

# Compliance Report

## EPBC 2014/7210

13 November 2020 to 12 November 2021

McArthur River Mining Pty Ltd



February 2022



# 2020-21 Compliance Report

13 November 2020 to 12 November 2021

## MCARTHUR RIVER MINE OVERBURDEN MANAGEMENT PROJECT EPBC 2014/7210

McArthur River Mining Pty Ltd  
February 2022

### DOCUMENT PROPERTIES

Date	10 February 2022
Department, Area	Environment
Prepared by	McArthur River Mining Pty Ltd
EPBC approval number	EPBC 2014/7210 (as varied on 18 December 2020)

## DESCRIPTION OF ACTIVITIES

EPBC Number	EPBC 2014/7210 (dated 12 June 2019), and subsequent variation (dated 18 December 2020).
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"> <li>• Mining of overburden and ore in the Open Pit.</li> <li>• Emplacement of overburden at the North Overburden Emplacement Facility (NOEF) consistent with management procedures for handling non-benign and benign material.</li> <li>• Construction of and upgrades to water management infrastructure.</li> <li>• Processing of ore at the mill area.</li> <li>• Deposition of tailings in Cells 1 and 2 of the Tailings Storage Facility (TSF).</li> <li>• Transport of product material to the Bing Bong Loading Facility and then via motor vessel to ships in the Gulf of Carpentaria.</li> <li>• Exploration activities and a regional drilling program for hydrogeological testing, characterisation of overburden and the installation of geotechnical and environmental monitoring sites.</li> </ul>
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"> <li>• Completion of the TSF Interception Trench to manage seepage from Cell 1 of the TSF.</li> <li>• Ongoing drilling at select areas of the site to refine the hydrogeological model.</li> <li>• Rehabilitation trials to inform long-term performance and design of the NOEF cover system.</li> <li>• Ongoing rehabilitation and revegetation activities.</li> <li>• Independent Monitor Audit of the period 1 April 2018 to 30 April 2020.</li> <li>• Wastewater discharge in accordance with Waste Discharge Licence 174.</li> <li>• Studies on the environment of the Mine site to improve environmental management.</li> <li>• Ongoing environmental monitoring to inform operational management.</li> </ul>
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 2020 to 12 November 2021
Date of preparation of the report	10 February 2022

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 "Adam Hatfield". The signature is written in a cursive, flowing style.

**Full name:** Adam Hatfield

**Position:** Manager – Health, Safety, Environment & Community

**Organisation:** McArthur River Mining Pty. Ltd.

**ACN:** 008 167 815

**Date:** 10 February 2022

## 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 2020 to 12 November 2021.

In summary, a total of 18 conditions of EPBC Act Approval 2014/7210 were active during the 2020-2021 reporting period. MRM maintained compliance with all conditions. 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 Largetooth Sawfish or Gouldian Finch. 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.

During the 2021 early dry season survey, IPE captured eight Largetooth Sawfish (*Pristis pristis*) juveniles throughout the survey area, including sites within and upstream of the mineral lease. This 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 capture of eight individuals was a greater number than any previous survey conducted on behalf of MRM. It is considered likely that prolonged, low velocity, connectivity of the McArthur River during the 2020/2021 wet season provided a prolonged migration timeframe for Largetooth Sawfish and contributed to the increase catch rate during the current survey.

Results from the 2021 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 installation of large woody debris and riparian revegetation undertaken by MRM.



Plate ES1: Largetooth Sawfish (*Pristis pristis*)

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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 2020 to 12 November 2021 (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).

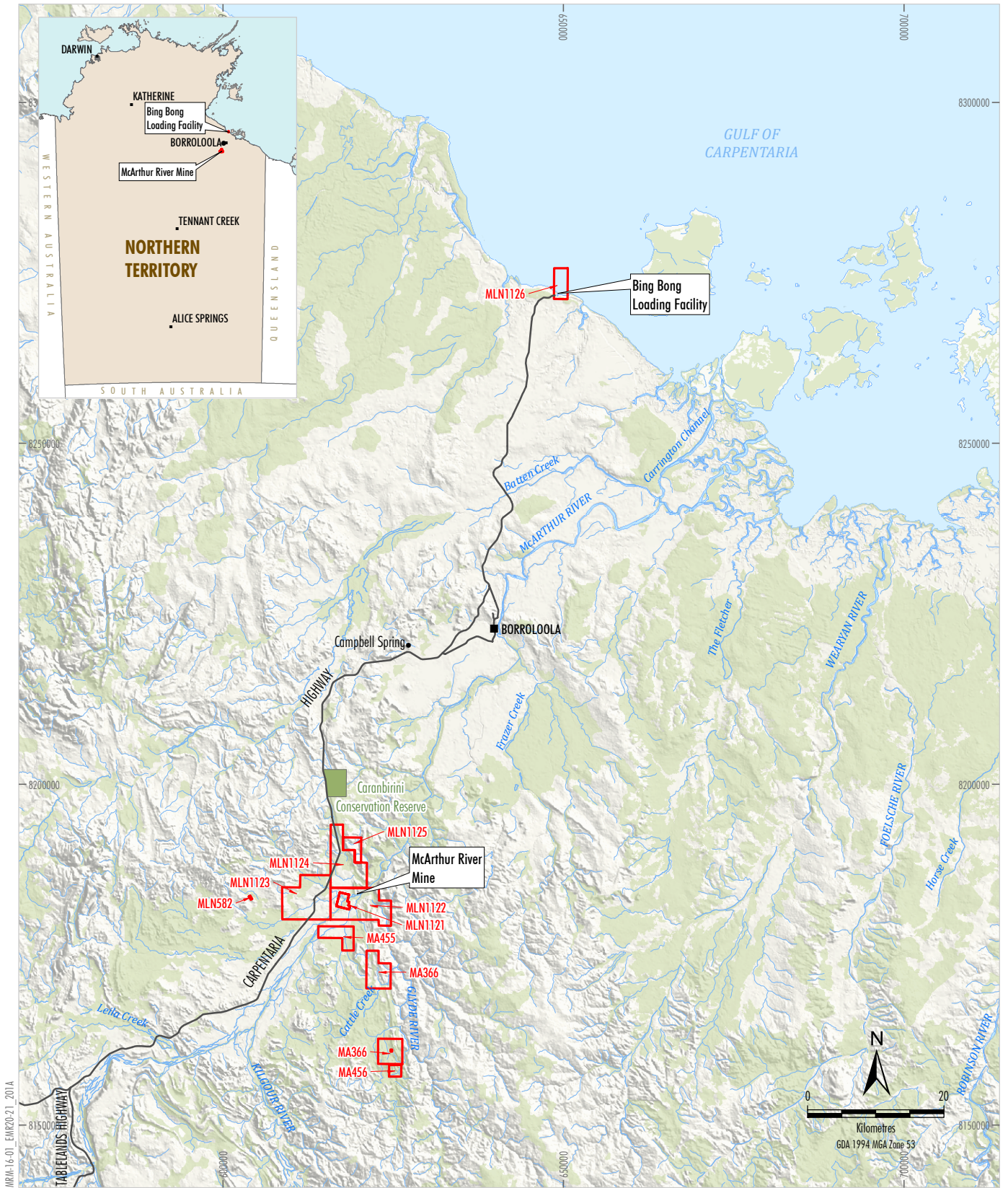
The Mine is contained within five contiguous mineral leases (Mineral Lease Northern [MLN] 1121, MLN 1122, MLN 1123, MLN 1124 and MLN 1125), located on the McArthur River Station Pastoral Lease. The McArthur River Station is 100 per cent (%) owned by Mount Isa Mines Limited and managed by Colinta Holdings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



