



EPBC Compliance Report

November 2021 to November 2022

February 2023

McArthur River Mine
Overburden Management Project
EPBC 2014/7210

McArthur River Mining Pty Ltd



A GLENCORE Company

EPBC Compliance Report

November 2021 to November 2022



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Executive Summary

McArthur River Mining Pty Ltd (MRM) obtained approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 12 June 2019 for the Overburden Management Project (Approval 2014/7210). The purpose of this Compliance Report is to fulfil the reporting requirements for an “Annual Compliance Report” under Part B condition 7 of the EPBC Act Approval 2014/7210 for the reporting period 13 November 2021 to 12 November 2022.

THE REPORT FOUND



MRM's operations are **not adversely impacting** the population health or migration of Freshwater Sawfish.



The McArthur River and its creeks were in **good health**.



MRM continues to achieve **100% compliance** with all of the active conditions of the EPBC Approval.



Freshwater Sawfish (*Pristis pristis*)

In summary, a total of 19 conditions of EPBC Act Approval 2014/7210 were active during the 2021–2022 reporting period. MRM maintained compliance with all conditions. MRM continues to achieve the overarching objective of no impact to the health of the McArthur River as a result of the Mine. MRM continues to achieve the overarching environmental outcome that the Action does not cause impacts to the McArthur River that reduce the abundance or population health of the EPBC Act listed Freshwater Sawfish (*Pristis pristis*) or Gouldian Finch (*Erythrura gouldiae*). These conclusions have been supported by Dr Dean Thorburn of Indo-Pacific Environmental upon review of MRM's environmental performance over the reporting period.



Gouldian Finch (*Erythrura gouldiae*)



Freshwater Sawfish observed in the McArthur River



Freshwater Sawfish being captured and tagged in MRM's acoustic tagging program



Freshwater Sawfish observed in the Glyde River

During the 2022 early dry season survey, the capture rate of Largetooth Sawfish was greater than expected throughout the survey area, including sites within and upstream of the mineral lease, which provides ongoing confirmation that this Vulnerable species remains able to navigate from the McArthur River to the upstream delta to prey-rich and relatively predator-free environments. The results suggest that the McArthur River Diversion Channel or activities occurring within the Mineral Leases are not having a measurable negative impact on the Largetooth Sawfish population within the McArthur River.

Results from the 2022 late dry season survey align with past conclusions, that there has been no observable decline in species diversity or abundance in waters upstream and downstream of the mineral lease, outside of that which could be considered natural variation. This in turn suggests that the McArthur River catchment is not being adversely influenced by current mining operations. Furthermore, these results suggest that the recovery of the McArthur River Diversion Channel is on a positive trajectory towards that of natural sections of the McArthur River, as a result of ongoing riparian revegetation undertaken by MRM.



Revegetation works at the McArthur River Diversion Channel have been successful



Tagging of the Freshwater Sawfish

DESCRIPTION OF ACTIVITIES

EPBC Number	EPBC 2014/7210 (dated 12 June 2019), and subsequent variations (dated 18 December 2020 and 29 April 2022).
Project Name	McArthur River Mine Overburden Management Project
Approval holder and ACN	McArthur River Mining Pty. Ltd. ACN: 008 167 815
The approved action	To manage the non-benign overburden and surface water at the McArthur River Mine through the reconfiguration of the Northern Overburden Emplacement Facility, through other Overburden Emplacement Facilities, use of the Tailings Storage Facility or alternative strategies, at the McArthur River Mine, 45 km south-west of Borroloola, Gulf Region, Northern Territory (See EPBC Act referral 2014/7210).
Operational Activities undertaken during the reporting period	<p>The Mine and Bing Bong Loading Facility operate in accordance with EPBC Act Approval 2003/954, Variation of Authorisation 0059 and the January 2020 Mining Management Plan and its approved amendments. The Mine also operates in accordance with EPBC Act Approval 2014/7210, the key operational activities conducted during the reporting period included:</p> <ul style="list-style-type: none"> • Mining of overburden and ore in the Open Pit. • Emplacement of overburden at the North Overburden Emplacement Facility (NOEF) consistent with management procedures for handling non-benign and benign material. • Construction of and upgrades to water management infrastructure. • Processing of ore at the mill area. • Deposition of tailings in Cells 1 and 2 of the Tailings Storage Facility (TSF). • Transport of product material to the Bing Bong Loading Facility and then via motor vessel to ships in the Gulf of Carpentaria. • Exploration activities and a regional drilling program for hydrogeological testing, characterisation of overburden and the installation of geotechnical and environmental monitoring sites.
Environmental Activities undertaken during the reporting period	<p>The key environmental activities conducted during the reporting period included:</p> <ul style="list-style-type: none"> • Ongoing drilling at select areas of the site to refine the hydrogeological model. • Rehabilitation trials to inform long-term performance and design of the NOEF cover system. • Ongoing rehabilitation and revegetation activities. • Ongoing use and monitoring of the TSF Interception Trench. • Independent Monitor Audit of the period 1 April 2021 to 30 April 2022. • Commenced trial and study into dust mitigation strategies. • Managed release of water in accordance with Waste Discharge Licence 174. • Ongoing studies on the environment of the Mine site to improve environmental management. • Ongoing environmental monitoring to inform operational management.
Location of the project	McArthur River Mine, 45 km south-west of Borroloola, Gulf Region, Northern Territory.
Person accepting responsibility for the report	See signed declaration below.
Dates for the reporting period of the report	13 November 2021 to 12 November 2022
Date of preparation of the report	6 February 2023

McArthur River Mine acknowledges the Gudanji and Yanyuwa people of the Gulf Region, the Traditional Owners of the land on which our mine site and Bing Bong Loading Facility operate. We pay our respects to past, present and emerging elders and thank elders for the knowledge and wisdom they share with our people. We also pay our respects to Garrwa and Marra elders and acknowledge their connection to the country on which we operate.

Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signature:

A handwritten signature in black ink that reads "Lana Treasure". The signature is written in a cursive style with a large, stylized initial 'L'.

Full name: Lana Treasure

Position: Manager – Health, Safety and Environment

Organisation: McArthur River Mining Pty. Ltd.

ACN: 008 167 815

Date: 9 February 2023

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1 Introduction

Glencore PLC (Glencore) is one of the world's largest natural resource companies. McArthur River Mining Pty Ltd (MRM) is a subsidiary of Glencore, and is the operator of the McArthur River Mine (the Mine; Figures 1 and 2). MRM operations consist of the open pit mine, a concentrator and processing plant, overburden and tailings management activities and the Bing Bong Loading Facility (BBLF; Figure 3) in the Gulf of Carpentaria.

Legal Entity:	McArthur River Mining Pty Ltd
ABN:	90 008 167 815
ACN:	008 167 815
Registered Business Address:	Level 44, 1 Macquarie Place, Sydney NSW 2000
Postal Address:	PO Box 36821, Winnellie NT, 0821

The purpose of this Compliance Report is to fulfil the reporting requirements for an "Annual Compliance Report" under Part B condition 7 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval 2014/7210. This condition states that the approval holder must prepare an Annual Compliance Report for each 12-month period following the date of commencement of the action. MRM must continue to publish each report and notify the Department of Agriculture, Water and the Environment (the Department) of publication until the expiry of the EPBC Act Approval 2014/7210 on 20 January 3019.

This report has been prepared in accordance with the then Department of the Environment's *Annual Compliance Report Guidelines, Commonwealth of Australia 2014*, and covers the period of 13 November 2021 to 12 November 2022 (herein referred to as the reporting period).

2 Project Summary

2.1 Location & Tenements

The Mine is located approximately 45 kilometres (km) south-west of the township of Borroloola (approximately 65 km by road) and 715 km south-east of Darwin (approximately 900 km by road), in the Gulf Region of the Northern Territory (NT) (Figure 1).

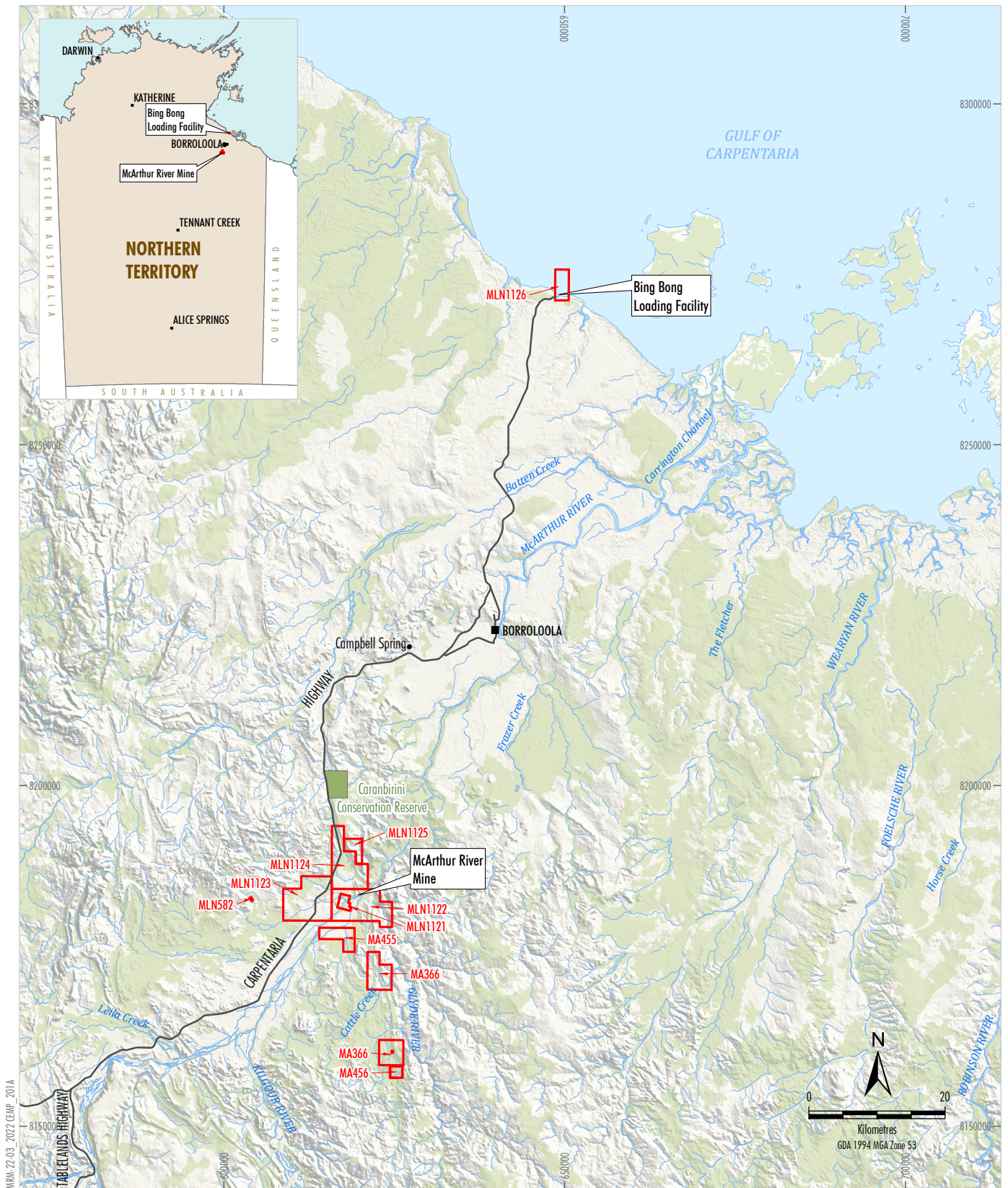
The Mine is contained within five contiguous mineral leases (Mineral Lease Northern [MLN] 1121, MLN 1122, MLN 1123, MLN 1124 and MLN 1125), located on the McArthur River Station Pastoral Lease. The McArthur River Station is 100 per cent (%) owned by Mount Isa Mines Limited and managed by Colinta Holdings Pty Ltd, a Glencore subsidiary. The BBLF is situated on MLN 1126, located on the Bing Bong Pastoral Lease.

