receiving environment.

[4] International Atomic Energy Agency

Looking forward

1. A new discharge permit request for WMC 903:

As QMM intents to maintain the efficiency of its water management process, a discharge permit for a new point has been requested, upstream of WMC803A, allowing usage of a new filtration area.

2. Continuous improvements:

• Historical exceedances in water discharges pertain to metals (cadmium and aluminium). A team of professionals from various Rio Tinto locations is reviewing the current water management approach and is investigating past exceedances to optimize water usage and minimize discharges of metals in water.

• QMM is committed to finalizing the JBS&G Public Radiation study and share its results publicly.

• A review of recognized standards will be conducted to identify the most suitable environmental protection guidelines for the Madagascar location.

• QMM is in the process of improving its onsite laboratory capacity through procurement of new equipment, development of new procedures, training of personnel and hiring additional resources.

Annex 1

RioTinto

SUIVI MENSUEL DE LA QUALITE DE L'EFFLUENT DES EAUX DE PROCEDES RELACHES VERS LE MILIEU NATUREL
(Rivière Mandromondromotra)

ANNEE 2017

POINTS DE RELACHEMENT WMC 603
X 705 927
Y 7 238 982

Autorisation de déversement n°

PARAMETRES	Décret 2003/464 du 15/04/03*	Unité	Résultats 2016	Janv	Févr	Mars	Trimestre 1	Avr	Mai	Juin	Trimestre 2	Juil	Août	Sept	Trimestre 3	Oct	Nov	Déc	Trimestre 4	CUMUL 2017
Nombre de mesures			52	4	4	5	13													13
pH**	6 a 9		3,7	3,5	3,6	3,8	3,6													3,6
Conductivite	200	µs/cm	611,3	28	28,0	27,4	27,7													27,7
Matières en Suspension	60	mg/l	10,2	859,3	921,3	589,4	790,0													790,0
Oxygène Dissout	<5	mg/l	7,0	8,6	4,5	2,9	5,3													5,3
Temperature	30	°C	24,6	5,3	5,3	5,3	5,3													5,3
Couleur	20	Pt/Co	<20	<20	<20	<20	<20													<20
Huiles et graisses	10	mg/l	<2	<2	<2	<2	<2													<2
Aluminium	5	mg/l	2,0	3,2	1,4	N.M	2,3													2,3
Turbidite	25	NTU	38,3	4,4	10,6	4,0	68,2													68,2
Dureté calcique	180	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Azote ammoniacal	15	mg/l	0,5	<0,01	<0,01	<0,01	0,3													0,3
Nitrates	20	mg/l	1,0	0,1	0,8	0,0	0,7													0,7
Nitrites	0,2	mg/l	0,2	<0,001	<0,001	<0,001	<0,001													<0,001
NTK	20	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Phosphate	20	mg/l	1,2	0,2	0,1	0,1	0,5													0,5
Sulfures	10	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Sulfates	250	mg/l	286,1	359,9	300,2	211,9	321,2													321,2
HAP	1	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Chlorure	250	mg/l	20,1	32,2	29,9	25,9	21,5													21,5
DCO	150	mg/l	28,0	N.M	N.M	N.M	N.M													NM
DBO5	50	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Arsenic	0,5	mg/l	0,2	0,27	0,25	N.M	0,2													0,20
Cadmium	0,02	mg/l	0,02	0,02	0,03	N.M	0,02													0,02
Chrome total	2	mg/l	0,02	0,02	0,02	N.M	0,0													0,02
Fer	10	mg/l	0,6	1,8	2,8	N.M	0,6													0,6
Nickel	2	mg/l	0,04	0,05	0,04	N.M	0,05													0,05
Plomb	0,2	mg/l	0,09	0,12	0,10	N.M	0,1													0,09
Etain	10	mg/l	N.M	N.M	N.M	N.M	N.M													N.M
Zinc	0,5	mg/l	0,05	0,05	0,04	N.M	0,1													0,07
Manganese	5	mg/l	0,13	0,18	0,17	N.M	0,1													0,1
Mercure	5	µg/l	N.M	N.M	N.M	N.M	N.M													N.M
Cyanures	0,2	mg/l	<0,01	<0,01	<0,01	<0,01	0,1													<0,01
Volume d'eau douce pompé		m^3	0	0	0	0	0													0
Volume d'effluent relâché vers le milieu N.Mturel		m^3	3160002	35891	304483	2760751	3101124													3101124
Volume d'effluent reutisé		m^3	4997427	475750	412692	643661	1532103													1532103

Les valeurs ci-dessus representent les moyennes mensuelles des résultats d'analyses obtenus.
Les analyses des paramètres organoleptiques et physico-chimiques ont été réalisées auprès du laboratoire environnemental de QMM S.A Fort Dauphin.
Les analyses des paramètres bactériologiques ont été réalisées auprès du LHAE (IPM) Antananarivo.

DCO : Demande Chimiques en Oxygène
DBO5 : Demande Biologique en Oxygène (5jrs) -
NTK : Azote total Kjeldahl
HAP : Hydrocarbures aromatiques polycycliques
* : Décret n° 2003/464 du 15/04/03, Portant classification des eaux de surface et reglémentation des rejets d'effluents liquides.
** : Critères de relâchement interne de RT QMM

Observations :

L'appareil ICP pour l'analyse des cations n'est pas stable, alors pas de résultats pour les cations durant le mois de mars.