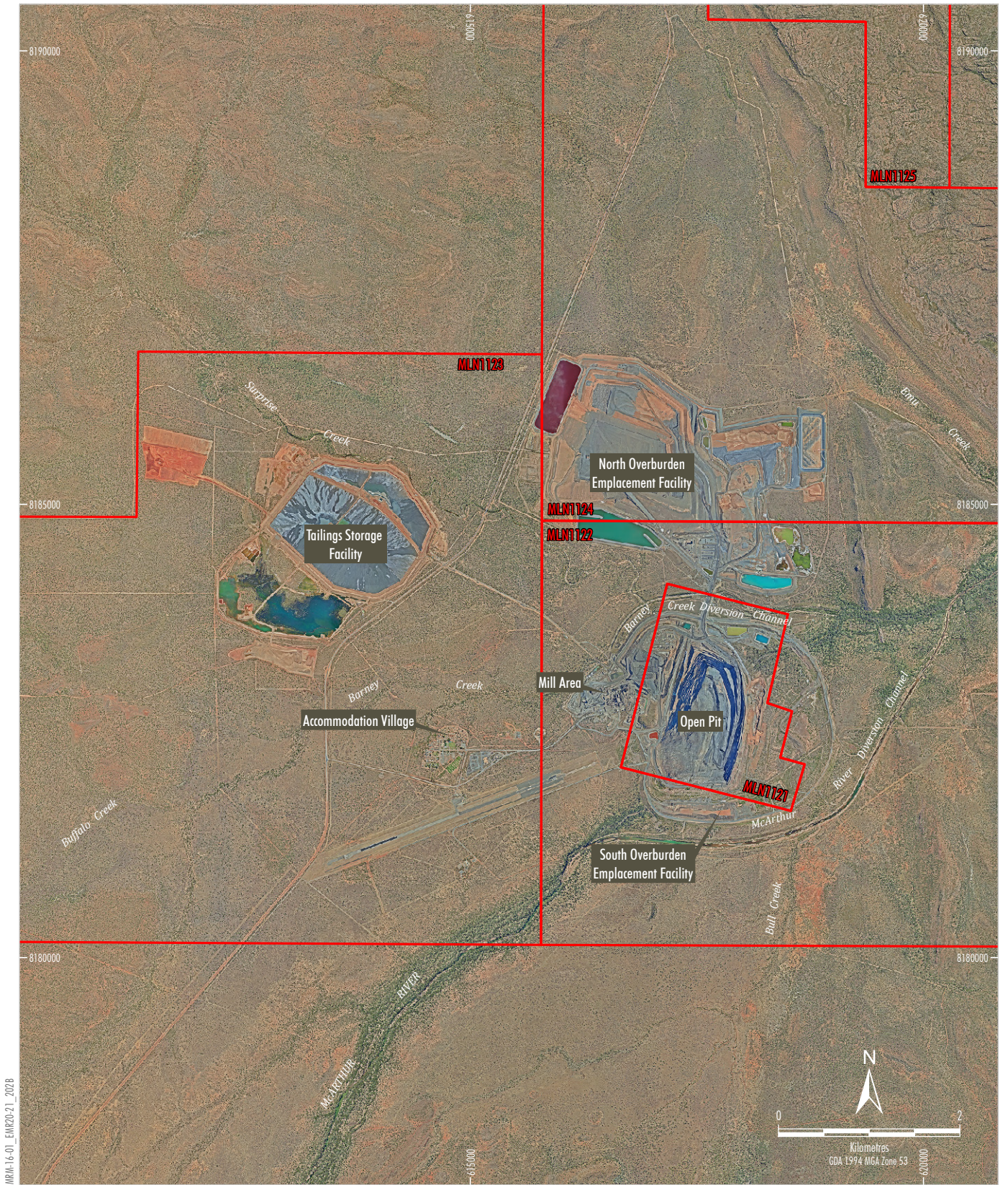
**LEGEND**

- 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 (2018); Department of Environment and Natural Resources (2016)

McARTHUR RIVER MINE  
 Mine Site

**Figure 2**



**LEGEND**  
 Mineral Lease

Source: Orthophoto MRM (2018); Department of Environment and Natural Resources (2016)

**McARTHUR RIVER MINE**  
**Bing Bong Loading Facility**

**Figure 3**

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.

### 2.3 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 2020 to 30 April 2021) 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

## 2.4 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, seven of the conditions listed in Part A were determined to be "Not Applicable", as they were not triggered during the reporting period (i.e. the due date is in the future), or they were determined to be administrative in nature (i.e. 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 18 conditions of EPBC Act Approval 2014/7210 were active during the 2020-2021 reporting period. MRM maintained compliance with all conditions.



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 Largetooth Sawfish or Gouldian Finch. 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 2021 early dry season survey, IPE captured eight Largetooth Sawfish (*Pristis pristis*) juveniles 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 capture of eight individuals was a greater number than any previous survey conducted on behalf of MRM. It is considered likely that prolonged, low velocity, connectivity of the McArthur River during the 2020/2021 wet season provided an extended migration timeframe for Largetooth Sawfish and contributed to the increase catch rate during the current survey (Appendix 1).

Plate 2: Largetooth Sawfish (*Pristis pristis*)

Results from the 2021 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 large woody debris installation and riparian revegetation undertaken by MRM (Appendix 1).