2.2 History of Development

The Mine is a major open pit operation, initially developed as an underground operation in 1994.

The action to develop open cut operations at the Mine was subsequently referred to the Department under EPBC Act Referral 2003/954. The proposed action under EPBC Act Referral 2003/954 was determined to be a controlled action, and the Mine was converted to an open pit operation following the completion of the 2005 environmental impact assessment process for the Phase 2 Project (Phase 2) and authorisation on 20 February 2009. MRM continues to operate the Mine and BBLF in accordance with the conditions of EPBC Act Approval 2003/954.

In 2013, the NT Government approved the MRM Phase 3 Development Project (Phase 3), extending the life of the Mine to 2036 and increasing production. This Action was referred to the Department under EPBC Act Referral 2011/5904, and was found to be "Not a Controlled Action".



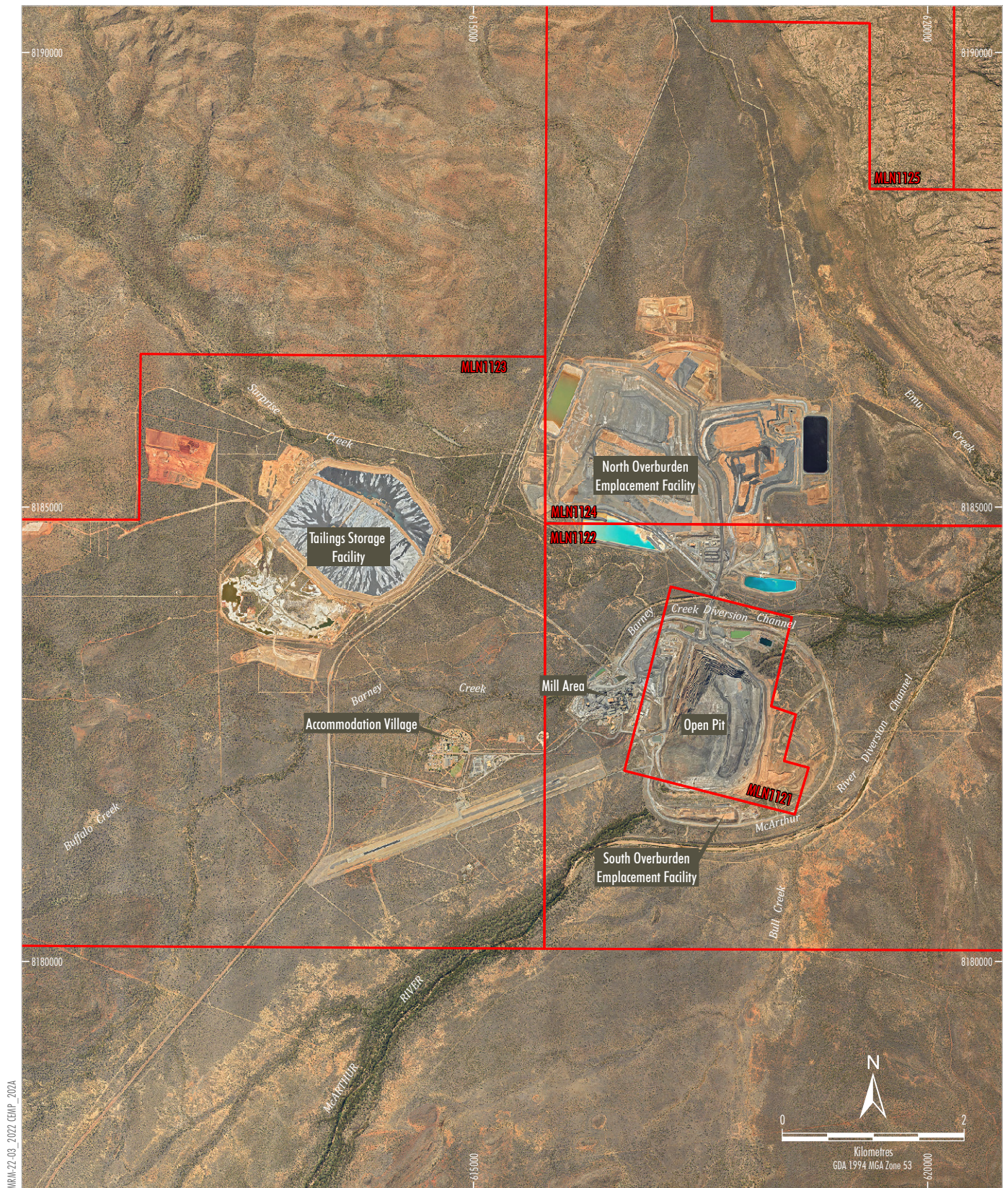
LEGEND

- Mineral Lease/Exploration
- Major Road
- River/Creek

Source: Geoscience Australia - Topography (2006);
Department of Environment and Natural Resources (2016)

McARTHUR RIVER MINE
Regional Locality

Figure 1



LEGEND
 Mineral Lease

Source: Orthophoto MRM (2022); Department of Environment and Natural Resources (2016)

McARTHUR RIVER MINE
 Mine Site

Figure 2

In late 2013, MRM lodged the 2013-2015 Mining Management Plan (2013-2015 MMP) with the NT Government. The 2013-2015 MMP incorporated amendments to the classification of overburden and resultant modifications to overburden emplacement design, particularly the North Overburden Emplacement Facility (NOEF). The amendments presented in the 2013-2015 MMP were referred to the NT Environment Protection Authority (NT EPA) in March 2014, under the NT *Environmental Assessment Act 1982* (Environmental Assessment Act), who determined that the amendments were significantly different from those approved under Phase 3. The NT EPA determined that assessment under the Environmental Assessment Act via an Environmental Impact Statement (EIS) was required.

MRM submitted the Overburden Management Project (OMP) EIS in early 2017 and subsequently prepared and submitted a Supplementary OMP EIS. In July 2018, the NT EPA completed its assessment of the OMP EIS and issued *Assessment Report 86 for the McArthur River Mine Overburden Management Project* (Assessment Report 86), recommending the OMP for approval. Assessment Report 86 makes 30 recommendations to be adopted in future authorisations where relevant.

Federal approval of the OMP was received from the then Department of the Environment and Energy on 12 June 2019, with the approval document EPBC 2014/7210 issued. The OMP was formally authorised and commenced on 13 November 2020. EPBC 2014 7210 was subsequently varied on 18 December 2020, and on 29 April 2022.

2.3 Environmental Risk

A recent review of the risk assessment found that there was no increase in the environmental risks compared to those presented in the OMP EIS, and all risks (including new/altered risks) had appropriate controls in place to maintain ranking of Medium or lower. No new environmental risks were identified during the reporting period.

3 Compliance Summary

A compliance table is provided in Table 1 below, detailing the full wording of all conditions under EPBC Act Approval 2014/7210, MRM's compliance status, and a summary of the evidence and comments supporting the compliance designation.

Part A of EPBC Act Approval 2014/7210 includes 16 conditions specific to the action. During the reporting period, nine of the conditions listed in Part A were determined to be "Not Applicable", as they were not triggered during the reporting period (e.g. the due date is in the future), or they were determined to be administrative in nature (e.g. required no action).

Part B of EPBC Act Approval 2014/7210 includes 20 standard administrative conditions. During the reporting period, 11 of the conditions listed in Part B were determined to be "Not Applicable".

A total of 19 conditions of EPBC Act Approval 2014/7210 were active during the 2021-2022 reporting period. MRM maintained compliance with all conditions.

3.1 Recent Monitoring Results

Currently, MRM undertakes an extensive monitoring program with input from a number of external water quality, aquatic fauna and other experts. The results of the monitoring program are analysed throughout the year and reported in MRM's annual Environmental Monitoring Report (EMR). MRM's most recent EMR (for the period of 1 May 2021 to 30 April 2022) concluded:

Overall, based on external experts' and MRM's review of environmental monitoring data and trends, it is concluded that the key environmental objectives are being achieved and the McArthur River is in a healthy condition.

Plate 1 gives a summary of MRM's environmental performance over the reporting period.



