

17th September 2014

The Hon. Willem Westra Van Holthe
Minister for Mines and Energy
GPO Box 3146
Darwin NT 0801

Dear Minister

Independent Monitor's Report of the McArthur River Mine for the 2012 -2013 Operational Period

McArthur River Mine (MRM) is an important part of Glencore's zinc operations and is also a significant employer in the Northern Territory and contributor to the State economy. Our intention is to manage a safe, profitable and sustainable mining operation and in doing so we seek to be transparent, engaged with our key stakeholders and when addressing operational issues be informed by good science and the facts.

MRM acknowledges the important role the Independent Monitor (IM) has played in auditing MRM's environmental performance since 2007. We respect the advice the IM has provided to improve the scientific analysis of our monitoring results and technical recommendations that have resulted in continual improvement for environmental protection and compliance.

Since the previous IM report which covered the 2011 operational period, MRM has invested \$360 million in the MRM Phase 3 Development Project and as part of the expansion approvals process extensive environmental studies have been carried out.

We are pleased that the IM has acknowledged the comprehensive environmental monitoring program that has been implemented by MRM and supplemented by a number of investigations undertaken by the operation and external consultants.

The IM Report highlights a number of improvements at MRM including:

- aquatic fauna monitoring and protection of the species listed under the *Environment Protection and Biodiversity Conservation Act 1999*
- revegetation works along the McArthur River diversion channel
- implementation of comprehensive programs and investigations to understand geochemical
- ongoing improvements to minimise fugitive dust emissions
- implementation of additional monitoring sites for assessing freshwater and marine water quality and ecology
- measures that aim to reduce pathways for contaminants entering Barney Creek, with a notable decrease in lead and zinc levels.

We have thoroughly reviewed the report for the 2012 and 2013 operational period and submit the following comments on the areas listed for improvement. We also attach further information for all risks listed by the IM, as changes have occurred since the audit took place in April this year.

Follow up actions on identified issues

1. Changes in the geochemical classification of the overburden

Key Issues:

The current Northern Overburden Emplacement Facility (NOEF) design was approved as part of the MRM Phase 3 Development Project. Following further overburden geochemistry investigations, it has been identified that the previously proposed and approved overburden management infrastructure is not suitable for life-of-mine (LOM) overburden.

The Overburden Management Project is being assessed under the accredited assessment between the NT and Australian Governments.

Redesign of the approved overburden management infrastructure is required. The redesign of the NOEF and other overburden management infrastructure may potentially incorporate an increased footprint, extending beyond that of the current approved design.

The level of analysis and detail in the Environmental Impact Statement (EIS) shall reflect the level of significance of the expected and potential impacts on the environment, as determined through adequate technical studies. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which a limitation, if any, of available information may influence the conclusions of the environmental assessment shall also be discussed.

Status:

- Geochemical characterisation investigations are ongoing to increase confidence in predicting the occurrence and behaviour of PAF material as part of the Project management at MRM.
- The previously approved methodologies and design criteria will be revised to address a reduction in the available volume of benign non-acid forming (NAF) overburden material and improved understanding of clay characterisation and performance.
- Additional drilling campaigns will collect more detailed information in advance of the planned mine extents.
- Further detailed technical studies including site monitoring, OEF lysimeters, geochemical testwork, surface and groundwater modelling are being prepared and undertaken to inform the NOEF design process

2. Metal and lead isotopes in aquatic fauna

Key Issues:

Our routine fish monitoring report in 2013 found about 7% of the 183 individual sampled had elevated levels of lead. This is localised to the mine site only and to a section of Barney Creek on the mine site where fishing is not permitted.

In 2014 the elevated lead levels in Barney Creek has reduced to 2.8% of 347 samples.

