

McArthur River Mine Open Cut Project Draft EIS ECNT Submission Summary, October 2005

The Environment Centre NT (ECNT) is strongly of the view that the McArthur River Mine Open Cut Project does not meet acceptable environmental standards and that the project should therefore not be approved.

Permanently altering the channel of such an important Top End river is unacceptable. Excavating a large open pit right on top of the river, involving the removal and relocation of millions of tonnes of rock waste, a significant proportion of which has the potential to contribute to an ongoing acid mine drainage problem, is also unacceptable. The ecological footprint of the open cut proposal is considerably larger than the existing operation. It is also clear from the Draft EIS that not all of the toxic materials produced at the mine over its life can be contained on-site, or managed in a way that will not lead to substantial environmental degradation.

Accordingly, the NT Government should reject this proposal outright on environmental and social impact grounds. The defects in the Draft EIS outlined in this submission are of such a serious nature that in ECNT's opinion they can not possibly be addressed adequately in any subsequent Supplementary EIS statements, Environmental Management Plans or Mining Management Plans.

Some of our major concerns are as follows:

- With the large amount of ground water set to accumulate in the pit, requiring dewatering at a rate of 6.3 million litres per day by year 17 of the mine, pit stability will be an ongoing and significant risk to workers and the environment.
- 11 percent of the total mine overburden, or 21.8 million tonnes of waste rock, are Potentially Acid Forming (PAF). There are high heavy metal concentrations present in the overburden rock types (e.g. arsenic, cadmium, copper, manganese). These are all highly toxic materials.
- Infiltration could saturate, and ultimately penetrate, the clay surrounding Potentially Acid Forming materials that are to be encapsulated within the proposed Overburden Emplacement Facility (OEF). However, MRM admits to being unsure yet of the actual permeability characteristics of the clay.
- There is a high concentration of arsenic in the existing tailings - also lead, manganese and zinc. The existing tailings storage facility has already leaked into Surprise Creek in recent years.
- 7,700 tonnes of contaminated waste per year, and an unquantified amount of sludge, is to be disposed of in a 'designated section' of the Tailings Storage Facility (TSF). What will the effects of this contaminated waste be on seepage water, or on any water that spills into Surprise Creek during extreme rainfall events?
- The inadequacy of the Draft EIS in dealing with such crucial issues raises concerns that environmentally damaging seepage into surrounding creek and river systems will occur again with the new, expanded Tailings Storage Facility. How can we have confidence in the design objectives when they so plainly failed with the existing TSF?.
- Ground water inflow into the pit is a huge potential problem for this mine proposal. Yet the exact location of the river paleochannel is not yet known within the area of the proposed open cut.
- By the end of mining, the ground water drawdown will be approx 210 metres at the open cut. It is of great concern that the drawdown cone will migrate significant distances along faultlines in the bedrock. This could have significant implications for groundwater-dependent vegetation communities.

- Modelling of water levels at Djirrinmini Waterhole indicate a 0.5m reduction in the levels of both the weathered bedrock and alluvial aquifers after 25 years of mining. This will reduce lateral flows to the waterhole at the end of dry season. This is a very significant predicted decrease in water levels at an important ecological refuge.
- MRM's own water quality monitoring data shows that some heavy metal concentrations (i.e. zinc, copper and lead) in the McArthur River are already twice the level downstream from the mine as they are upstream. We must also point out that downstream copper, lead and zinc concentrations can be up to 100 micro grams/L early in the wet season, three times the 80th percentile ANZECC water quality trigger values. What are the ecological impacts of these late dry season/ early wet season increases in concentrations downstream of the mine?
- It will take 50 years or more for the realigned channel hydraulic roughness to eventually become similar to the existing channel. Again this is an unwarranted permanent alteration of the hydrology and geomorphology of the river.
- No flora sampling was completed directly where the open cut or the Tailings Storage Facility or where most of the river realignment will go. ECNT considers this to be an extraordinary state of affairs. Sampling should have been carried out in these areas.
- The loss of approximately 3.6 kilometres of valuable riparian habitat, to be replaced by a manufactured channel, is unacceptable and would constitute a clear breach of NT land clearing regulations (i.e. to 'avoid impacts on drainage areas, wetlands and *waterways*' as well as avoid impacts on 'sensitive vegetation' such as riparian vegetation).
- A perennial species of Mitchell grass was found at a single site on the black soil plain on the eastern side of the McArthur River. The Draft EIS goes on to say that some local populations of this species could be lost during construction of the new channel.
- The text of the Main Report does not mention that the Purple-crowned Fairy-wren (Near-threatened - NT) was found at sites right in the area of the proposed open cut. The Draft EIS surmises that the Fairy-wren is not dependent on a continuous riverine habitat corridor for dispersal. Previous and current research on the Fairy-wren shows otherwise. The loss of 3.6 kilometres of riparian corridor along the McArthur River will therefore almost certainly lead to increased population fragmentation, and hence vulnerability, of the species.
- Worrell's turtle (near threatened – NT) was also found at sites in the area of the proposed open cut. Freshwater sawfish was anecdotally observed upstream of the mine project area recently.
- There is no discussion of the cultural, spiritual or traditional use significance of the Port McArthur tidal zone for Traditional Owners. Moreover, there are major concerns within local communities in this area about impacts on dugong, fish and turtle (such as the Hawksbill) of lead concentrations in the water of the McArthur River as a result of discharges from the existing mine. These concerns ought to have been fully acknowledged and addressed in the Draft EIS.
- ECNT considers that MRM's preferred rehabilitation option - namely to maintain the McArthur River in the new river channel but breach the flood bund wall to allow flood flows to enter the pit - constitutes irresponsible environmental management. It will take hundreds of years for the pit to fill up with sediment. Hence the project will leave a very long-term scar on the landscape, which will require long-term, and potentially expensive, management and monitoring. The current rehabilitation bond of A\$12 million is therefore grossly inadequate.