Plate 1: Environmental Performance of the McArthur River Mine at a Glance



Plate 2: Large-toothed Sawfish (*Pristis pristis*)

The results show that MRM has met the overarching objective of no impact to the health of the McArthur River as a result of the Mine. MRM has also achieved the overarching environmental outcome that the Action does not cause impacts to the McArthur River that reduce the abundance or population health of the EPBC Act listed Large-toothed Sawfish (*Pristis pristis*) or Gouldian Finch (*Erythrura gouldiae*). These conclusions have been supported by Dr Dean Thorburn of Indo-Pacific Environmental (IPE) upon review of MRM's environmental performance over the compliance period (refer Appendix 1).

During the 2022 early dry season survey, the capture rate of Large-toothed Sawfish was greater than expected throughout the survey area, including sites within and upstream of the mineral lease, which provides ongoing confirmation that this Vulnerable species remains able to navigate from the McArthur River delta upstream to prey-rich and relatively predator-free environments. The results suggest that the McArthur River Diversion Channel or activities occurring within the Mineral Leases are not having a measurable negative impact on the Large-toothed Sawfish population within the McArthur River (Appendix 1).

IPE indicated that 2022 was the driest year since the monitoring program began. Regardless, results from the 2022 late dry season survey align with past conclusions, including that there has been no observable decline in species diversity or abundance in waters upstream and downstream of the mineral lease, outside of that which could be considered natural variation. This in turn suggests that the McArthur River catchment is not being adversely influenced by current mining operations. Furthermore, these results suggest that the recovery of the McArthur River Diversion Channel is on a positive trajectory towards that of natural sections of the McArthur River, as a result of ongoing riparian revegetation undertaken by MRM (Appendix 1).



Plate 3: Revegetation Activities



Plate 4: McArthur River Diversion Channel with Revegetation Along Banks

TABLE 1: MRM EPBC APPROVAL 2014/7210 – CONDITIONS COMPLIANCE TABLE

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Part A – Conditions specific to the action				
Original dated 12/06/2019	1	<p>To minimise impacts to EPBC Act listed species, the approval holder must:</p> <ol style="list-style-type: none"> Meet the objective of no impact to the health of the McArthur River as a result of the mine. Meet the outcome that the action does not cause impacts to the McArthur River that reduce the abundance or population health of EPBC Act listed species. <p>The conditions below describe how both the objective and outcome are to be achieved by the approval holder, including through the establishment of appropriate methodologies, standards and baselines.</p>	Compliant	<p>The conditions below describe how both the objective and outcome are to be achieved, including through the establishment of appropriate methodologies, standards and baselines. McArthur River Mining Pty Ltd's (MRM's) existing environmental management system is governed by overarching objectives including <i>"Protect the McArthur River beneficial uses and community values from mining impacts"</i>. The environmental management system will be supported by the relevant monitoring plans and programs required under this approval, which will outline the appropriate methodologies, standards and baselines, however, the majority have not yet commenced. MRM continues to operate in accordance with its Adaptive Management Plan and other environmental management plans required under its Northern Territory (NT) approvals.</p> <p>During the reporting period, MRM has conducted a number of monitoring programs and assessments to ensure compliance with relevant parts (a) and (b) of Condition 1. The relevant programs and assessments focus on ensuring that there is no impact on the health of the McArthur River or impacts to the McArthur River that may reduce the abundance or population of EPBC listed species.</p> <p>A summary of conclusions from the relevant assessments and monitoring programs is included below:</p> <ul style="list-style-type: none"> <u>Annual Environmental Monitoring Report (EMR)</u> – an annual synthesis of monitoring data to determine MRM's environmental performance. <ul style="list-style-type: none"> During the most recent reporting period (1 May 2021 to 30 April 2022), the annual EMR concluded that MRM's key environmental objectives are being achieved, including: <i>"protection of the McArthur River beneficial uses and community values from mining impacts"</i> and <i>"facilitation of the development of the ecosystems and their functions along the McArthur River Diversion Channel for terrestrial and aquatic fauna"</i>.

				<ul style="list-style-type: none"> • <u>Annual Aquatic Fauna Diversity and Abundance Monitoring Program</u> – a biannual assessment of aquatic fauna diversity and abundance, including the Largetooth Sawfish, upstream and downstream of mining operations. <ul style="list-style-type: none"> - Assessment of aquatic fauna diversity and abundance in the early and late dry season during the reporting period indicated that there has been no observable decline in species diversity and abundance in waters upstream and downstream of the mineral lease, outside of that which could be considered natural variation. This indicates the McArthur River catchment, including the Largetooth Sawfish and other aquatic fauna, is not being adversely impacted by mining operations. • <u>Annual Acoustic Monitoring of Largetooth Sawfish and Barramundi Monitoring Program</u> – an annual assessment of acoustic monitoring data to determine Largetooth Sawfish and Barramundi movement throughout the McArthur River. <ul style="list-style-type: none"> - Assessment of acoustic monitoring data for the Largetooth Sawfish during the reporting period indicated that juvenile Largetooth Sawfish were able to successfully navigate the McArthur River Diversion Channel to waters above the mineral lease, demonstrating that mining operations are not creating a barrier to sawfish passage. - Furthermore, the capture rate for Largetooth Sawfish during the reporting period exceeded the expected range based on previous surveys. As such, the McArthur River Diversion Channel or activities occurring within the mineral leases do not appear to be having a measureable negative impact on Largetooth Sawfish population or recruitment within the McArthur River. • <u>Gouldian Finch Monitoring and Management</u> – the requirement for this monitoring and management plan under Conditions 6 and 7 has not yet been triggered. However, work is underway to meet the relevant due dates. <ul style="list-style-type: none"> - Management of Gouldian Finch nesting and foraging habitat continued in accordance with the requirements of Condition 3. Compliance with Condition 3 is included in the appropriate section below.
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Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
				<p>IPE provided a letter supporting MRM's compliance to Condition 1 (See Appendix 1). IPE concluded:</p> <p><i>Based on the results of these monitoring programs it is Indo-Pacific Environmental's opinion that, during the 2022 reporting period, MRM's activities did not cause measurable impact to the McArthur River aquatic ecosystem nor reduce the abundance or health of the EPBC listed Largetooth Sawfish.</i></p> <p>Based on the above conclusions of MRM and the relevant specialists, MRM has met the objective and outcome of Condition 1.</p>
Original dated 12/06/2019	2	The Minister may determine that a plan, strategy or program approved by the Northern Territory (NT) Government satisfies the requirement for a plan, strategy or program required under these conditions.	Not Applicable	Administrative condition.
As varied 18/12/2020	3a	<p>To minimise impacts to EPBC Act listed species, the approval holder must not clear more than 7.1 ha of nesting habitat for the Gouldian Finch in the project footprint as part of this action, and the approval holder must:</p> <p>a. exclude cattle from at least 452 ha of potential foraging habitat for the Gouldian Finch; and</p>	Compliant	<p>MRM maintains a register of all approved vegetation clearing that occurs through the Ground Disturbance Permit process. Clearing of Gouldian Finch nesting habitat is recorded in this register and tracked against the approval limit of 7.1 hectares (ha). A total of 3 ha of Gouldian Finch nesting habitat has been cleared since the commencement of the Action.</p> <p>In accordance with the current Cattle Management Plan, MRM operates a Cattle Exclusion Zone around mining and operational areas. The extent of the Cattle Exclusion Zone fence was upgraded after approval of the current Cattle Management Plan, meeting the requirements of Condition 3a. The Cattle Exclusion Zone currently excludes cattle from approximately 3,151 ha of potential foraging habitat for the Gouldian Finch.</p> <p>Inspections of the Cattle Exclusion Zone fence are undertaken as scheduled and maintenance is conducted throughout the year as required. Cattle monitoring is also undertaken regularly and cattle are removed as required.</p>
As varied 18/12/2020	3b	<p>b. establish key food grasses for the Gouldian Finch when rehabilitating the Tailings Storage Facility and Northern Overburden Emplacement Facility.</p>	Not Applicable	<p>Condition has not been triggered.</p> <p>Rehabilitation of the North Overburden Emplacement Facility (NOEF) and/or Tailings Storage Facility (TSF) has not yet commenced, however, this requirement is included in MRM's Rehabilitation Management Plan for future implementation.</p>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	4	To minimise impacts to EPBC Act listed species , the proposed pit lake, if developed, must remain hydraulically isolated from the McArthur River and its floodplain as there is not sufficient understanding of the potential risks associated with opening the proposed pit lake to the McArthur River. If in the future the pit lake is again proposed to be hydraulically connected to the McArthur River, a referral may be required for a decision to be made by the Minister under the EPBC Act .	Not Applicable	Condition not yet triggered - The pit lake has not been developed.
As varied 29/04/2022	5a	To minimise impacts to EPBC Act listed species , by ensuring that acid and metalliferous drainage from the Northern Overburden Emplacement Facility, Tailings Storage Facility and mine pit does not present an unacceptable risk to the environment, the approval holder must submit the following completed studies to the Department for approval by the Minister : a. within 18 months of this approval , a study to determine the capacity for attenuation of metals and acid within the groundwater system. This study must estimate the available attenuation capacity and if, and when, this capacity will be exceeded. The study must have particular regard to the groundwater system beneath and impacted by the Northern Overburden Emplacement Facility and must also include other relevant areas of the site including the mine pit and Tailings Storage Facility . The study must include geochemical modelling that examines the effects on metal concentrations of oxidation of sulfur and depletion of buffering capacity. The study must include an assessment of potential management options that could be implemented if the attenuation capacity is exceeded and identify a suitable management option that will be implemented;	Compliant	Complete - The study addressing condition 5a was provided to the Department on 11 December 2020.
As varied 29/04/2022	5b	b. within 18 months of this approval , a study to identify and characterise any hydraulic connection between the mine pit and the McArthur River. The study must assess how this connectivity could affect water quality in the McArthur River and include an assessment of potential management options to satisfy the requirements of condition 1, including how any material stored within the mine pit should be managed; and	Compliant	Complete - The study addressing condition 5b was provided to the Department on 11 December 2020.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
As varied 29/04/2022	5c	<p>c. within 5 years of this approval, a study to determine the long-term (1000 years) stability and performance of the mine pit levee. This study must assess and confirm the stability of the structure in terms of resistance to erosion and must consider the effectiveness of the structure in isolating the mine pit from a 0.1% Annual Exceedance Probability (AEP) event. The study must consider the potential for climate change to increase the magnitude (including the depth of flooding and the velocity of flooding) of a 0.1% AEP event for the life of the project. If the study finds that the current levee may not be effective, the study must be extended to include an assessment of potential management options that could be implemented and identify a management option that will be effective in maintaining the stability and performance of the structure. The report of the study must commit the approval holder to implement the effective option.</p> <p>Upon approval by the Minister, the approval holder must implement any commitments made in an approved study and use the studies to inform the adaptive management plan required by condition 6.</p>	Not Applicable	Planning in progress - Required by 12 June 2024.
As varied 29/04/2022	6	<p>To minimise impacts to EPBC Act listed species the approval holder must submit an adaptive management plan to the Department for approval by the Minister, within 12 months of the date the study to determine the long-term (1000 years) stability and performance of the mine pit levee required by condition 5(c) is approved by the Minister. The adaptive management plan and its individual component plans must consider all available relevant data (including data from the studies required by condition 5).</p> <p>Upon written request from the Minister, the approval holder must provide the model files for any part of the adaptive management plan for review, either to the Minister or to a third party. The Minister may request revisions to the modelling. If such a revision is requested, the approval holder must revise the modelling and resubmit a report describing the new model run and the results to the Minister within a timeframe specified by the Minister in the written request.</p>	Not Applicable	In progress - Required within 12 months of Approval of Condition 5 study, above (12 June 2025, at the earliest)