Plate 3: Revegetation Activities



Plate 4: McArthur River Diversion Channel with Revegetation and Large Woody Debris Along Banks

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

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
<b>Part A – Conditions specific to the action</b>				
Original dated 12/06/2019	1	<p>To minimise impacts to <b>EPBC Act listed species</b>, the <b>approval holder</b> must:</p> <ol style="list-style-type: none"> <li>a. Meet the objective of no impact to the health of the McArthur River as a result of the mine.</li> <li>b. Meet the outcome that the action does not cause impacts to the McArthur River that reduce the <b>abundance or population health of EPBC Act listed species</b>.</li> </ol> <p>The conditions below describe how both the objective and outcome are to be achieved by the <b>approval holder</b>, 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"> <li>• <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"> <li>- During the most recent reporting period (1 May 2020 to 30 April 2021), 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>.</li> </ul> </li> </ul>

			<ul style="list-style-type: none"> <li>• <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"> <li>- 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.</li> </ul> </li> <li>• <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"> <li>- 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.</li> <li>- 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.</li> </ul> </li> <li>• <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"> <li>- A number of incidental Gouldian Finch sightings were noted during the reporting period. 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.</li> </ul> </li> </ul>
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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 that "Based on the results of these monitoring programs it is our opinion that during the 2021 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."</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 <b>Minister</b> 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 <b>EPBC Act listed species</b>, the approval holder must not clear more than 7.1 ha of <b>nesting habitat</b> for the <b>Gouldian Finch</b> in the <b>project footprint</b> as part of this action, and the approval holder must:</p> <p>a. exclude cattle from at least 452 ha of potential <b>foraging habitat</b> 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	b. establish <b>key food grasses for the Gouldian Finch</b> when rehabilitating the <b>Tailings Storage Facility</b> and <b>Northern Overburden Emplacement Facility</b> .	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 <b>EPBC Act listed species</b> , the proposed pit lake, if developed, must remain hydraulically <b>isolated</b> 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 <b>Minister</b> under the <b>EPBC Act</b> .	Not Applicable	Condition not yet triggered - The pit lake has not been developed.
As varied 18/12/2020	5a	To minimise impacts to <b>EPBC Act listed species</b> , by ensuring that acid and metalliferous drainage from the <b>Northern Overburden Emplacement Facility, Tailings Storage Facility and mine pit</b> does not present an unacceptable risk to the environment, the <b>approval holder</b> must submit the following completed studies to the <b>Department</b> for approval by the <b>Minister</b> :  a. within 18 months of this <b>approval</b> , 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 <b>Northern Overburden Emplacement Facility</b> and must also include other relevant areas of the site including the <b>mine pit</b> and <b>Tailings Storage Facility</b> . 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 18/12/2020	5b	b. within 18 months of this <b>approval</b> , a study to identify and characterise any hydraulic connection between the <b>mine pit</b> 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 <b>mine pit</b> 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 18/12/2020	5c	<p>c. within 5 years of this <b>approval</b>, a study to determine the long-term (1000 years) stability and performance of the <b>mine pit</b> 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 <b>mine pit</b> 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 <b>life of the project</b>. If the study finds that the <b>current levee</b> 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 <b>approval holder</b> to implement the effective option.</p> <p>Upon approval by the <b>Minister</b>, the <b>approval holder</b> must implement any commitments made in an approved study and use the studies to inform the adaptive management plan required by condition 6. (The conclusions, recommendations and commitments in the study required by condition 5(c) must be included in a revised version of the adaptive management plan).</p>	Not Applicable	Planning in progress - Required by 12 June 2024.
As varied 18/12/2020	6	<p>To minimise impacts to <b>EPBC Act listed species</b>, within 48 months of the date of this approval, the <b>approval holder</b> must submit an adaptive management plan to the <b>Department</b> for approval by the <b>Minister</b>. 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 <b>Minister</b>, the <b>approval holder</b> must provide the model files for any part of the adaptive management plan for review, either to the <b>Minister</b> or to a third party. The <b>Minister</b> may request revisions to the modelling. If such a revision is requested, the <b>approval holder</b> must revise the modelling and resubmit a report describing the new model run and the results to the <b>Minister</b> within a timeframe specified by the <b>Minister</b> in the written request.</p>	Not Applicable	In progress - Required by 12 June 2023.

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 <b>Minister</b>, within three months of these results being obtained, the <b>approval holder</b> must revise and submit to the <b>Minister</b> 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 <b>all stages of the project</b>, including care and maintenance.</p> <p>The adaptive management plan must include:</p> <p>A. general requirements</p> <ol style="list-style-type: none"> <li>a. a new conceptual water model for the <b>mine project area and surrounds</b> 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 <b>Environmental Impact Statement</b>;</li> <li>b. an updated groundwater model, which assesses the impact of hydraulic loading on the groundwater system of the <b>Northern Overburden Emplacement Facility (NOEF)</b>;</li> <li>c. 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 <b>Environmental Impact Statement</b>, and the causes of this difference;</li> <li>d. procedures that ensure that <b>monitoring data</b> 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);</li> <li>e. 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;</li> </ol>		

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 <b>Minister</b> 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 <b>toxicant</b> levels in <b>surface waters</b> 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 <b>toxicants</b> where baseline levels are above default guideline values; and</p> <p>i. procedures that ensure that water <b>monitoring data</b> is collected for the <b>life of the project</b> including care and maintenance if the project enters this phase. All <b>monitoring data</b> must be provided to the <b>Minister</b> 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"> <li>i. locations on <b>natural waterways</b> (permanent, ephemeral/intermittent and pools);</li> <li>ii. locations within the <b>mine water management system</b>, including all water stores that can discharge (either controlled or uncontrolled) to the environment;</li> <li>iii. <b>locations upstream of any possible mine influence</b> that will be used as control sites;</li> <li>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</li> </ul>		

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		<p>v. an additional <b>compliance location</b>, 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 <b>NOEF</b> 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 <b>all stages of the project</b> (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 <b>ANZG 2018</b> 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 <b>dry season</b> and one review at the end of the <b>wet season</b> 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 <b>Minister</b> in accordance with the timeframes required under Part B - condition 8 and a review of the modelling must be undertaken;</p>		

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		<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 <b>locations upstream of any possible mine influence</b>;</p> <p>b. clearly identify the proposed timing and frequency of sampling, what monitoring is applicable to <b>all stages of the project</b> (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 <b>ANZG 2018</b> 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>		

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		<p>e. include a process for reviewing the data collected (at least six-monthly during operations including one review at the end of the <b>dry season</b> and one review at the end of the <b>wet season</b> 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 <b>Minister</b> 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 <b>Barramundi Dreaming</b> and a paired monitoring bore with an associated surface water monitoring location on <b>Emu Creek</b> north of <b>Barramundi Dreaming</b>. Potential impacts arising from hydraulic loading and other groundwater flow changes, including surface and groundwater quality changes, from the <b>Northern Overburden Emplacement Facility</b> 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 <b>baseline</b> 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 <b>locations upstream of any possible mine influence</b>;</p>		

