

Gwen Wilson
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CBH Resources Ltd

Via email: gwenwilson@cbhresources.com.au

7 May 2021



Reference: 0476778

Dear Gwen,

Subject: MOD6 Air Quality Assessment Addendum

1 Introduction

Broken Hill Operations Pty Ltd (BHOP) [a wholly owned subsidiary of CBH Resources Limited (CBH)] owns and operates the Rasp Mine (the Mine), located centrally within the City of Broken Hill on Consolidated Mine Lease 7 (CML7).

ERM has prepared a comprehensive air quality assessment report for the current modification 6 (MOD6), hereafter “the MOD6 AQAssessment”.

The current document now provides an addendum to the air quality assessment report following recent, minor changes to the project description. These changes relate to the location and alignment of the Tails Harvesting Haul Road.

Tails harvesting haulage from TSF2 to TSF3 was outlined in the Project Brief (September 2020) utilising the current Mine Ore Haul Road.

As TSF2 Embankment 3 was completed it was identified that the space for the roadway, between the embankment and the processing plant, was insufficient for safe access and travel. This road has now been incorporated into the design of the box cut and will dissect the upper benches of the proposed box cut footprint.

The Tails Harvesting Haul Road will commence on the western slope of TSF2 entering the northern corner of the box cut and exiting at its western corner before arriving at the current Mine Ore Haul Road on the other side of the entry to the portal. This removes the interaction of trucks hauling ore from those hauling tailings.

In addition, there have been minor alterations to the Mine Ore Haul Road to improve road intersections for visibility.

Figure 1 presents the proposed new road configurations for MOD6.

These changes have resulted in additional projected material movement during the construction phase in the vicinity of the proposed box cut as well as a change to the road layout during the operational phase.

ERM has been requested to provide some commentary as to the potential air quality impacts associated with these proposed changes.



Figure 1: MOD6 new road configurations

2 Changes to lead, TSP, PM₁₀ and PM_{2.5} emission inventory

The air quality assessment report included material movement for the proposed box cut, amongst other things, and a proposed road layout for tailings harvesting.

As a result of the proposed Tails Harvesting Haul Road amendment, there is anticipated to be an additional 51,700 tonnes of material movement during the construction scenario. This is to cater for the cutback required for the wider beam for the roadway for the tailing harvesting trucks.

With regards to the operational scenario, the changes will result in an increase of 50 m to the Tails Harvesting Haul Road length (thus 100 m per return trip).

The following tables show how these proposed changes will affect the atmospheric emission inventories for the construction and operational scenarios.

Table 1 summarises the calculated emissions (kg/year) for construction scenario within the MOD6 AQ Assessment and amended on-site activities.

Table 2 summarises the calculated emissions (kg/year) for operational scenario within the MOD6 AQ Assessment and amended on-site activities.

Table 1: Annual emissions (kg/year) for the construction scenario within MOD6 AQ Assessment and amended on-site activities

	Annual emissions per pollutant (kg/year)			
	Lead	TSP	PM ₁₀	PM _{2.5}
MOD6 AQ Assessment	519	44,027	14,006	2,714
Amended	528	45,190	14,310	2,753
Percentage change	1.6%	2.6%	2.2%	1.4%

Table 2: Annual emissions (kg/year) for the operational scenario within MOD6 AQ Assessment and amended on-site activities

	Annual emissions per pollutant (kg/year)			
	Lead	TSP	PM ₁₀	PM _{2.5}
MOD6 AQ Assessment	530	48,269	13,487	2,476
Amended	533	48,413	13,515	2,483
Percentage change	0.6%	0.3%	0.2%	0.3%

It can be seen from Table 1 that the maximum change in annual emissions (kg/year) is for TSP with a percentage change of 2.6%.

For lead, the percentage change is a 1.6% increase compared to the assumptions within the MOD6 AQ Assessment.

Table 2 shows that the maximum increase compared to the assumptions within the MOD6 AQ Assessment relates to lead, with a percentage change of 0.6%.

3 Air Quality Impacts of Proposed Change

Table 1 and Table 2 show that the largest change in annual emissions associated with the proposed road realignment across both the construction and operational scenarios is less than 3%.

The MOD6 AQ Assessment includes inherently conservative assumptions within the emission inventory calculations and subsequent atmospheric dispersion modelling.

As such, this minor change in predicted atmospheric emissions is not anticipated to make a material difference to the air quality predictions presented within the MOD6 AQ Assessment.

The predicted concentrations and deposition rates for each pollutant modelled would be expected to change, as a maximum, in line with the percentage changes provided in Table 1 and Table 2. The predicted lead deposition and dust deposition rates would be proportional to the lead percentage change and TSP percentage change, respectively.

It is therefore considered that the conclusions of the MOD6 AQ Assessment remain valid and fit for purpose.

Finally, it is highlighted that the amended Tails Harvesting Haul Road layout is now closer to the centre of the site, and thus at a greater separation distance between source and sensitive receptors. This indicates that the minor predicted increases in site emissions may not be fully realised in terms of impacts at receptors.

4 Closure

ERM has reviewed the proposed changes to the MOD6 project (realignment of the Tails Harvesting Haul Road) as it relates to air quality and anticipate that this will lead to a minor increase in annual emissions across the construction and operational scenarios.

Any emission increases are not considered to be material in terms of the MOD6 AQ Assessment predictions and associated conclusions.

In addition, the proposed changes will lead to a greater separation distance between potential emission sources and off-site sensitive receptors.

Please do not hesitate to contact the undersigned if you need to discuss (or require clarification on) any aspect of the above.

Yours sincerely,



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Damon Roddis
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