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>If modelling required under condition 6A(a) and 6A(b) shows impacts to water quality are greater than in modelling previously provided to the Minister, within three months of these results being obtained, the approval holder must revise and submit to the Minister for approval relevant plans including the surface water (condition 6B) and groundwater (condition 6C) monitoring and management plans and the adaptive management plan (condition 6) to include mitigation measures that will reduce impacts to levels that will ensure that site-specific guideline values described in condition 7 are not exceeded. The approved adaptive management plan must be implemented during all stages of the project, including care and maintenance.</p> <p>The adaptive management plan must include:</p> <p>A. general requirements</p> <ol style="list-style-type: none"> a new conceptual water model for the mine project area and surrounds and update the numerical groundwater, surface water quality and particle tracking models. The models must include all the geological, hydrogeological, geophysical and water quality information and data that has been acquired for, and is referred to in, the Environmental Impact Statement; an updated groundwater model, which assesses the impact of hydraulic loading on the groundwater system of the Northern Overburden Emplacement Facility (NOEF); reports describing the new and updated models described in condition 6A(a), and 6A(b) and results. The reports must be presented in a form that shows the new results and clearly explains the differences between the results of the updated modelling and the results of modelling presented in the Environmental Impact Statement, and the causes of this difference; procedures that ensure that monitoring data is responded to in a timely manner by triggering appropriate actions, responses and changes to planned management and mitigation (i.e. related to water quality objectives and early warning triggers); procedures that ensure that monitoring plans are regularly reviewed to consider the adequacy of the monitoring locations, frequencies and analytical suite to be measured, and these are improved in a timely manner; 		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>f. criteria for monitoring and evaluating the effectiveness of mitigation and management measures and a mechanism for reporting in a timely manner to the Minister when a current adaptive management approach is inadequate and how this will be rectified;</p> <p>g. a commitment to regularly review management options and contingencies (every 2 to 5 years during operations) taking into account recent advances in best practices;</p> <p>h. a commitment to achieve improved water quality and reduced toxicant levels in surface waters within 20 years after the cessation of mining for all monitoring sites for which site-specific guideline values have been developed in accordance with condition 6B(c) for toxics where baseline levels are above default guideline values; and</p> <p>i. procedures that ensure that water monitoring data is collected for the life of the project including care and maintenance if the project enters this phase. All monitoring data must be provided to the Minister upon request.</p> <p>B. a surface water monitoring and management plan. This plan must:</p> <p>a. clearly identify (including on a map) all proposed water quality monitoring sites and flow gauging locations and, for each, justify the purpose/objective and monitoring frequency and timing. The plan must also specify and justify which sites are appropriate downstream monitoring sites (i.e. downstream of mine impacts) for derivation of site-specific guideline values. Water quality monitoring sites must include:</p> <ul style="list-style-type: none"> i. locations on natural waterways (permanent, ephemeral/intermittent and pools); ii. locations within the mine water management system, including all water stores that can discharge (either controlled or uncontrolled) to the environment; iii. locations upstream of any possible mine influence that will be used as control sites; iv. a monitoring location that is upstream of the confluence of the McArthur River and the Glyde River (as locations below the confluence would be diluted by the Glyde River); and 		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>v. an additional compliance location, to be located on Emu Creek, that is to be established by 2025 (as at this location and soon after this time, groundwater modelling predicts that sulfate will migrate from the NOEF to the area).</p> <p>b. clearly identify and justify the proposed monitoring frequency, which must be sufficient to capture variability in the system, and locations of monitoring that will be undertaken for all stages of the project (including care and maintenance) and the analyte suite to be measured;</p> <p>c. specify site-specific guideline values for appropriate downstream monitoring sites identified in condition 6B(a). These guideline values must be calculated as specified in condition 7. Guideline values must include, but are not limited to, concentrations of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium. Default guideline values (as defined in ANZG 2018 or a future relevant ANZG) can be used until the studies required under condition 7 have been completed);</p> <p>d. specify early warning trigger values for water quality at appropriate monitoring sites identified in condition 6B(a). These early warning trigger values must allow early identification of when water or sediment quality could be impacted. Early warning trigger values must include, but are not limited to, concentrations of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium;</p> <p>e. include a process for reviewing the data collected (at least every three months during operations including one review at the end of the dry season and one review at the end of the wet season and annually during closure), examining trends in water quality and comparing monitoring data with relevant modelling predictions at all monitoring sites required under condition 6B(a). The plan must detail for each monitoring site a robust statistical method for determining whether observations show a statistically significant difference from predictions. The plan must provide for the method to be applied to all data collected at each monitoring site. If the application of this method shows a statistically significant difference, this must be reported to the Minister in accordance with the timeframes required under Part B - condition 8 and a review of the modelling must be undertaken;</p>		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>f. include a trigger action response plan that clearly identifies timeframes and contingencies to be implemented for exceedance for both the site-specific guideline values required under condition 6B(c) or the early warning trigger values under condition 6B(d). The trigger action response plan must also include commitment(s) to implement contingencies in the event that the available capacity of attenuation of metals and acid within the groundwater system, as determined by the study required under condition 5(a), is exceeded;</p> <p>g. include baseline levels of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium at appropriate sites identified in condition 6B(a) and justify these levels based on existing or, if data are not available, specify a process for collecting suitable data and defining baseline levels.</p> <p>C. a groundwater monitoring and management plan. This plan must:</p> <p>a. clearly identify all monitoring sites (including on a map) and, for each, justify the purpose/objective and the frequency and timing of monitoring. This must include control sites at locations upstream of any possible mine influence;</p> <p>b. clearly identify the proposed timing and frequency of sampling, what monitoring is applicable to all stages of the project (including care and maintenance) and the analyte suite;</p> <p>c. designate some of the monitoring sites identified in condition 6C(a) as appropriate sites for derivation of site-specific guideline values and justify this selection. The plan must specify site-specific guideline values for all of these appropriate monitoring sites. These guideline values must be calculated as specified in condition 7. Guideline values must include, but are not limited to, concentrations of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium. Default guideline values (as defined in ANZG 2018 or the subsequent currently official Australian Guideline for Fresh and Marine Water Quality) can be used until the studies required under condition 7 have been completed;</p> <p>d. specify site specific early warning trigger values for water quality at appropriate monitoring sites as required under condition 6C(c). These early warning trigger values must allow early identification of when water quality could be impacted. Early warning trigger values must include but are not limited to concentrations for sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium;</p>		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>e. include a process for reviewing the data collected (at least six-monthly during operations including one review at the end of the dry season and one review at the end of the wet season and annually during closure), examining trends in water quality and comparing monitored data with relevant modelling predictions at all monitoring locations. The plan must detail for each monitoring site a robust statistical method for determining whether observations show a statistically significant difference to predictions. The plan must provide for the method to be applied to all data collected at each monitoring site. If the application of this method shows a statistically significant difference, this must be reported to the Minister in accordance with the timeframes required under Part B condition 8 and a review of the modelling must be undertaken;</p> <p>f. include a trigger action response plan with clearly identified timeframes and contingencies to be implemented for exceedances of either the site-specific guideline values in condition 6C(c) or the early warning trigger values in condition 6C(d);</p> <p>g. include locations for additional paired monitoring bores located to the southwest of Barramundi Dreaming and a paired monitoring bore with an associated surface water monitoring location on Emu Creek north of Barramundi Dreaming. Potential impacts arising from hydraulic loading and other groundwater flow changes, including surface and groundwater quality changes, from the Northern Overburden Emplacement Facility must be monitored. These monitoring sites are additional to the monitoring sites required by condition 6C(a); and</p> <p>h. include a definition of baseline water quality that includes concentrations of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium at appropriate sites identified in condition 6C(a). These concentrations must be justified based on existing data. If data are not available, the plan must specify a process for collecting suitable data and defining baseline water quality within 12 months.</p> <p>D. a sediment monitoring and management plan. This plan must:</p> <p>a. clearly identify (including on a map) all monitoring sites and, for each, justify the objective/purpose and the frequency and timing of monitoring. This must include:</p> <p>i. control sites at locations upstream of any possible mine influence;</p>		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>ii. monitoring sites in areas where elevated lead and zinc levels have already been identified; and</p> <p>iii. monitoring sites in soils and sediments around the Tailings Storage Facility, the Northern Overburden Emplacement Facility, the mine pit and within surface water features including the McArthur River and its diversion, Surprise Creek, Barney Creek and its diversion and Emu Creek.</p> <p>b. clearly specify the frequency and timing of sampling for all stages of the project (including care and maintenance) and the analyte suite;</p> <p>c. include site-specific guideline values for appropriate monitoring sites identified as required under condition 6D(a). These values must be calculated as required in condition 7. Guideline values must include, but are not limited to, concentrations of sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium. Interim values can be used until the studies required under condition 7 have been completed;</p> <p>d. include a process for reviewing the data collected, examining trends in water quality and comparing monitored data with relevant modelling predictions at all monitoring sites identified as required under condition 6D(a). A statistically robust criteria for determining if observations are significantly different to predictions must be determined for each monitoring site. If any of these criteria are exceeded this must be reported to the Minister in accordance with the timeframes specified in Part B condition 8 and a review of the modelling undertaken;</p> <p>e. include a trigger action response plan with clearly identified timeframes and contingencies to be implemented for exceedances of either the site-specific guideline values required under condition 6D(c) or the early warning trigger values required under condition 6D(d); and</p> <p>f. include a plan for monitoring and managing the impacts of lead rich dust on the Gouldian Finch. The plan must include a commitment to monitor the composition and density of key food grasses for the Gouldian Finch in the project footprint and manage the impacts of lead and zinc on foraging habitat and nesting habitat for the Gouldian Finch.</p> <p>E. a synthesis of all environmental monitoring and management plans required under conditions 6B, 6C and 6D that describes the interconnections between these plans. This synthesis must identify:</p>		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<ul style="list-style-type: none"> a. how all monitoring data collected under the various environmental monitoring and management plans will be considered in order to assess the effectiveness of the mitigation, management and contingency measures; and b. how all monitoring data collected under the various environmental monitoring and management plans will be integrated to identify trends in water quality and inform the adaptive management plan in condition 6. 		
As varied 18/12/2020	7	<p>To minimise impacts to EPBC Act listed species, the site-specific guideline values required under conditions 6B, 6C and 6D must be developed in accordance with ANZG (2018) (or a future relevant ANZG) by a suitably qualified person.</p> <p>A. Guideline values must:</p> <ul style="list-style-type: none"> a. include values for the following toxicants and physico-chemical parameters as a minimum: <ul style="list-style-type: none"> i. Toxicants: for all surface water, ground water and sediment monitoring sites: sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium. ii. Physico-chemical parameters: For all surface water, ground water and sediment monitoring sites: pH and electrical conductivity. Where relevant, values should also be adjusted for water hardness, measured as milliequivalents per litre b. include parameters capable of detecting potential threats to terrestrial and aquatic species, determined from a food web of the terrestrial and aquatic areas that are relevant to EPBC Act listed species. This food web must inform the likely bioaccumulation rates and risks of metals to EPBC Act listed species; and c. be developed to address possible risks to EPBC Act listed species, including the Gouldian Finch and the Large-toothed Sawfish. <p>B. The approval holder must:</p> <ul style="list-style-type: none"> a. ensure that 95% of samples of water and sediment quality do not exceed site-specific guideline values at monitoring sites determined in accordance with conditions 6B, 6C and 6D; and 	Not Applicable	In progress - Required by 12 June 2025 at the earliest.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		b. ensure that 95% of sediment samples (measured in accordance with condition 6D) do not exceed site-specific guideline values at monitoring sites that address mine-related impacts for the following metals: sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium within four years of the date of approval and at all monitoring events for the life of the project thereafter. The site-specific guideline values for sediments must be developed from a source approved by the Minister .		
Original dated 12/06/2019	8	<p>To minimise impacts to EPBC Act listed species, within 12 months of the date of approval the approval holder must develop and implement standard operating procedures for the collection and processing of all surface water, groundwater, soil, and sediment samples required under conditions 6B, 6C and 6D. The standard operating procedures must:</p> <ul style="list-style-type: none"> a. prescribe all collection, handling and sample processing steps to be undertaken prior to samples being delivered to a suitable qualified laboratory for analysis. This includes explicit instructions for cleaning of sampling and processing equipment; b. prescribe quality assurance and quality control procedures in the field and laboratory. This must include, but is not limited to, collection and analysis of field and laboratory duplicate and blank samples; c. include a program for reviewing the standard operating procedures. This will include regular auditing, quality control and quality assurance procedures to ensure that the standard operating procedures are being correctly implemented and are effective; and d. be submitted to the Minister for approval at least three months prior to the proposed date of commencement of surface water, groundwater and sediment sampling required under conditions 6B, 6C and 6D. 	Compliant	<p>Complete - MRM has developed and is implementing standard operating procedures for the collection and processing of surface water, groundwater, soil, and sediment samples at the Mine.</p> <p>These procedures were finalised in May 2020 in accordance with the condition and were uploaded to MRM's intranet site on this date.</p> <p>Ongoing - MRM will continue to review and refine these procedures as the monitoring programs required under Conditions 6B, 6C and 6D are developed, and will submit the procedures to the Minister three months prior to the commencement of the monitoring programs.</p>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	9	If the Minister concludes from the results of the study required by Condition 5a that buffering capacity of the groundwater system is insufficient to enable the approval holder to meet the outcomes of condition 1, the approval holder must submit a plan for approval by the Minister the implementation of which will prevent any increase in water contamination by metals in the McArthur River arising from the project. If the Minister or the approval holder determines that sufficient mitigation is not possible then the approval holder must submit within 2 years a plan that will ensure that the outcomes of condition 1 are met by the approval holder . The approved plan must be implemented.	Not Applicable	Condition has not been triggered. The study addressing condition 5a was provided to the Department on 11 December 2020.
As varied 29/04/2022	10	To minimise impacts to EPBC Act listed species , by ensuring protection of the environment from potential contamination and failure of the proposed Northern Overburden Emplacement Facility the approval holder must: a. within 4 years of the date of this approval , develop a geotechnical plan for the Northern Overburden Emplacement Facility . The plan must include measures to limit erosion (including cavitation), supported by erosion modelling. The plan must be written by a geotechnical engineer. The plan must be completed to the satisfaction of the Department and submitted to the Department for the Minister's approval. The approval holder must not change the structure of the Northern Overburden Emplacement Facility unless a revised version of the geotechnical plan for the Northern Overburden Emplacement Facility that addresses the proposed change is approved by the Minister . The approved plan must be implemented; b. within 4 years of the date of this approval , develop and submit to the Department for approval by the Minister , a geosynthetic liner testing plan. The plan must be developed by an expert with at least 5 years relevant experience. The plan must outline a process to test the effectiveness of geosynthetic liner cover options for the Northern Overburden Emplacement Facility , including a geosynthetic liner /compacted clay layer combination. The testing must be designed to demonstrate the performance of the geosynthetic liner over the long term (1000 years). This must include accelerated aging testing. Testing must also be performed on rehabilitated areas of the Northern Overburden Emplacement Facility . All relevant performance parameters must be monitored, including: i. slope stability during extreme events;	Not Applicable	a. In progress - Geotechnical plan required 12 June 2023 . b. In progress - Geosynthetic liner testing plan required by 12 June 2023 . c. Not triggered - Only required if requested by the Department.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<ul style="list-style-type: none"> ii. cover performance as a result of heat effects; iii. cover performance if erosion exposes the liner at the surface, including the effects of (acidic tropical) rainfall and sunlight; iv. effects of plant, including tree, roots on the integrity of the cover; v. resistance of the cover to burrowing animals; vi. tolerance of the geosynthetic liner to expected differential settlement; vii. veracity of cover longevity predictions; viii. likely long-term maintenance requirements; and ix. tolerance of the geosynthetic liner for the chemistry of water to which it may be exposed. This must include acidic leachate from unneutralised acidic drainage. <p>The approved plan must be implemented within 5 years of the date of this approval. The approval holder must report results of all tests and monitoring to the Minister every three years.</p> <p>c. If requested by the Department, develop a plan which details what other mitigation measures can be implemented if the geosynthetic liner option for the Northern Overburden Emplacement Facility proves unsuccessful. The plan must be submitted to the Minister for approval within one year of the date of this request. The approved plan must be implemented.</p> <ul style="list-style-type: none"> i. If other mitigation measures are not demonstrated to be effective to the satisfaction of the Minister, then the approval holder must submit a variation to its current mining management plan that allows all mine derived wastes to be stored in the mine pit within 6 months of the geosynthetic liner option being proven to be unsuccessful. The varied approved plan must be implemented. ii. The approval holder must not store mine derived wastes in the mine pit unless the Minister has approved new surface water and ground water models not based on rapid filling of the pit lake and ground water level recovery. 		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	11	To minimise impacts to EPBC Act listed species , in areas where the Northern Overburden Emplacement Facility is to be expanded as part of this action the basal layer of the Northern Overburden Emplacement Facility foundation must be constructed with a maximum saturated hydraulic conductivity of 10^{-9} metres per second to limit seepage to groundwater.	Compliant	<p>Ongoing – Construction of the NOEF is undertaken in accordance with MRM's NOEF Management Plan, which specifies that the foundation of the NOEF must be constructed with a maximum saturated hydraulic conductivity of 10^{-9} metres per second.</p> <p>In accordance with NT regulatory requirements, detailed design reports for the construction of each stage of the NOEF are provided to MRM's Independent Certifying Engineer (ICE) for review and endorsement, prior to commencing construction works. The detailed designs outline the construction requirements for each stage, including the maximum hydraulic conductivity of the basal compacted clay liner (CCL).</p> <p>During the construction phase for the basal CCL, push tube samples are collected and analysed for hydraulic conductivity. Results are provided to the ICE for review and confirmation and are provided in the 'As-constructed Reports' completed for each stage. The As-constructed Reports are to be provided to the NT Department of Industry, Tourism and Trade.</p>
As varied 29/04/2022	12	<p>Within 12 months of the date of the approval the approval holder must submit to the Minister a report that includes:</p> <ol style="list-style-type: none"> the results of further detailed design studies for the groundwater interception scheme to be implemented adjacent the Northern Overburden Emplacement Facility; the results of further studies undertaken to characterise any preferential flow paths that may exist in the geological formations through which contaminated water is modelled to flow that contain dolomite rock, including an analysis of how any flow paths could reduce the effectiveness of the interception scheme; the components of the proposed interception scheme and a plan for implementing the scheme within 2 years of the date of the approval; a detailed plan for the operation and monitoring of the interception scheme for the life of the project including during any care and maintenance. This plan must clearly detail how monitoring will demonstrate effectiveness of the interception scheme; and the predicted improvements to water quality expected as a result of implementing the interception scheme. 	Compliant	Complete - The report addressing Condition 12 was provided to the Department on 12 June 2020. It is understood that the Department is now reviewing the report.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		The reviewed report, following approval by the Minister , must be used to inform the adaptive management plan required by condition 6 and the geotechnical plan for the Northern Overburden Emplacement Facility required by condition 10.		
Original dated 12/06/2019	13	<p>Within five years of the date of the approval the approval holder must submit a management plan for the management of the Tailings Storage Facility after mining ceases to the Department for approval by the Minister. This plan must include:</p> <ul style="list-style-type: none"> a. a commitment to reprocess all material within the Tailings Storage Facility within 15 years of the end of mining; b. a commitment to undertake geochemical analysis of the material (including bore water) within 50 m of the Tailings Storage Facility footprint. The plan will determine disposal options for contaminated materials commensurate with the type and level of contamination, including disposal within the mine pit; and c. a program for geochemical analysis of the reprocessed waste material to identify the level and type of contamination that would likely impact on meeting the requirements of condition 1(b). The plan must include, but may not be limited to, the option of encapsulating waste material before deposition within the mine pit. <p>The approved management plan must be implemented.</p>	Not Applicable	Planning in progress - Plan required 12 June 2024.
As varied 18/12/2020	14	<p>Within 24 months of the date of the approval the approval holder must submit an aquatic ecology monitoring and management plan to the Department for approval by the Minister. The plan must:</p> <ul style="list-style-type: none"> a. clearly identify the locations of all monitoring sites (including providing a map) and for each monitoring site specify the frequency, timing and types of monitoring that will be undertaken and its purpose/objectives. This must include control sites at locations upstream of any possible mine influence; b. include modelling of the extent and duration of drawdown on refuge pools in the dry season during operations; c. include monitoring of refuge pools including for water quality and water level; 	Compliant	<p>Complete – The Aquatic Ecology Management Plan (AEMP) was submitted to the Department on 12 June 2021. The AEMP was submitted prior to the variation of Condition 16. Following the variation, a draft Terms of Reference for the Independent Expert review required under Condition 16 was submitted to the Department on 30 July 2022. It is understood the terms of reference are being reviewed by the Department. MRM will resubmit the AEMP once the independent expert review has been completed.</p> <p>Monitoring data collected in accordance with the plan from 12 June 2021 will be provided to the Department once the AEMP has been approved.</p>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>d. include a plan to monitor the health of the surface waters;</p> <p>e. include a non-lethal monitoring program to measure the presence and abundance of Large-tooth Sawfish;</p> <p>f. develop the triggers and corrective actions that will be implemented in the event that the monitoring required under condition 14c indicates that drawdown of refuge pools may impact on the Large-tooth Sawfish and its habitat;</p> <p>g. identify where supplementary water will be sourced, how sourced water will match the baseline water quality determined by implementing the requirements of condition 8, and describe a process for quality control if the corrective actions identified in condition 14f include supplementary watering of refuge pools; and</p> <p>h. demonstrate how the translocation is consistent with the Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species if the corrective actions required under 14f include translocation of the Large-tooth Sawfish.</p> <p>The approved aquatic ecology monitoring and management plan must be implemented.</p>		
As varied 18/12/2020	15	To minimise the impact of weeds on foraging habitat and nesting habitat for the Gouldian Finch in the project footprint , the approval holder must implement the weed management plan provided to the Department as Appendix S of the Supplement to the Environmental Impact Statement from the commencement of the action .	Compliant	<p>Ongoing - MRM's Weed Management Plan provided in Appendix S of the Supplement EIS describes the integrated weed management strategy implemented at the Mine, in order to comply with the NT <i>Weed Management Act 2013</i> (the WM Act) and other approval requirements.</p> <p>The Weed Management Plan is reviewed annually to ensure that it addresses MRM's obligations and is consistent with the surrounding land user's strategy. Changes such as weeds declared under the WM Act, weeds removed from the declared list under the WM Act, or changes of weed class declaration are considered as part of this review process. Furthermore, local conditions are considered, including the review of the previous years weed control activities, new outbreaks as identified by MRM, McArthur River Station or the Department of Environment and Natural Resources.</p>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
				The Weed Management Plan has been updated to include changes as identified through the review process to ensure that MRM's weed management strategy is based on continual improvement and is capable of adapting to changing conditions at both a local and regional level.
As varied 29/04/2022	16	<p>All plans required under this approval to be submitted for approval by the Minister must:</p> <p>a. include:</p> <ul style="list-style-type: none"> i. an independent expert review that has been conducted according to terms of reference agreed by the Department in writing; and ii. contain advice on how the independent expert review findings have been addressed in the submitted plans. <p>b. address findings of the independent expert review to the satisfaction of the Minister.</p>	Compliant	<p>Draft Terms of Reference for the Independent Expert review required under Condition 16 were submitted to the Department on 30 July 2022. It is understood the terms of reference are being reviewed by the Department. MRM will re-submit the plans required under this approval once the independent expert review process has been completed.</p> <p>Ongoing - MRM will continue to submit plans required by EPBC 2014/7210 with an independent expert review in accordance with this condition.</p>
Part B – Standard administrative conditions				
Original dated 12/06/2019	B1	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action .	Compliant	<p>MRM received approval of the OMP under the NT <i>Mining Management Act 2001</i> on 13 November 2020. The OMP commencement under the EPBC Act occurred on 13 November 2020.</p> <p>Please refer to correspondence 'Commencement of Action – McArthur River Mine Overburden Management Project, Gulf Region, NT (EPBC 2014/7210)' provided to the Department on 17 November 2020 for more information.</p>
Original dated 12/06/2019	B2	If the commencement of the action does not occur within 5 years from the date of this approval, then the approval holder must not commence the action without the prior written agreement of the Minister .	Not Applicable	MRM received approval of the OMP under the NT <i>Mining Management Act 2001</i> on 13 November 2020. The OMP commencement under the EPBC Act occurred on 13 November 2020.
Original dated 12/06/2019	B3	The approval holder must maintain accurate and complete compliance records .	Compliant	Ongoing - MRM has developed an online Environmental Obligations Register, which enables action assignment, tracking and recording compliance against the full list of conditions for MRM's various environmental approvals.
Original dated 12/06/2019	B4	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request.	Not Applicable	Condition not triggered – No requests for compliance records were made during the audit period. MRM will continue to provide compliance records to the Department, if requested.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		Note: Compliance records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act , and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the Department's website or through the general media.		
Original dated 12/06/2019	B5	The approval holder must: a. submit plans electronically to the Department for approval by the Minister ; b. publish each plan on the website within 20 business days of the date the plan is approved by the Minister or of the date a revised action management plan is submitted to the Minister , unless otherwise agreed to in writing by the Minister ; c. exclude or redact sensitive data or information from plans published on the website or provided to a member of the public; and d. keep plans published on the website until the end date of this approval.	Compliant	A number of plans have been submitted electronically to the Department; these plans are currently being reviewed. MRM will publish each plan in accordance with Part B condition 5b to 5d once approval has been received. Ongoing – MRM will continue to submit and publish plans required by EPBC 2014/7210 in accordance with this condition.
Original dated 12/06/2019	B6	The approval holder must ensure that any monitoring data (including sensitive data or information), surveys, maps, and other spatial and metadata required under the conditions of this approval , is prepared in accordance with the Department's Guidelines for biological survey and mapped data (2018) and submitted electronically to the Department in accordance with the requirements of conditions.	Compliant	Monitoring data collected in accordance with the AEMP from 12 June 2021 will be provided to the Department once the AEMP has been approved. Ongoing - MRM will continue to prepare and electronically submit monitoring information and data in accordance with this and other relevant conditions.
Original dated 12/06/2019	B7	The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action , or as otherwise agreed to in writing by the Minister . The approval holder must: a. publish each compliance report on the website within 60 business days following the relevant 12 month period and remain published for the life of the project ; b. notify the Department by email that a compliance report has been published on the website within five business days of the date of publication; c. keep all compliance reports publicly available on the website until this approval expires;	Compliant	Ongoing – MRM published the 2020-2021 Compliance Report on 10 February 2022 in accordance with Part B condition 7 and the then Department of the Environment's <i>Annual Compliance Report Guidelines, Commonwealth of Australia 2014</i> . The report covered the 12 month period following the date of commencement of the action (13 November 2020 to 12 November 2021). Monitoring data collected in accordance with the plan from 12 June 2021 will be provided to the Department once the AEMP has been approved. MRM will continue to publish Compliance Reports annually in accordance with Part B Condition 7 and will submit all monitoring data for the relevant period in accordance with Part B Condition 6.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>d. exclude or redact sensitive data or information from compliance reports published on the website; and</p> <p>e. where any sensitive data or information has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication.</p> <p>f. include monitoring information for the relevant period in accordance with Part B condition 6. The proponent must also submit to the Minister all monitoring data (in spreadsheet format) for the relevant period in accordance with Part B Condition 6 to accompany the compliance report.</p> <p>Note: Compliance reports may be published on the Department's website. The first compliance report may report a period less than 12 months so that it and subsequent compliance reports aligns with the similar requirement under state approval.</p>		
Original dated 12/06/2019	B8	<p>The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <p>a. the condition which is or may be in breach; and</p> <p>b. a short description of the incident and/or non-compliance.</p>	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B9	<p>The approval holder must provide to the Department the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <p>a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</p> <p>b. the potential impacts of the incident or non-compliance; and</p> <p>c. the method and timing of any remedial action that will be undertaken by the approval holder.</p>	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B10	<p>The approval holder must ensure that independent audits of compliance with the conditions are conducted for the 12 month period from the commencement of the action, and subsequently as requested in writing by the Minister.</p>	Compliant	The Independent Audit Report prepared by accredited auditor Ken Holmes of Barnett & May, was submitted electronically to the Department on 21 October 2022. The Audit Period set by the Auditor covered the period 13 November 2020 to 30 November 2021. It is

