



20 June 2021

*The Minister for Environment, Parks and Water Security,
Darwin*

Re: Comment on Draft Declaration to Prohibit Seabed Mining

Thank you for the opportunity to comment on this proposal. GEMSA NT’s primary aim is to support and promote grassroots mineral exploration in the NT, and while we are unaware of any serious proposals to conduct seabed mining in NT waters at present, we feel “prohibition” of any industrial activity that could conceivably enhance the NT economy, if competently regulated, is, particularly in these difficult economic times, to be avoided.

The reasons advanced for this proposed prohibition in the “Statement of Reasons” (Statement) largely boil down to the quaintly medieval notion that if we do not understand a topic, we should just prohibit it. Such notions do not sit well in a jurisdiction where the PR is that it’s possible to achieve anything if you try hard enough.

Prohibition in this case seems to us to be likely to backfire, where in the longer-term seabed mining might, in the NT circumstance, enhance the living environment. Is prohibition intended to divert our thoughts away from such opportunities? This demonstrates a worrying mindset, to do something fuzzy because there is no current pressure for any project to do this, especially for the lame reason that we do not understand it. The only meaningful difference it will make will be to create further doubts of the NT’s sincerity in its attempts to attract investors.

The first paragraph in the Statement claims that worldwide there are very few seabed mining projects, and limited information to inform environmental management and rehabilitation. Dredging for alluvial tin and other heavy minerals in the sea off Bangka and Belitung islands and off the west coast of Malaysia and Thailand has produced most of the world’s tin for over a century. Alluvial tin dredging on land led to widespread destruction of drainage basins, and I think the consensus in those countries would be that seabed dredging was preferable in terms of environmental impact compared to land-based dredging.

Little consideration would have been given to the plumes of suspended sediment around the dredges as these dispersed fairly rapidly because of the nature of the sediments and currents. The beaches and seas in this region remain quite well regarded by tourists despite this long-term activity and appear quite productive of marine life overall. While it definitely requires management, it is unlikely to be prohibited anytime soon, as tin mining remains important to the regions where reserves are not exhausted, and the world is becoming increasingly reliant on these. Other offshore alluvial mining using dredges has been fairly routine for other heavy mineral commodities such as diamonds, gold and “mineral sands”. It should be noted that the extraction of these materials does not involve chemical pollutants, and with cooperative planning the dredge tailings can be used positively to improve seaways and coastlines.

Dredging is a multidisciplinary activity with a long history of technological innovation and deep knowledge of possible adverse effects of their activities, and methods to mitigate these are well understood to the point that these are not to be prohibited in NT waters, **so long as it does not**

involve mining.

Most recent environmental objection of regulated seabed mining activity beyond the NT seems to have come from opposition to **deep sea mining** of deposits of nodules for manganese, nickel and cobalt, and of “Black Smoker” sulphides from active hydrothermal vents in ocean trenches. As these methods are relatively new and extraction methods are in the prototype stages, the comments in the Statement are possibly based upon such projects. However, neither of these deposit styles is likely to occur in NT waters, so the objections (some of which resemble those of Greenpeace in their attempts to prevent such projects from proceeding) do not really apply to any conceivable NT deposit style, which will be worked in much shallower seas with consequences similar to those of other dredging activities, which will not be prohibited (Clause 44 of the Statement).

So it seems that what the NT Government seeks to prohibit here is actually mining **commodities that might have value**? Is that the sin we are trying to prohibit?

The NT coastline is largely submergent. That is, the sea level has risen over 100m since the end of the last ice age, submerging stream systems (*rias*) that formed with steeper stream gradients than they now have. The steeper gradients on the ice age streams resulted in more vigorous mechanical erosion and the deposition of much more sands and gravels in the stream channels than now occurs in the channels of most of the larger streams that drain to the present sea.

These sands and gravels are now buried by the coastal mudflats and tidal ooze associated with current coastal conditions, leaving Darwin with a severe shortage of quality sand for construction purposes, especially given the sensitive surroundings of many of the known deposits, where permits for extraction are increasingly difficult to obtain. We understand that a significant proportion of coarse sand for Darwin’s construction industry is now being trucked from the Ferguson River, a round trip distance of 500km. As the cities grow, can this demand continue to be supplied from such sources?

Darwin and Bynoe Harbours, as well as most of the tidal estuaries of the big rivers carry a significant load of tidal ooze that moves in and out with tides. Below this lie deposits of muddy sediment from which the ooze is derived. Under that, in largely unconsolidated form, are very large deposits of sand and gravel deposited by the ice age streams into the harbour and, potentially, Beagle Gulf. Using technologies that either exist or are under development, the ooze and mud could be penetrated by double-walled probes that would suck sand and gravel from beneath the mud to a floating installation, screen out the useful product and return tailings to the sea floor to mingle with the existing ooze. This activity would contribute little extra to the tidal sediment load.

Such a huge source of sand may generate an export market to places such as Singapore which already imports sand from WA, and, particularly around the Cox Peninsula, may contain other valuable accessory heavy minerals such as tin, tantalum, and possibly lithium concentrated in the sands from the many pegmatite bodies that are found there.

GEMSA NT believes that there are very sound reasons not to prohibit Seabed mining in NT waters,

especially for just the reason of ignorance. Seabed mining may indeed make a positive improvement to the NT's living environment and at the same time bolster its economy. Please reconsider this intention, as it will do little positive for the NT.

Sincerely,

A handwritten signature in black ink, appearing to read 'Geoff Eupene'.

Geoff Eupene,
Chair,
GEMSA NT.

Geoff Eupene is a geologist with 50 years' experience in mineral exploration in the NT including involvement with projects to investigate heavy minerals sand deposits in Darwin and Bynoe Harbours in the early 1980s and considerable exploration across coastal mudflats in the 1970s and 1980s.