Fait à Tolagnaro le 10 Avril 2017

RioTinto
Janie RAVELOJAONA
Hygiene & Environment Superintendent
QIT Madagascar Minerals SA

Annex 2

RioTinto

SUIVI MENSUEL DE LA QUALITE DE L'EFFLUENT DES EAUX DE PROCEDES RELACHES VERS LE MILIEU NATUREL

Année 2019

Point de relâchement : WMC603 Coordonnées (UTM X;Y) : 705927 ; 7238982
Description : Site de relachement des paddocks
Autorisation de déversement n°

Paramètres	Limites décret*	Unité	2018	Janv.	Févr.	Mars	Trim 1	Avr.	Mai	Juin	Trim. 2	Juill.	Août	Sept.	Trim. 3	Oct.	Nov.	Déc.	Trim. 4	2019
Nombre de Mesures			54	3	4	6	13													13
pH	3,2 à 6	n.a.	3.7	3.5	3.4	3.3	3.4													0.85
Conductivite	700	uScm	564.2	789.3	726	615.2	710.2													177.5
Matières en Suspension	60	mgL	3.9	3.7	0.258	9.5	4.5													1.1
Oxygène Dissout	> 5	mgL	7.3	6.2	7.4	7.1	6.9													1.7
Temperature	30	DegC	24.2	29.8	27.7	28.1	28.5													7.1
Couleur	20	PtCo	5.5	4.7	3.1	2.4	3.4													0.85
Huiles et graisses	10	mgL	0.047	2	2.1	2	2													0.51
Aluminium	5	mgL	4	4	5.4	3	4.1													1
Turbidite	25	NTU	9	5.4	2	23.2	10.2													2.6
Dureté calcique	180	mgL	83.5	149	127.5	94.2	123.6													30.9
Azote ammoniacal	15	mgL	0.015	0.097	0.135	0.528	0.25													0.06
Nitrates	20	mgL	0.086	0.071	0.076	0.025	0.06													0.01
Nitrites	0.2	mgL	0	0.001	0.001	0.001	0.001													0
NTK	20	n.a.	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Phosphates	20	mgL	0.071	0.09	0.15	0.104	0.11													0.03
Sulfures	10	n.a.	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Sulfates	300	mgL	300.4	198	205.8	204	202.6													50.7
HAP	1	n.a.	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Chlorure	250	mgL	22.5	14.1	13.3	13.9	13.8													3.4
DCO	150	mgO2L	20.1	101	22.3	34.8	52.7													13.2
DBO5	50	mgO2L	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Arsenic	0.5	mgL	0.234	0.284	0.219	0.228	0.24													0.06
Cadmium	0.02	mgL	0.021	0.024	0.021	0.023	0.02													0.006
Chrome total	2	mgL	0.035	0.055	0.04	0.047	0.05													0.01
Fer Total	10	mgL	0.983	1.2	1.3	1.6	1.4													0.34
Nickel	2	mgL	0.05	0.063	0.056	0.052	0.06													0.01
Plomb	0.2	mgL	0.094	0.123	0.09	0.098	0.1													0.03
Etain	10	n.a.	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Zinc	0.5	mgL	0.081	0.092	0.107	0.077	0.09													0.02
Manganèse	5	mgL	0.177	0.173	0.149	0.137	0.15													0.04
Mercure	5	mgL	N.M.	N.M. N.M.		N.M.	N.M.													N.M.
Cyanures	0.2	mgL	0	0.01	0.01	0.015	0.01													0.003
Coliformes totaux	500	u100mL	51.9	0	N.M.	N.M.	N.M.													N.M.
Escheriscia coli	100	u100mL	42.7	0	0	N.M.	N.M.													N.M.
Entérocoques Intéstinaux	100	u100mL	125	0	0	112	37.3													9.3
Clostridium SR	100	u100mL	213.1	150	112.5	266	176.2													44
Eau douce pompée		m3	0	0	0	0	0													0
Eau relâchée		m3	6 731 676	226 559	656 561	64 027	947 147													947 147
Eau réutilisée		m3	6 592 246	995 603	598 355	568 653	2 162 611													2 184 092

Les valeurs ci-dessus représentent les moyennes mensuelles des résultats d'analyses obtenus
Les analyses des paramètres organoleptiques, physico-chimiques et bactériologiques ont été réalisées auprès du laboratoire environnemental de QMM S.A Fort Dauphin
* : Décret n° 2003/464 du 15/04/03, Portant classification des eaux de surface et réglementation des rejets d'effluents liquides
** : Critères de relâchement interne de RT QMM

DCO : Demande Chimiques en Oxygène
DBO5 : Demande Biologique en Oxygène (5jrs)
NTK : Azote total Kjeldahl
HAP : Hydrocarbures aromatiques polycycliques

Je déclare exactes toutes les informations fournies dans ce rapport de suivi de la qualité de l'effluent de l'usine de traitement des eaux usées domestiques du village des employés de QMM Phase 1&2

Report based on the QMM acQuire monitoring database - Contact the acQuire manager for changes

Observations :
Il n'y a pas eu de résultats sur les coliformes et E.coli par manque de réactifs pour le mois de février et mars.
L'appareil de Chromatographique Ionique est en panne, donc pas de
résultats sur les anions
Pour le pH, la conductivité et le sulfate des nouvelles valeurs de la norme ont
été revues avec l'ANDEA.

Fait à Tolagnaro le 08-Apr-2019

RioTinto
Janie RAVELOJAONA
Hygiene & Environment Superintendent
QIT Madagascar Minerals SA