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
				understood the Independent Audit Report is currently being reviewed by the Department.
Original dated 12/06/2019	B11	For each independent audit , the approval holder must: <ul style="list-style-type: none"> a. provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; b. only commence the independent audit once the audit criteria have been approved in writing by the Department; and c. submit an audit report to the Department within the timeframe specified in the approved audit criteria. 	Compliant	<ul style="list-style-type: none"> a. MRM provided the name and qualifications of the independent auditor to the Department on 5 November 2021 via the correspondence "MRM EPBC 2014/7210 – Independent Auditor Endorsement". The Department subsequently endorsed Ken Holmes to undertake the audit via correspondence received on 1 December 2021. The draft audit criteria were then prepared by the approved auditor (as per the then Department of the Environment and Energy's 2019 Independent Audit and Audit Report Guidelines and was provided to the Department for endorsement on 21 April 2022. b. The Department approved the Audit Criteria on 22 April 2022. The independent audit commenced on 27 April 2022. c. The Independent Audit Report was submitted to the Department on 21 October 2022, within the timeframe specified in the approved audit criteria.
Original dated 12/06/2019	B12	The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval.	Compliant	MRM will publish the Independent Audit Report on its website within 10 business days of receiving the Department's approval of the report.
Original dated 12/06/2019	B13	The approval holder may, at any time, apply to the Minister for a variation to an action management plan approved by the Minister under Part B conditions 6, 7 and 13 or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act . If the Minister approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B14	The approval holder may choose to revise an action management plan approved by the Minister under Part B conditions 6, 7 and 13 or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the EPBC Act , if the taking of the action in accordance with the RAMP would not be likely to have a new or increased impact .	Not Applicable	Condition not triggered.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B15	<p>If the approval holder makes the choice under Part B condition 14 to revise an action management plan without submitting it for approval, the approval holder must:</p> <ul style="list-style-type: none"> a. notify the Department in writing that the approved action management plan has been revised and provide the Department with: <ul style="list-style-type: none"> i. an electronic copy of the RAMP; ii. an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP; iii. an explanation of the differences between the approved action management plan and the RAMP; iv. the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a new or increased impact; and v. written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the Department. b. subject to condition 14, implement the RAMP from the RAMP implementation date. 	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B16	<p>The approval holder may revoke their choice to implement a RAMP under Part B condition 15 at any time by giving written notice to the Department. If the approval holder revokes the choice under Part B condition 15, the approval holder must implement the previous action management plan approved by the Minister.</p>	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B17	<p>If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the RAMP would be likely to have a new or increased impact, then:</p> <ul style="list-style-type: none"> a. Part B condition 15 does not apply, or ceases to apply, in relation to the RAMP; and b. the approval holder must implement the action management plan specified by the Minister in the notice. 	Not Applicable	Condition not triggered.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B18	At the time of giving the notice under Part B condition 17, the Minister may also notify that for a specified period of time, Part B condition 15 does not apply for one or more specified action management plans. Note: Part B conditions 13, 14, 15, 16, 17 and 18 are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised action management plan, at any time, to the Minister for approval.	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B19	All management plans required under this approval should be prepared in line with the Department's Environmental Management Plan Guidelines.	Compliant	MRM has prepared the AEMP in line with the Department's Environmental Management Plan Guidelines. Ongoing - MRM will continue to prepare all management plans required under this approval in line with the Department's Environmental Management Plan Guidelines.
Original dated 12/06/2019	B20	Within 30 days after the completion of the action , the approval holder must notify the Department in writing and provide completion data .	Not Applicable	Condition not triggered.

