

Submission on the draft Environmental Impact Statement

Winchelsea Mining Pty Ltd – Winchelsea Island Manganese Mine Project

This submission is made under Regulation 134 of the Environment Protection Regulations 2020

NT EPA reference number: EP 2021/004

Government authority: Department of Health, Health Protection Branch, Environmental Health Strategy

Summary: The EIS includes information regarding the potential human health impacts of the project. Based on information provided by the proponent, “risks to human health of the Groote Archipelago from implementation of the Project are predicted to be negligible”.

Section of Referral	Theme or issue	Comment
Main report – section <u>9.14.</u>	Theme: People. Environmental Factor: Human Health	<p>Project creates sources of risk that have the potential to result in the following primary direct and indirect impacts to the human health values of the Groote Archipelago communities:</p> <ul style="list-style-type: none"> • Reduced air quality and associated health implications. • Exposure to manganese as either an airborne particulate or through marine species consumption. • Spread of disease caused by biting insects. • Contamination of surface water and groundwater. Contamination of downstream environments resulting in human health risks that would necessitate the closure of watercourse to extraction of drinking water, recreation and commercial fishing. <p>Air Quality The air quality assessment concluded that emissions of dust during construction and operational phases of the Project are predicted to fall below relevant air quality criterion at human receptor locations. PM2.5 concentrations above threshold levels are restricted to the Project area and immediately offshore of the wharf. As such, sensitive receptors are unlikely to experience human health impacts due from Project generated emissions of particulate matter.</p> <ul style="list-style-type: none"> • The proponent has proposed visual monitoring of the Project area to identify periods of excessive particulate release and implement measures to reduce or prevent the release. While this one of the avoidance and mitigation measures they are proposing, we are unsure if this is sufficient to provide real-time monitoring of air quality and pollution exposure levels to protect the health of both workers and nearby communities. We recommend establishment real-time air quality monitoring to compliment the proposed dust suppression measures. <p>Manganese Exposure The proponent referred to a 2018 study that showed that the levels of manganese in the air exceeded current international guidelines, but there was no correlation between an individual's manganese load and their cognitive or motor function. It is noted that the levels of manganese found in the hair of residents of Angurugu and Umbakumba have been linked to cognitive problems in other locations. The impact of long-term manganese exposure on the Anindilyakwa people is unclear. The dispersion modelling of PM10 was used as a surrogate for potential manganese dust, with manganese dust making up only a portion of PM10 particles. Since average ground-level concentrations of total suspended particulates, PM10 and PM2.5 were modelled to stay below the relevant air quality criterion at all sensitive receptors, they concluded that the potential for health implications from airborne manganese exposure is considered extremely low.</p>

		<p>Manganese toxicity has occurred in people working in such occupations as mining who were exposed to high amounts of manganese from chronic inhalation of manganese dust. People who consume water containing high levels of manganese (in some cases as high as 28 mg/L) have also developed manganese toxicity (Manganese - Health Professional Fact Sheet (nih.gov)).</p> <ul style="list-style-type: none"> • Due to the uncertainty regarding the long term impacts of manganese on human health on the Groote Eylandt it is suggested that proponent considers implementing the recommendations of the study referenced in their assessment. <p>Exposure to metals through marine food consumption</p> <p>The proponent noted that accumulation of heavy metals in marine species tissue can transfer directly to the human body through consumption and cause toxic effects resulting in various diseases. There is likely to be bioaccumulation of mining metals' manganese, barium, copper, molybdenum, and zinc in sea food, especially oysters. However, the potential to cause elevated manganese contamination in edible marine species was assessed as low and subsequent health risk is extremely low. The risk of human health risk from PAH bioaccumulation in seafood was considered negligible. The risk posed by release of manganese from the Project was considered extremely low.</p> <p>Residual Impact</p> <p>The proponent assessed that the majority of identified residual human health risks have a low probability of occurrence, with all but two rated as either 'Rare' or 'Unlikely.'</p> <p>Cumulative Impact</p> <p>While the proponent took into consideration existing and proposed developments in their assessment of cumulative impacts, it is unclear that GEMCO's proposed Southern Lease Project was factored into those assessments. It is likely that that project (if approved) could lead to more cumulative effects than initially assessed.</p> <p>Predicted Outcome and Conclusion</p> <p>The proponent concluded that "Risks to human health of the Groote Archipelago from implementation of the Project are predicted to be negligible. There will be high levels of particulate matter present within and immediately surrounding the Project area; however, this is not predicted to extend to the closest sensitive human receptors. The proposed Project will be on the uninhabited Winchelsea Island, a significant distance to the nearest residential sensitive receptors and with limited potential for direct adverse health effects. The residents of Little Paradise, Groote Eylandt, are approximately 5.36 km from the proposed mine directly across Bartalumba Bay. Given the relatively small scale of the mine, distance from this nearest settlement, and results of air quality modelling, it is considered unlikely that the health of Little Paradise residents' would be negatively affected by the proposed mine."</p> <ul style="list-style-type: none"> • While the health of the workers may be affected by the concentrations of dust and manganese in the project area, this is a work health and safety issue.
Other Human	Private Water Supply	Private water supplies need to follow "Guidelines for private water supplies"

Health issues	Wastewater Management	Wastewater management should adhere to the " Code of Practice for Wastewater Management "
	Food Safety	If you run a camp kitchen you may need to register as a food business. A camp kitchen is considered a food business if food is handled and offered or given away to an employee, either for sale or as part of a contract. Refer to the Health requirements for mining and construction camps
	Radiation Protection	There is no information on whether or not the proponent will be handling radiation sources, and the associated regulatory requirements. The proponent needs to satisfy the requirements of the Radiation Protection Act 2004 if any of their actions involve radiation sources.