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<ul style="list-style-type: none"> <li>ii. monitoring sites in areas where elevated lead and zinc levels have already been identified; and</li> <li>iii. monitoring sites in soils and sediments around the <b>Tailings Storage Facility</b>, the <b>Northern Overburden Emplacement Facility</b>, the <b>mine pit</b> and within surface water features including the McArthur River and its diversion, <b>Surprise Creek</b>, <b>Barney Creek</b> and its diversion and <b>Emu Creek</b>.</li> </ul> <p>b. clearly specify the frequency and timing of sampling for <b>all stages of the project</b> (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 <b>Minister</b> 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 <b>Gouldian Finch</b>. The plan must include a commitment to monitor the composition and density of <b>key food grasses</b> for the <b>Gouldian Finch</b> in the <b>project footprint</b> and manage the impacts of lead and zinc on <b>foraging habitat</b> and <b>nesting habitat</b> for the <b>Gouldian Finch</b>.</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"> <li>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</li> <li>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.</li> </ul>		
As varied 18/12/2020	7	<p>To minimise impacts to <b>EPBC Act listed species</b>, the site-specific guideline values required under conditions 6B, 6C and 6D must be developed in accordance with <b>ANZG (2018)</b> (or a future relevant ANZG) by a <b>suitably qualified person</b>.</p> <p>A. Guideline values must:</p> <ul style="list-style-type: none"> <li>a. include values for the following toxicants and physico-chemical parameters as a minimum: <ul style="list-style-type: none"> <li>i. <b>Toxicants:</b> for all surface water, ground water and sediment monitoring sites: sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium.</li> <li>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</li> </ul> </li> <li>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 <b>EPBC Act listed species</b>. This food web must inform the likely bioaccumulation rates and risks of <b>metals to EPBC Act listed species</b>; and</li> <li>c. be developed to address possible risks to <b>EPBC Act listed species</b>, including the <b>Gouldian Finch</b> and the <b>Large-tooth Sawfish</b>.</li> </ul> <p>B. The <b>approval holder</b> must:</p> <ul style="list-style-type: none"> <li>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</li> <li>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</li> </ul>	Not Applicable	In progress - Required by 12 June 2023.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		the date of <b>approval</b> and at all monitoring events for the <b>life of the project</b> thereafter. The site-specific guideline values for sediments must be developed from a source approved by the <b>Minister</b> .		
Original dated 12/06/2019	8	<p>To minimise impacts to <b>EPBC Act listed species</b>, within 12 months of the date of <b>approval</b> the <b>approval holder</b> 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> <ol style="list-style-type: none"> <li>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;</li> <li>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;</li> <li>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</li> <li>d. be submitted to the <b>Minister</b> 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.</li> </ol>	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 (i.e. in June 2023).</p>
Original dated 12/06/2019	9	<p>If the <b>Minister</b> concludes from the results of the study required by Condition 5a that buffering capacity of the groundwater system is insufficient to enable the <b>approval holder</b> to meet the outcomes of condition 1, the <b>approval holder</b> must submit a plan for approval by the <b>Minister</b> the implementation of which will prevent any increase in water contamination by <b>metals</b> in the McArthur River arising from the project. If the <b>Minister</b> or the <b>approval holder</b> determines that sufficient mitigation is not possible then the <b>approval holder</b> must submit within 2 years a <b>plan</b> that will ensure that the outcomes of condition 1 are met by the <b>approval holder</b>. The approved plan must be implemented.</p>	Not Applicable	<p>Condition has not been triggered.</p> <p>The study addressing condition 5a was provided to the Department on 11 December 2020.</p>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	10	<p>To minimise impacts to <b>EPBC Act listed species</b>, by ensuring protection of the environment from potential contamination and failure of the proposed <b>Northern Overburden Emplacement Facility</b> the <b>approval holder</b> must:</p> <ul style="list-style-type: none"> <li>a. within 4 years of the date of this <b>approval</b>, develop a geotechnical plan for the <b>Northern Overburden Emplacement Facility</b>. 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 <b>Department</b> and submitted to the <b>Department</b> for the agreement of the <b>Minister</b>. The <b>approval holder</b> must not change the structure of the <b>Northern Overburden Emplacement Facility</b> unless a revised version of the geotechnical plan for the <b>Northern Overburden Emplacement Facility</b> that addresses the proposed change is approved by the <b>Minister</b>. The approved plan must be implemented;</li> <li>b. within 3 years of the date of this <b>approval</b>, develop a geosynthetic liner testing plan. The plan must be developed by an expert with at least 5 years' relevant experience. The plan must be independently reviewed by the independent review committee established under condition 16. The plan must be submitted to the <b>Department</b> for approval by the <b>Minister</b> within 3 years of the date of the <b>approval</b>. The plan must outline a process to test the effectiveness of geosynthetic liner cover options for the <b>Northern Overburden Emplacement Facility</b>, 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 <b>Northern Overburden Emplacement Facility</b>. All relevant performance parameters must be monitored, including: <ul style="list-style-type: none"> <li>i. slope stability during extreme events;</li> <li>ii. cover performance as a result of heat effects;</li> <li>iii. cover performance if erosion exposes the liner at the surface, including the effects of (acidic tropical) rainfall and sunlight;</li> <li>iv. effects of plant, including tree, roots on the integrity of the cover;</li> <li>v. resistance of the cover to burrowing animals;</li> <li>vi. tolerance of the geosynthetic liner to expected differential settlement;</li> </ul> </li> </ul>	Not Applicable	<ul style="list-style-type: none"> <li>a. Planning in progress - Geotechnical plan required 12 June 2023.</li> <li>b. Planning in progress - Geosynthetic liner testing plan required by 12 June 2022.</li> <li>c. Only required if requested by the Department.</li> </ul>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>vii. veracity of cover longevity predictions;</p> <p>viii. likely long-term maintenance requirements; and</p> <p>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> <p>The approved plan must be implemented within 5 years of the date of this <b>approval</b>. The <b>approval holder</b> must report results of all tests and monitoring to the <b>Minister</b> every three years and to the independent review committee described in condition 16.</p> <p>c. If requested by the <b>Department</b>, develop a plan which details what other mitigation measures can be implemented if the <b>geosynthetic liner option</b> for the <b>Northern Overburden Emplacement Facility</b> proves unsuccessful. The plan must be submitted to the <b>Minister</b> for approval within one year of the date of this request. The approved plan must be implemented.</p> <p>i. If other mitigation measures are not demonstrated to be effective to the satisfaction of the <b>Minister</b>, then the <b>approval holder</b> must submit a variation to its current <b>mining management plan</b> that allows all mine derived wastes to be stored in the <b>mine pit</b> within 6 months of the geosynthetic liner option being proven to be unsuccessful. The varied approved plan must be implemented.</p> <p>ii. The <b>approval holder</b> must not store mine derived wastes in the mine pit unless the <b>Minister</b> has approved new surface water and ground water models not based on rapid filling of the pit lake and ground water level recovery.</p>		
Original dated 12/06/2019	11	To minimise impacts to <b>EPBC Act listed species</b> , in areas where the <b>Northern Overburden Emplacement Facility</b> is to be expanded as part of this action the basal layer of the <b>Northern Overburden Emplacement Facility</b> 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 <math>10^{-9}</math> 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>