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	Abundance or population health is as described in the Environmental Impact Statement .
Original dated 12/06/2019	Acid includes pH, and should be less than 6 pH.
Original dated 12/06/2019	All stages of the project includes: a. Stage 1: Commencement of proposal (estimated 2019) b. Stage 2: Open Cut Mining Operations (estimated 2019 to 2037) c. Stage 3: Tailings Reprocessing Phase (estimated 2038 to 2047) d. Stage 4: Closure Phase (estimated 2048 to 3019)
Original dated 12/06/2019	ANZG (2018) means the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments. Canberra ACT, Australia.
Original dated 12/06/2019	Approval means this approval to take the action under section 133 of the EPBC Act as noted in the date of decision section of this approval.
Original dated 12/06/2019	Approval holder means the name of the person to whom the approval is granted.
Original dated 12/06/2019	Barney Creek means Barney Creek identified in Figure 2.
Original dated 12/06/2019	Barramundi Dreaming means Barramundi Dreaming identified in Figure 2.
Original dated 12/06/2019	Baseline means data collected from 1 July 2017 to 30 June 2019, except for sites where data were not collected during this period. For those sites, Baseline means data for the earliest 24 months for which data is available.
Original dated 12/06/2019	Business day means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.
Original dated 12/06/2019	Clear and Clearing means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the <i>Australian weeds strategy 2017 to 2027</i> for further guidance).
Original dated 12/06/2019	Commencement of the action means any preparatory works required to be undertaken including clearing vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for buildings or infrastructure; excluding the installation of fences and signage.
Original dated 12/06/2019	Completion data means an environmental report and spatial data information clearly detailing how the conditions of this approval have been met. The Department's preferred spatial data format is shapefile.
Original dated 12/06/2019	Completion of the action means that all stages of the project have permanently ceased.
Original dated 12/06/2019	Compliance location means a monitoring point at which the site-specific or generic guideline values are not to be exceeded.
Original dated 12/06/2019	Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully;