The lead isotope ratio relates to the ore found across the south west gulf region. Of importance it must be noted that we and regulators must not use the isotope ratio as conclusive evidence of mine influence. Following expert advice, consideration must also be given to:

- the location of the fish with distance from the mine e.g. fish with the same isotope was found in the Wearyan River: and
- the species of the fish and its ability to migrate distances from the mine e.g. a small rainbow fish is not likely to be able to migrate Barney creek to the top of McArthur River Channel

We do accept that elevated levels of lead in fish sampled adjacent to the Barney Creek haul road bridge were most likely the result of accumulated sediment from fugitive dust and runoff and therefore in the area and therefore available for uptake by the fish.

On receiving the 2013 fish report which highlighting the area of concern, we instigated remediation works and provided the information on fish monitoring outcomes and the remedial action taken to the Department of Mines and Energy.

This action reduced the occurrence of elevated levels of lead in fish as reported in 2014. Remediation works have continued and include excavation of the accumulated sediment and installation of an engineered designed sediment catchment runoff system in preparation for the upcoming wet season.

Status

- MRM has a comprehensive water-monitoring program that covers our entire mining leases and surrounding regional areas. Our results at the compliance point have not exceeded the ANZECC trigger values, which is the accepted Australian standard for freshwater quality with exception to aluminium and iron during the onset of the first seasonal rains. Such exceedances have been documented historically as naturally occurring throughout major river systems in the Top End.
- Work is currently being done by MRM with NT Mines, Fisheries and Health Departments. We will continue to work with the Government and community on this investigation.

3. Volume of water stored in the Tailings Storage Facility (TSF) Cell 2

We are actively reducing the volume of water from TSF Cell 2 by transferring tailings water for recycling through the mill process. This follows installation of pipework and associated infrastructure in July 2014. TSF Cell 2 does not receive water from any other sources in the mine water management circuit.

4. Construction quality control of the TSF Cell 2

Key Issues:

Site inspections undertaken by the Designer's Senior Engineer during the period of construction of the TSF Cell 2 wall lift. Each inspection was timed for critical milestones within the construction period. Observations were made of the activities, with a photographic record maintained at the time of each inspection. Also undertaken was a review of compliance with the QA Plan, including completion of ITPs. The construction inspections were carried out on the following dates:

- 31 October 2012 and 1 November 2012;
- 29 November 2012;
- 17 December 2012;
- 16 January 2013;

- 14 February 2013;
- 23 March 2013.

A construction inspection report was prepared following each site visit by ATCW and submitted to MRM. Each individual report comprised inspection condition, construction activities at the time of inspection, Quality Control and Quality Assurance testwork completed within the specified timeframe and general notes, comments and recommendations

Status:

All our survey and monitoring data to date provides us with a high level of confidence in the integrity and stability of the TSF wall.

- daily inspections of infrastructure
- fortnightly reports to the DME commenced 1/7/14
- monthly reports as per the MRM TSF Operating Guidelines
- six monthly surveyors reports
- annual independent safety audits (ANCOLD compliant)

5. Seepage control at the TSF

Key Issues:

MRM contracted specialists in May 2014 to conduct additional investigations at the TSF to supplement existing hydrogeological data gaps, conduct groundwater modelling and develop appropriate seepage mitigation measures.

The project aims to determine the preferential pathway of seepage, by the use of shallow cone penetrometer testing, deployment of electrical conductivity probes, installation of shallow bores using sonic drilling methods, collection of soil and groundwater samples to define absorption and attenuation properties and conduct tracer tests.

The optimisation of groundwater models for the accurate prediction of seepage transport and attenuation will follow the pathway investigations. The project will then design and install a seepage mitigation and capture system such as recovery bores, geopolymer barriers and interception trenches.

Status:

- Site works commence 28 September 2014.

For any other further information please do not hesitate to contact Julie Crawford, Health, Safety, Environment and Community Manager on 0457 883 807 or via email on julie.crawford@glencore.com.au.

Yours sincerely

Sam Strohmayer
General Manager
McArthur River Mine