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
				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.
Original dated 12/06/2019	12	<p>Within 12 months of the date of the <b>approval</b> the <b>approval holder</b> must submit to the <b>Minister</b> a report that includes:</p> <ul style="list-style-type: none"> <li>a. the results of further detailed design studies for the groundwater interception scheme to be implemented adjacent the <b>Northern Overburden Emplacement Facility</b>;</li> <li>b. 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;</li> <li>c. the components of the proposed interception scheme and a plan for implementing the scheme within 2 years of the date of the <b>approval</b>;</li> <li>d. a detailed plan for the operation and monitoring of the interception scheme for the <b>life of the project</b> including during any care and maintenance. This plan must clearly detail how monitoring will demonstrate effectiveness of the interception scheme; and</li> <li>e. the predicted improvements to water quality expected as a result of implementing the interception scheme.</li> </ul> <p>The reviewed report, following approval by the <b>Minister</b>, must be used to inform the adaptive management plan required by condition 6 and the geotechnical plan for the <b>Northern Overburden Emplacement Facility</b> required by condition 10.</p>	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.
Original dated 12/06/2019	13	<p>Within five years of the date of the <b>approval</b> the <b>approval holder</b> must submit a management plan for the management of the <b>Tailings Storage Facility</b> after mining ceases to the <b>Department</b> for approval by the <b>Minister</b>. This plan must include:</p> <ul style="list-style-type: none"> <li>a. a commitment to reprocess all material within the <b>Tailings Storage Facility</b> within 15 years of the end of mining;</li> </ul>	Not Applicable	Planning in progress - Plan required 12 June 2024.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
		<p>b. a commitment to undertake geochemical analysis of the material (including bore water) within 50 m of the <b>Tailings Storage Facility</b> footprint. The plan will determine disposal options for contaminated materials commensurate with the type and level of contamination, including disposal within the <b>mine pit</b>; and</p> <p>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 <b>mine pit</b>.</p> <p>The approved management plan must be implemented.</p>		
As varied 18/12/2020	14	<p>Within 24 months of the date of the <b>approval</b> the <b>approval holder</b> must submit an aquatic ecology monitoring and management plan to the <b>Department</b> for approval by the <b>Minister</b>. The plan must:</p> <p>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 <b>locations upstream of any possible mine influence</b>;</p> <p>b. include modelling of the extent and duration of drawdown on <b>refuge pools</b> in the dry season during operations;</p> <p>c. include monitoring of <b>refuge pools</b> including for water quality and water level;</p> <p>d. include a plan to monitor the health of the <b>surface waters</b>;</p> <p>e. include a non-lethal monitoring program to measure the presence and abundance of <b>Large-tooth Sawfish</b>;</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 <b>Large-tooth Sawfish</b> and its habitat;</p> <p>g. identify where supplementary water will be sourced, how sourced water will match the <b>baseline</b> 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 <b>refuge pools</b>; and</p>	Compliant	<p>Complete – The Aquatic Ecology Management Plan (AEMP) was submitted to the Department on 12 June 2021. It is understood that the Department is now reviewing the AEMP.</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>h. demonstrate how the translocation is consistent with the <b>Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species</b> if the corrective actions required under 14f include translocation of the <b>Largetooth Sawfish</b>.</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 <b>weeds</b> on <b>foraging habitat</b> and <b>nesting habitat</b> for the <b>Gouldian Finch</b> in the <b>project footprint</b> , the <b>approval holder</b> must implement the weed management plan provided to the <b>Department</b> as Appendix S of the Supplement to the <b>Environmental Impact Statement</b> from the <b>commencement of the action</b> .	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> <p>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.</p>
Original dated 12/06/2019	16	To minimise impacts to <b>EPBC Act listed species</b> , the <b>approval holder</b> must assist The Regulator of Mines in the NT to establish an independent review committee to review matters related to the <b>Northern Overburden Emplacement Facility, Tailings Storage Facility</b> , water quality and health of the McArthur River for the <b>life of the project</b> and care and maintenance. The <b>approval holder</b> must provide the terms of reference and proposed membership to the <b>Minister</b> for approval. Any plans and reports submitted for approval to the <b>Minister</b> by the <b>approval holder</b> must be recommended as suitable for Ministerial approval by the independent review committee prior to submission.	Compliant	<p>In progress - MRM continue to assist the NT Department of Industry, Tourism and Trade (DITT) with the establishment of the independent panels for the NOEF, TSF and Mine Closure.</p> <p>MRM has been engaging with DITT since 2019 (then the Department of Primary Industry and Resources) to assist where possible with forming the panels and the respective terms of references, which are not yet finalised. DITT have advised MRM they will develop the terms of reference in consultation with the Minister for the Environment, NT Environment Protection Authority and MRM.</p>
<b>Part B – Standard administrative conditions</b>				
Original dated 12/06/2019	B1	The <b>approval holder</b> must notify the <b>Department</b> in writing of the date of <b>commencement of the action</b> within 10 <b>business days</b> after the date of <b>commencement of the action</b> .	Compliant	MRM received approval of the OMP under the NT Mining Management Act 2001 on 13 November 2020. The OMP commencement under the EPBC Act occurred on 13 November 2020.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
				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.
Original dated 12/06/2019	B2	If the <b>commencement of the action</b> does not occur within 5 years from the date of this approval, then the <b>approval holder</b> must not <b>commence the action</b> without the prior written agreement of the <b>Minister</b> .	Not Applicable	MRM received approval of the OMP under the NT Mining Management Act 2001 on 13 November 2020. The OMP commencement under the EPBC Act occurred on 13 November 2020.
Original dated 12/06/2019	B3	The <b>approval holder</b> must maintain accurate and complete <b>compliance records</b> .	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 <b>Department</b> makes a request in writing, the <b>approval holder</b> must provide electronic copies of <b>compliance records</b> to the <b>Department</b> within the timeframe specified in the request.  Note: <b>Compliance records</b> may be subject to audit by the <b>Department</b> or an independent auditor in accordance with section 458 of the <b>EPBC Act</b> , and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the <b>Department's</b> website or through the general media.	Compliant	Ongoing - MRM will continue to provide compliance records to the Department if requested.  MRM provided a compliance table and supporting documents to the Department on 30 July 2020, in response to correspondence from the Department on 17 July 2020 seeking information to verify that MRM are compliant with EPBC Approval 2014/7210.
Original dated 12/06/2019	B5	The <b>approval holder</b> must: a. submit <b>plans</b> electronically to the <b>Department</b> for approval by the <b>Minister</b> ; b. publish each <b>plan</b> on the <b>website</b> within 20 <b>business days</b> of the date the plan is approved by the <b>Minister</b> or of the date a revised action management plan is submitted to the <b>Minister</b> , unless otherwise agreed to in writing by the <b>Minister</b> ; c. exclude or redact <b>sensitive data</b> or information from <b>plans</b> published on the <b>website</b> or provided to a member of the public; and d. keep <b>plans</b> published on the <b>website</b> until the end date of this approval.	Compliant	The AEMP was submitted electronically to the Department on 12 June 2021. It is understood the AEMP is currently being reviewed by the Department. MRM will publish the AEMP 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 <b>approval holder</b> must ensure that any <b>monitoring data</b> (including <b>sensitive data</b> or information), surveys, maps, and other spatial and metadata required under the conditions of this <b>approval</b> , is prepared in accordance with the <b>Department's Guidelines for biological survey and mapped data</b> (2018) and submitted electronically to the <b>Department</b> 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.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B7	<p>The <b>approval holder</b> must prepare a <b>compliance report</b> for each 12 month period following the date of <b>commencement of the action</b>, or as otherwise agreed to in writing by the <b>Minister</b>. The <b>approval holder</b> must:</p> <ol style="list-style-type: none"> <li>a. publish each <b>compliance report</b> on the <b>website</b> within <b>60 business days</b> following the relevant 12 month period and remain published for the <b>life of the project</b>;</li> <li>b. notify the <b>Department</b> by email that a <b>compliance report</b> has been published on the <b>website</b> within five <b>business days</b> of the date of publication;</li> <li>c. keep all <b>compliance reports</b> publicly available on the <b>website</b> until this approval expires;</li> <li>d. exclude or redact <b>sensitive data</b> or information from <b>compliance reports</b> published on the <b>website</b>; and</li> <li>e. where any <b>sensitive data</b> or information has been excluded from the version published, submit the full <b>compliance report</b> to the <b>Department</b> within 5 <b>business days</b> of publication.</li> <li>f. include monitoring information for the relevant period in accordance with Part B condition 6. The proponent must also submit to the <b>Minister</b> all <b>monitoring data</b> (in spreadsheet format) for the relevant period in accordance with Part B Condition 6 to accompany the <b>compliance report</b>.</li> </ol> <p>Note: <b>Compliance reports</b> may be published on the <b>Department's</b> website. The first <b>compliance report</b> may report a period less than 12 months so that it and subsequent compliance reports aligns with the similar requirement under state approval.</p>	Compliant	<p>This Compliance Report has been prepared to meet the requirements of Part B condition 7 and in accordance with the then Department of the Environment's <i>Annual Compliance Report Guidelines, Commonwealth of Australia 2014</i>.</p> <p>The 12 month period following the date of commencement of the action (13 November 2020 to 12 November 2021) has been covered in this Compliance Report.</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>
Original dated 12/06/2019	B8	<p>The <b>approval holder</b> must notify the <b>Department</b> in writing of any: <b>incident</b>; non-compliance with the conditions; or non-compliance with the commitments made in <b>plans</b>. The notification must be given as soon as practicable, and no later than two <b>business days</b> after becoming aware of the <b>incident</b> or non-compliance. The notification must specify:</p> <ol style="list-style-type: none"> <li>a. the condition which is or may be in breach; and</li> <li>b. a short description of the incident and/or non-compliance.</li> </ol>	Not Applicable	Condition not triggered.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B9	<p>The <b>approval holder</b> must provide to the <b>Department</b> the details of any <b>incident</b> or non-compliance with the conditions or commitments made in <b>plans</b> as soon as practicable and no later than 10 <b>business days</b> after becoming aware of the <b>incident</b> or non-compliance, specifying:</p> <ul style="list-style-type: none"> <li>a. any corrective action or investigation which the <b>approval holder</b> has already taken or intends to take in the immediate future;</li> <li>b. the potential impacts of the <b>incident</b> or non-compliance; and</li> <li>c. the method and timing of any remedial action that will be undertaken by the <b>approval holder</b>.</li> </ul>	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B10	The <b>approval holder</b> must ensure that <b>independent audits</b> of compliance with the conditions are conducted for the 12 month period from the <b>commencement of the action</b> and for every subsequent 12 month period or as otherwise requested in writing by the <b>Minister</b> .	Compliant	The preparation of an independent audit for the 12 month period of 13 November 2020 to 12 November 2021 is currently underway. Please refer to Part B condition 11 below.
Original dated 12/06/2019	B11	<p>For each <b>independent audit</b>, the <b>approval holder</b> must:</p> <ul style="list-style-type: none"> <li>a. provide the name and qualifications of the independent auditor and the draft audit criteria to the <b>Department</b>;</li> <li>b. only commence the <b>independent audit</b> once the audit criteria have been approved in writing by the <b>Department</b>; and</li> <li>c. submit an audit report to the <b>Department</b> within the timeframe specified in the approved audit criteria.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>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 will be provided to the Department for endorsement (after the reporting period for this compliance report).</li> <li>b. The independent audit will commence once the audit criteria have been approved in writing by the Department.</li> <li>c. The audit report will be prepared within the timeframe specified in the approved audit criteria.</li> </ul>
Original dated 12/06/2019	B12	The <b>approval holder</b> must publish the audit report on the <b>website</b> within 10 <b>business days</b> of receiving the <b>Department's</b> approval of the audit report and keep the audit report published on the <b>website</b> until the end date of this approval.	Not Applicable	Condition not triggered.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B13	The <b>approval holder</b> may, at any time, apply to the <b>Minister</b> for a variation to an action management plan approved by the <b>Minister</b> 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 <b>EPBC Act</b> . If the <b>Minister</b> approves a revised action management plan (RAMP) then, from the date specified, the <b>approval holder</b> must implement the RAMP in place of the previous action management plan.	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B14	The <b>approval holder</b> may choose to revise an action management plan approved by the <b>Minister</b> 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 <b>EPBC Act</b> , if the taking of the action in accordance with the RAMP would not be likely to have a <b>new or increased impact</b> .	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B15	<p>If the <b>approval holder</b> makes the choice under Part B condition 14 to revise an action management plan without submitting it for approval, the <b>approval holder</b> must:</p> <ol style="list-style-type: none"> <li>a. notify the <b>Department</b> in writing that the approved action management plan has been revised and provide the <b>Department</b> with: <ol style="list-style-type: none"> <li>i. an electronic copy of the RAMP;</li> <li>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;</li> <li>iii. an explanation of the differences between the approved action management plan and the RAMP;</li> <li>iv. the reasons the <b>approval holder</b> considers that taking the action in accordance with the RAMP would not be likely to have a <b>new or increased impact</b>; and</li> <li>v. written notice of the date on which the <b>approval holder</b> will implement the RAMP (RAMP implementation date), being at least 20 <b>business days</b> after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the <b>Department</b>.</li> </ol> </li> <li>b. subject to condition 14, implement the RAMP from the RAMP implementation date.</li> </ol>	Not Applicable	Condition not triggered.