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	<p>Compliance reports means written reports:</p> <ul style="list-style-type: none"> a. providing accurate and complete details of compliance, incidents, and noncompliance with the conditions and the plans; b. consistent with the Department's Annual Compliance Report Guidelines (2014); c. include a shapefile of any clearance of any protected matters, or their habitat, undertaken within the relevant 12-month period; and d. annexing a schedule of all plans prepared and in existence in relation to the conditions during the relevant 12 month period.
As varied 18/12/2020	<p>Construction means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of fences and signage.</p>
Original dated 12/06/2019	<p>Current levee means the levee as described in the Environmental Impact Statement.</p>
Original dated 12/06/2019	<p>Department means the Australian Government agency responsible for administering the EPBC Act.</p>
Original dated 12/06/2019	<p>Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species means the <i>Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species</i> available on Department's website at http://www.environment.gov.au/resource/epbc-act-policy-statement-translocation-listed-threatened-species-assessment-under-chapter</p>
Original dated 12/06/2019	<p>Dry season means the period from 1 May until 31 October each year.</p>
Original dated 12/06/2019	<p>Emu Creek means Emu Creek identified in Figure 2.</p>
As varied 18/12/2020	<p>Environmental impact statement means the environmental impact statement McArthur River Mining Pty Ltd (March 2017) and supplementary environmental impact statement McArthur River Mining Pty Ltd (March 2018) (available online at https://ntepa.nt.gov.au/your-business/public-registers/environmental-impactassessments-register/completed-assessments/register/mcarthur-river-mine-overburden).</p>
Original dated 12/06/2019	<p>EPBC Act means the <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p>
Original dated 12/06/2019	<p>EPBC Act listed species means the EPBC Act listed Gouldian Finch (<i>Erythrura gouldiae</i>) and Largetooth Sawfish (<i>Pristis pristis</i>).</p>
Original dated 12/06/2019	<p>EPBC Regulations means the <i>Environment Protection and Biodiversity Conservation Regulations 2000</i>.</p>
Original dated 12/06/2019	<p>Footprint means the maximum proposed footprint described in Figure 1.</p>
Original dated 12/06/2019	<p>Foraging habitat for the EPBC Act listed Gouldian Finch includes annual grasses including <i>Sorghum intrans</i>, <i>Sorghum stipoideum</i>, <i>Sorghum timorense</i> and <i>Schizachyrium</i> species in the dry season and perennial grasses including <i>Chrysopogon fallax</i>, <i>Alloteropsis semialata</i> and <i>Triodia</i> species in the wet season.</p>
Original dated 12/06/2019	<p>Geosynthetic liner option means the geosynthetic liner option proposed in the Environmental Impact Statement.</p>
Original dated 12/06/2019	<p>Gouldian Finch means the EPBC Act listed Gouldian Finch (<i>Erythrura gouldiae</i>).</p>
Original dated 12/06/2019	<p>Incident means any event which has the potential to, or does, impact on protected matter(s).</p>

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	Independent audit: means an audit conducted by an independent and suitably qualified person as detailed in the <i>Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines</i> (2015).
As varied 29/04/2022	<p>Independent expert means a person or persons approved by the Department as possessing the professional qualifications, training, skills and/or experience related to the nominated subject matter, and demonstrating independence by not having:</p> <ul style="list-style-type: none"> i. conflicting or competing interests with the approval holder, the approval holder's staff, representatives or associated persons, or the project; and ii. any individual, employment or family affiliation to the approval holder, the approval holder's staff, representatives or associated persons, other than as relevant to performing and receiving payment for the performance of duties required by these conditions of approval. <p>Note: points i. and ii. above may be satisfied by submission of a signed Declaration of Independence accepted by the Department.</p>
Original dated 12/06/2019	Isolated means that water from the pit lake must not be able to enter the McArthur River or its floodplain by any means.
As varied 18/12/2020	Key food grasses for the Gouldian Finch include <i>Triodia</i> species, <i>Sorghum</i> species, <i>Chrysopogon fallax</i> , <i>Alloteropsis semialata</i> and <i>Heteropogon triticeus</i> .
Original dated 12/06/2019	Large-tooth Sawfish means the EPBC Act listed species <i>Pristis criticus</i> .
Original dated 12/06/2019	Life of the project means from the date of approval to the end of the period for which the approval has effect.
Original dated 12/06/2019	Locations upstream of any possible mine influence means locations on natural waterways upstream of the footprint of the action as defined in the Environmental Impact Statement .
As varied 18/12/2020	Metals includes sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium.
Original dated 12/06/2019	Mine pit means the open cut identified in Figure 1.
Original dated 12/06/2019	Mine project area and surrounds includes the mine pit, Northern Overburden Emplacement Facility, Tailings Storage Facility to Emu Creek and the Djirrinmini Waterhole.
Original dated 12/06/2019	Mine water management system means the mine water management system as described in the Environmental Impact Statement .
Original dated 12/06/2019	Minister means the Australian Government Minister administering the EPBC Act including any delegate thereof.
Original dated 12/06/2019	Monitoring data means the data required to be recorded under the conditions of this approval.
Original dated 12/06/2019	Natural waterways includes but may not be limited to, the McArthur River and associated tributaries (including Barney Creek, Little Barney Creek, Emu Creek, Surprise Creek), waterholes (Djirrinmini Waterhole, Eight Mile Waterhole, Wurrini Waterhole and Nanbadini Waterhole) and diversion channels.
As varied 18/12/2020	Nesting habitat for the EPBC Act listed Gouldian Finch includes hollow-bearing smooth-barked gums, including Eastern Snappy Gum (<i>Eucalyptus leucophloia</i>), on low to mid-high open woodland on hillslopes, scarp-foot slopes, plateau and hillcrests.
Original dated 12/06/2019	New or increased impact a new or increased environmental impact or risk relating to any protected matter , when compared to the likely impact of implementing the action management plan that has been approved by the Minister under Part B conditions 13, 14, 15, 16, 17 and 18, including any subsequent revisions approved by the Minister , as outlined in the <i>Guidance on 'New or Increased Impact' relating to changes to approved management plans under EPBC Act environmental approvals</i> (2017).