Date of Decision	Condition Number	Condition	Compliance	Evidence/Comments
Original dated 12/06/2019	B16	The <b>approval holder</b> may revoke their choice to implement a RAMP under Part B condition 15 at any time by giving written notice to the <b>Department</b> . If the <b>approval holder</b> revokes the choice under Part B condition 15, the <b>approval holder</b> must implement the previous action management plan approved by the <b>Minister</b> .	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B17	If the <b>Minister</b> gives a notice to the <b>approval holder</b> that the <b>Minister</b> is satisfied that the taking of the action in accordance with the RAMP would be likely to have a <b>new or increased impact</b> , then: <ul style="list-style-type: none"> <li>a. Part B condition 15 does not apply, or ceases to apply, in relation to the RAMP; and</li> <li>b. the <b>approval holder</b> must implement the action management plan specified by the <b>Minister</b> in the notice.</li> </ul>	Not Applicable	Condition not triggered.
Original dated 12/06/2019	B18	At the time of giving the notice under Part B condition 17, the <b>Minister</b> 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 <b>EPBC Act</b> which allows the <b>approval holder</b> to submit a revised action management plan, at any time, to the <b>Minister</b> 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 prepare all upcoming plans prepared for this approval in line with the Department's Environmental Management Plan Guidelines.
Original dated 12/06/2019	B20	Within 30 days after the <b>completion of the action</b> , the <b>approval holder</b> must notify the <b>Department</b> in writing and provide <b>completion data</b> .	Not Applicable	Condition not triggered.

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	<b>Abundance or population health</b> is as described in the <b>Environmental Impact Statement</b> .
Original dated 12/06/2019	<b>Acid</b> includes pH, and should be less than 6 pH.
Original dated 12/06/2019	<b>All stages of the project</b> 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	<b>ANZG (2018)</b> 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	<b>Approval</b> means this approval to take the action under section 133 of the <b>EPBC Act</b> as noted in the date of decision section of this approval.
Original dated 12/06/2019	<b>Approval holder</b> means the name of the person to whom the approval is granted.
Original dated 12/06/2019	<b>Barney Creek</b> means Barney Creek identified in Figure 2.
Original dated 12/06/2019	<b>Barramundi Dreaming</b> means Barramundi Dreaming identified in Figure 2.
Original dated 12/06/2019	<b>Baseline</b> 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	<b>Business day</b> 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	<b>Clear</b> and <b>Clearing</b> 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	<b>Commencement of the action</b> 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	<b>Completion data</b> 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	<b>Completion of the action</b> means that <b>all stages of the project</b> have permanently ceased.
Original dated 12/06/2019	<b>Compliance location</b> means a monitoring point at which the site-specific or generic guideline values are not to be exceeded.
Original dated 12/06/2019	<b>Compliance records</b> means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the <b>approval holder’s</b> possession or that are within the <b>approval holder’s</b> power to obtain lawfully;

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	<b>Compliance reports</b> means written reports: <ol style="list-style-type: none"> <li>a. providing accurate and complete details of compliance, incidents, and noncompliance with the conditions and the plans;</li> <li>b. consistent with the <b>Department's Annual Compliance Report Guidelines (2014)</b>;</li> <li>c. include a shapefile of any clearance of any <b>protected matters</b>, or their habitat, undertaken within the relevant 12-month period; and</li> <li>d. annexing a schedule of all <b>plans</b> prepared and in existence in relation to the conditions during the relevant 12 month period.</li> </ol>
As varied 18/12/2020	<b>Construction</b> 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.
Original dated 12/06/2019	<b>Current levee</b> means the levee as described in the Environmental Impact Statement.
Original dated 12/06/2019	Department means the Australian Government agency responsible for administering the <b>EPBC Act</b> .
Original dated 12/06/2019	<b>Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species</b> means the <i>Department's EPBC Act Policy Statement on Translocation of Listed Threatened Species</i> available on Department's website at <a href="http://www.environment.gov.au/resource/epbc-act-policy-statement-translocation-listedthreatened-species-assessment-under-chapter">http://www.environment.gov.au/resource/epbc-act-policy-statement-translocation-listedthreatened-species-assessment-under-chapter</a>
Original dated 12/06/2019	<b>Dry season</b> means the period from 1 May until 31 October each year.
Original dated 12/06/2019	<b>Emu Creek</b> means Emu Creek identified in Figure 2.
As varied 18/12/2020	<b>Environmental impact statement</b> 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 <a href="https://ntepa.nt.gov.au/your-business/public-registers/environmental-impactassessments-register/completed-assessments/register/mcarthur-river-mine-overburden">https://ntepa.nt.gov.au/your-business/public-registers/environmental-impactassessments-register/completed-assessments/register/mcarthur-river-mine-overburden</a> ).
Original dated 12/06/2019	<b>EPBC Act</b> means the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Original dated 12/06/2019	<b>EPBC Act listed species</b> means the EPBC Act listed <b>Gouldian Finch</b> ( <i>Erythrura gouldiae</i> ) and <b>Largetooth Sawfish</b> ( <i>Pristis pristis</i> ).
Original dated 12/06/2019	<b>EPBC Regulations</b> means the <i>Environment Protection and Biodiversity Conservation Regulations 2000</i> .
Original dated 12/06/2019	<b>Footprint</b> means the maximum proposed footprint described in Figure 1.
Original dated 12/06/2019	<b>Foraging habitat</b> for the EPBC Act listed <b>Gouldian Finch</b> 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.
Original dated 12/06/2019	<b>Geosynthetic liner option</b> means the geosynthetic liner option proposed in the <b>Environmental Impact Statement</b> .
Original dated 12/06/2019	<b>Gouldian Finch</b> means the EPBC Act listed Gouldian Finch ( <i>Erythrura gouldiae</i> ).
Original dated 12/06/2019	<b>Incident</b> means any event which has the potential to, or does, impact on <b>protected matter(s)</b> .