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	Northern Territory Assessment Report 86 means the Northern Territory Environment Protection Authority (2018). <i>McArthur River Mine Overburden Mine Overburden Management Project</i> . Available online at https://ntepa.nt.gov.au/_data/assets/pdf_file/0004/553081/mrm_overburden_assessment_report.pdf .
Original dated 12/06/2019	Northern Overburden Emplacement Facility means the Northern Overburden Emplacement Facility identified in Figure 1.
Original dated 12/06/2019	Plan(s) means any of the documents required to be prepared, approved by the Minister , and/or implemented by the approval holder and published on the website in accordance with these conditions (includes action management plans and/or strategies);
As varied 18/12/2020	Project footprint means the areas enclosed by the blue lines designated as 'Indicative Overburden Management Project Footprint' in Figure 1
Original dated 12/06/2019	Protected matter means a matter protected under a controlling provision in Part 3 of the EPBC Act for which this approval has effect.
As varied 29/04/2022	Refuge pools includes water holes within the McArthur River including, but not limited to, the Djirrinmini Waterhole, Eight Mile Waterhole and Wurrini Waterhole.
Original dated 12/06/2019	Sensitive ecological data means data as defined in the Australian Government Department of the Environment (2016) <i>Sensitive Ecological Data – Access and Management Policy V1.0</i> .
Original dated 12/06/2019	Stage 4 of the proposal is as defined under all stages of the project .
Original dated 12/06/2019	Suitably qualified person means a person who has sufficient professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature and is approved by the Department in writing.
Original dated 12/06/2019	Surface waters includes, but is not limited to, the McArthur River and associated tributaries (including Barney Creek, Little Barney Creek, Emu Creek, Surprise Creek) and waterholes (Djirrinmini Waterhole, Eight Mile Waterhole, Wurrini Waterhole and Nanbadini Waterhole).
Original dated 12/06/2019	Surprise Creek means Surprise Creek identified in Figure 2.
Original dated 12/06/2019	SW 12 means the surface water monitoring site SW 12 identified in the Environmental Impact Statement .
Original dated 12/06/2019	Tailings Storage Facility means the Tailings Storage Facility identified in Figure 1.
Original dated 12/06/2019	Terrestrial and aquatic areas means the McArthur River Mine Overburden Management Project envelope and surface waters .
Original dated 12/06/2019	Toxicant means a substance capable of producing an adverse response (effect) in a biological system, and which may, at sufficiently high concentration, seriously injure structure or function or produce death (ANZG (2018)).
Original dated 12/06/2019	Water quality and health is as defined under condition 8(e) (i.e. 95 per cent of samples of water and sediment quality must not exceed site-specific guidelines values at appropriate monitoring sites determined in accordance with conditions 7A, 7B and 7C).
Original dated 12/06/2019	Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.
Original dated 12/06/2019	Weeds includes, but is not limited to, Mission Grass (<i>Cenchrus pedicellatus</i>), Devil's Claw (<i>Martynia annua</i>), Horehound (<i>Hyptis suaveolens</i>), Bellyache Bush (<i>Jatropha gossypifolia</i>), Parkinsonia (<i>Parkinsonia aculeate</i>) and Noogoora Burr (<i>Xanthium strumarium</i>).
Original dated 12/06/2019	Wet season means November to April.
As varied 18/12/2020	Figure 1 – Maximum Project Footprint showing Gouldian Finch nesting habitat (based on Fig 6-18 from Supplementary EIS)

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	Figure 2 – Surface Water Features – Local Drainage Network and Selected Cultural Features

APPENDIX 1 – INDO-PACIFIC ENVIRONMENTAL LETTER



Indo-Pacific Environmental Pty Ltd
PO Box 191
Duncraig East
Western Australia 6023

10th January 2023

Cameron Machan
Lead Advisor – Rehabilitation
Glencore – McArthur River Mining Pty Ltd

Dear Cameron

RE: Consideration EPBC 2014-7210 Condition 1 requirements against monitoring program results

As you know EPBC 2014-7210 requires McArthur River Mining (MRM) to provide evidence that MRM's activities did not impact the health of the McArthur River and those activities not cause impacts that reduce the abundance or population health of EPBC Act listed species. MRM ensures these requirements are met through a wide range of monitoring programs, many of which are specified within the conditions of EPBC 2014-7210. In relation to the monitoring conducted by Indo-Pacific Environmental the results of two programs are of interest to the reporting requirements of EPBC 2014-7210. Those being:

- A biannual survey (early and late dry season) to monitor the diversity and abundance of aquatic fauna within the McArthur River; and
- The monitoring of the EPBC listed Largetooth Sawfish *Pristis pristis* within the McArthur River using acoustic tags.

In relation to the monitoring of aquatic fauna diversity and abundance Indo-Pacific Environmental (2022a) reported:

The current data provides continuing evidence that there has been no observable decline in species diversity in waters upstream and downstream of the mineral lease, outside of that which would be considered natural variation as a result of variable seasonal flows or changes in river bed morphology.

And that:

The abundances and distributions of aquatic fauna species recorded during the current survey were relatively consistent with those recorded in past surveys, and statistical assessment of the current data against MRM's Adaptive Management Plan Performance Indicators revealed no significant differences between performance indicator sites downstream of mining operations and reference sites located away from the influence of the mine.

Indo-Pacific Environmental (2022b) concluded that:

Despite 2022 being the driest year since monitoring began, the distribution and composition of fish species were comparable to historic results, and data recorded during the late dry season survey continued to agree with the conclusions of past surveys that the magnitude of the preceding wet season, in addition to habitat availability, most heavily influences the aquatic community structure within the McArthur River. There was no detectable decline in species diversity or abundances in waters upstream and downstream of the mineral lease, outside of that which could be considered natural variation. This in turn suggests that the McArthur River catchment is not being adversely influenced by current mining operations.

Furthermore, Indo-Pacific Environmental (2022b) noted:

Consistent with previous late dry season surveys, the data for 2022 showed a clear trend of higher diversity and abundance of fishes within the McArthur River Diversion Channel at sections which contained introduced (rehabilitated) complex habitats compared to bare bank habitats. Furthermore, fish assemblages at rehabilitated habitats continued to show statistical similarity to natural habitats both upstream and downstream according to the various multivariate statistical analyses performed. These results suggests that MRM's rehabilitation works within the McArthur River Diversion Channel are proving effective in creating habitat and resident aquatic fauna communities.

In summarising data attained from specific monitoring of *P. pristis* during the 2022 reporting period Indo-Pacific Environmental (2022c) concluded that:

The capture rate of P. pristis throughout the McArthur River Catchment in 2022 was above the expected range, suggesting that the McArthur River Diversion Channel or activities occurring within the Mineral Leases are not having a measurable negative impact on the P. pristis population within the McArthur River. Additionally, the capture rate from the baseline survey undertaken in 2006, before the construction of the McArthur River Diversion Channel, was considered to align with capture rates recorded between 2008 and 2021, providing additional evidence that there has been

no long-term impact on the species as a result of the McArthur River Diversion Channel being constructed or in operation.

In addition, Indo-Pacific Environmental (2022c) noted:

During the 2021/2022 wet season, a L. calcarifer individual was detected moving downstream through the Acoustic Array from the McArthur River Diversion Channel, whilst another individual initially tagged within the McArthur River Diversion Channel continues to be detected at downstream receivers following its downstream migration over the 2019/2020 wet season. This provides some additional evidence that migratory species can successfully navigate the McArthur River Diversion Channel and it is not acting as a barrier to such migrations. Furthermore, this movement provides some evidence that the environmental cues of the McArthur River have not been altered by the McArthur River Diversion Channel to the extent that the life cycles of migratory species has been affected.

Based on the results of these monitoring programs it is Indo-Pacific Environmental's opinion that, during the 2022 reporting period, MRM's activities did not cause measurable impact to the McArthur River aquatic ecosystem nor reduce the abundance or health of the EPBC listed Largetooth Sawfish.

If you require additional information, please do not hesitate to contact myself or Dean via phone on (08) 9444 1422 or email at slongbottom@indopacific.net.au or dthorburn@indopacific.net.au.

Yours Sincerely,



Simon Longbottom
Supervising Scientist
Indo-Pacific Environmental Pty Ltd

On behalf of:



Dr Dean Thorburn
Principal Scientist / Director
Indo-Pacific Environmental Pty Ltd

References

Indo-Pacific Environmental (2022a). *Aquatic fauna abundance and diversity of the McArthur river, Northern Territory, Early Dry Season 2022*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.

Indo-Pacific Environmental (2022b). *Report on the Aquatic Fauna of the McArthur River, Northern Territory, Late Dry Season 2022*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.

Indo-Pacific Environmental (2022c). *Acoustic monitoring of Largetooth Sawfish Pristis pristis and Barramundi Lates calcarifer within the McArthur River, Northern Territory, 2022*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.