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	<b>Independent audit:</b> means an audit conducted by an independent and <b>suitably qualified person</b> as detailed in the <i>Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines</i> (2015).
Original dated 12/06/2019	<b>Isolated</b> 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	<b>Key food grasses for the Gouldian Finch</b> 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	<b>Largetooth Sawfish</b> means the <b>EPBC Act</b> listed species <i>Pristis criticus</i> .
Original dated 12/06/2019	<b>Life of the project</b> means from the date of approval to the end of the period for which the approval has effect.
Original dated 12/06/2019	<b>Locations upstream of any possible mine influence</b> means locations on <b>natural waterways</b> upstream of the <b>footprint</b> of the <b>action</b> as defined in the <b>Environmental Impact Statement</b> .
As varied 18/12/2020	<b>Metals</b> includes sulfate, zinc, lead, cadmium, arsenic, cobalt, manganese, nickel and thallium.
Original dated 12/06/2019	<b>Mine pit</b> means the <b>open cut</b> identified in Figure 1.
Original dated 12/06/2019	<b>Mine project area and surrounds</b> includes the mine pit, Northern Overburden Emplacement Facility, Tailings Storage Facility to Emu Creek and the Djirrinmini Waterhole.
Original dated 12/06/2019	<b>Mine water management system</b> means the mine water management system as described in the <b>Environmental Impact Statement</b> .
Original dated 12/06/2019	<b>Minister</b> means the Australian Government Minister administering the <b>EPBC Act</b> including any delegate thereof.
Original dated 12/06/2019	<b>Monitoring data</b> means the data required to be recorded under the conditions of this approval.
Original dated 12/06/2019	<b>Natural waterways</b> 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	<b>Nesting habitat</b> for the <b>EPBC Act</b> listed <b>Gouldian Finch</b> 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	<b>New or increased impact</b> a new or increased environmental impact or risk relating to any <b>protected matter</b> , when compared to the likely impact of implementing the action management plan that has been approved by the <b>Minister</b> under Part B conditions 13, 14, 15, 16, 17 and 18, including any subsequent revisions approved by the <b>Minister</b> , 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).
Original dated 12/06/2019	<b>Northern Territory Assessment Report 86</b> means the Northern Territory Environment Protection Authority (2018). <i>McArthur River Mine Overburden Mine Overburden Management Project</i> . Available online at <a href="https://ntepa.nt.gov.au/_data/assets/pdf_file/0004/553081/mrm_overburden_assessment_report.pdf">https://ntepa.nt.gov.au/_data/assets/pdf_file/0004/553081/mrm_overburden_assessment_report.pdf</a> .
Original dated 12/06/2019	<b>Northern Overburden Emplacement Facility</b> means the <b>Northern Overburden Emplacement Facility</b> identified in Figure 1.
Original dated 12/06/2019	<b>Plan(s)</b> means any of the documents required to be prepared, approved by the <b>Minister</b> , and/or implemented by the <b>approval holder</b> and published on the website in accordance with these conditions (includes action management plans and/or strategies);
As varied 18/12/2020	<b>Project footprint</b> means the areas enclosed by the blue lines designated as 'Indicative Overburden Management Project Footprint' in Figure 1

Date of Decision	Definitions Attached to Approval
Original dated 12/06/2019	<b>Protected matter</b> means a matter protected under a controlling provision in Part 3 of the <b>EPBC Act</b> for which this approval has effect.
Original dated 12/06/2019	<b>Refuge pools</b> 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	<b>Sensitive ecological data</b> 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	<b>Stage 4</b> of the proposal is as defined under <b>all stages of the project</b> .
Original dated 12/06/2019	<b>Suitably qualified person</b> 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	<b>Surface waters</b> 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	<b>Surprise Creek</b> means Surprise Creek identified in Figure 2.
Original dated 12/06/2019	<b>SW 12</b> means the surface water monitoring site SW 12 identified in the <b>Environmental Impact Statement</b> .
Original dated 12/06/2019	<b>Tailings Storage Facility</b> means the Tailings Storage Facility identified in Figure 1.
Original dated 12/06/2019	<b>Terrestrial and aquatic areas</b> means the <b>McArthur River Mine Overburden Management Project</b> envelope and <b>surface waters</b> .
Original dated 12/06/2019	<b>Toxicant</b> 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 ( <b>ANZG (2018)</b> ).
Original dated 12/06/2019	<b>Water quality and health</b> 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	<b>Website</b> 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	<b>Weeds</b> includes, but is not limited to, Mission Grass ( <i>Cenchrus pedicellatum</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	<b>Wet season</b> means November to April.
As varied 18/12/2020	<b>Figure 1</b> – Maximum Project Footprint showing <b>Gouldian Finch nesting habitat</b> (based on Fig 6-18 from Supplementary EIS)
Original dated 12/06/2019	<b>Figure 2</b> – 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

25<sup>th</sup> January 2022

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 part of the approval for the management of overburden and surface water, McArthur River Mining (MRM) must provide evidence that MRM's activities did not impact the health of the McArthur River and did not cause impacts that reduce the abundance or population health of EPBC Act listed species in accordance with the conditions outlined in approval document EPBC 2014-7210. 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 current reporting requirements. In particular, these include:

- 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 assessed in 2021, Indo-Pacific Environmental (2021a) reported:

*Overall species diversity was similar to early dry season surveys conducted since 2014. While abundance of some individual species was different in comparison to the previous early dry season survey, longer term observations indicate these fluctuations are likely due to the adaptability of species to annual environmental changes and habitat availability. This is evidenced by the fact that*

*the top five most abundant and distributed species recorded since the inception of this monitoring program in 2006 have generally been the same species, indicating overall populations and distributions remain relatively balanced.*

Indo-Pacific Environmental (2021a) also noted:

*The capture of eight P. pristis juveniles throughout the survey area, including sites within and upstream of the Mineral Lease, provided 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 capture of eight individuals was a greater number than any previous survey conducted on behalf of MRM. It is considered likely that prolonged, low velocity, connectivity of the McArthur River during the 2020/2021 wet season provided a prolonged migration timeframe for P. pristis and contributed to the increase catch rate during the current survey.*

Indo-Pacific Environmental (2021b) concluded that:

*Results from the current survey align with past conclusions, that there has been no observable 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, 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 LWD installation and riparian revegetation undertaken by McArthur River Mining Pty Ltd (MRM).*

In addition, data attained from targeted monitoring of *P. pristis* during the 2021 reporting period lead Indo-Pacific Environmental (2021c) to conclude that:

*In comparison to data obtained between 2008 and 2020, the annual CPUE of P. pristis in 2021 was above the expected range. As such, the McArthur River Diversion Channel or activities occurring within the Mineral Lease were not considered to be restricting P. pristis movement through the McArthur River Catchment or having a negative impact on the P. pristis population or recruitment. Furthermore, the consistent presence of P. pristis within the McArthur River Diversion Channel suggests that the environmental conditions within the McArthur River Diversion Channel itself are favourable for the growth and survival of this Vulnerable species. The targeted sampling sites within the McArthur River Diversion Channel likely, at present, represent important dry season refuge for the section of the McArthur River within the Mineral Lease.*

Based on the results of these monitoring programs it is our opinion that during the 2021 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](mailto:slongbottom@indopacific.net.au) or [dthorburn@indopacific.net.au](mailto: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 (2021a). *Report on the Aquatic Fauna of the McArthur River, Northern Territory, Early Dry Season 2021*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.

Indo-Pacific Environmental (2021b). *Report on the Aquatic Fauna of the McArthur River, Northern Territory, Late Dry Season 2021*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.

Indo-Pacific Environmental (2021c). *Acoustic monitoring of Largetooth Sawfish Pristis pristis and Barramundi Lates calcarifer within the McArthur River, Northern Territory, 2021*. Report to McArthur River Mining Pty Ltd. Indo-Pacific Environmental, Perth.