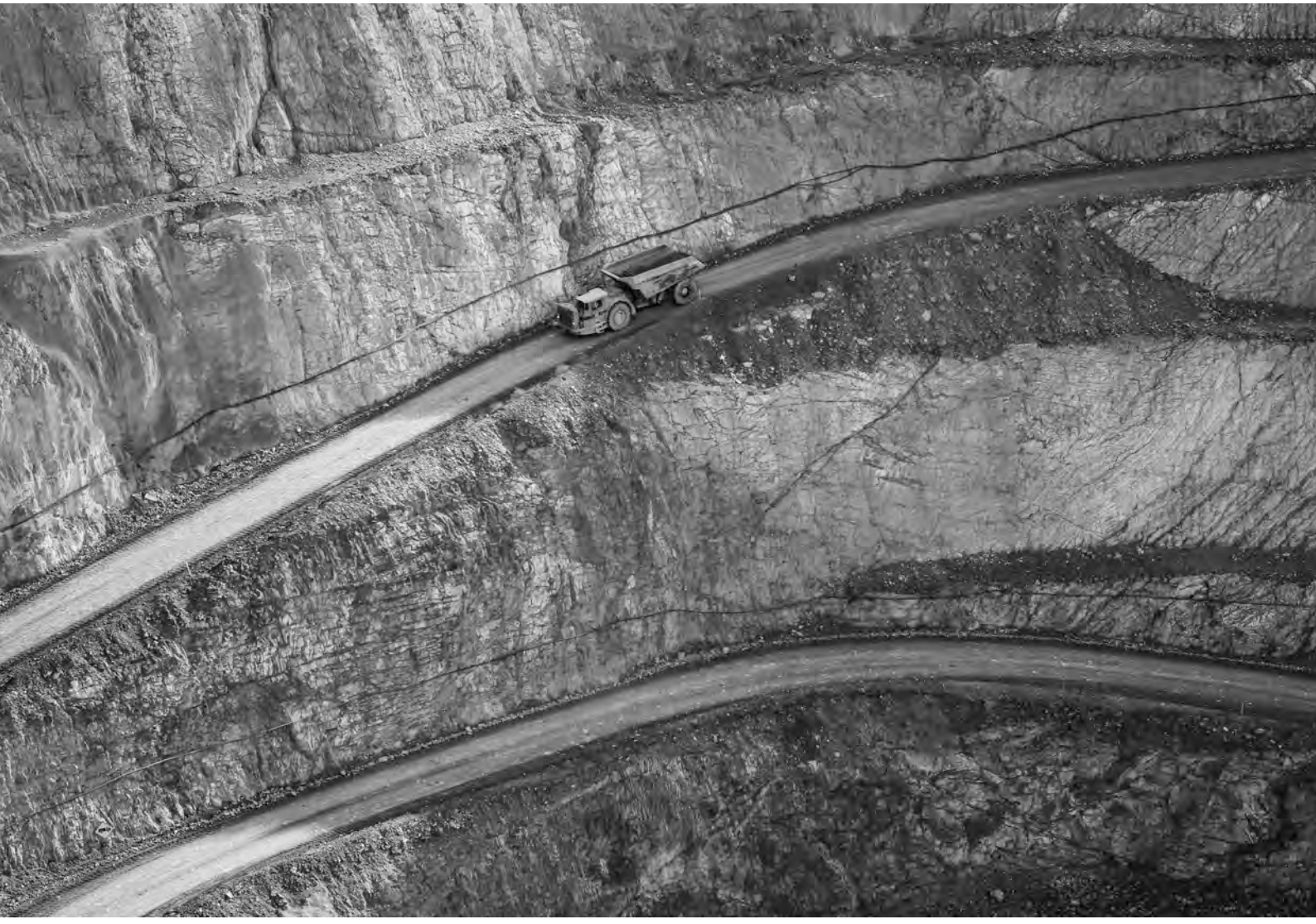
Appendix B

Addendum to the air quality impact assessment



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19 August 2021

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Re: New Cobar Complex Project - Response to Submissions Air Quality Impact Assessment Update

1 Background

EMM Consulting Pty Ltd (EMM) was engaged by Peak Gold Mines Pty Ltd (PGM) to undertake an air quality impact assessment (AQIA) (EMM 2021a) to support the Environmental Impact Statement (EIS) (EMM 2021b) for the New Cobar Complex Project.

The New Cobar Complex Project EIS was publicly exhibited from 25 February 2021 to 24 March 2021, and DPIE wrote to PGM on 31 March 2021 requesting responses to the matters raised by NSW Government agencies, local government authorities and the community that were received during the public exhibition of the EIS.

The NSW Environmental Protection Agency (EPA) made a submission on the project, which requested further clarification on elements of the AQIA.

2 EPA submission request 3

2.1 EPA comment

The EPA requests that the Proponent provides additional information to describe the activities undertaken at both the New Cobar and Peak complexes, including the processing circuit, to demonstrate that the AQIA (EMM 2020b) has accounted for all significant emission sources.

The New Cobar and Peak complexes are inherently interlinked and are covered by one environment protection licence. While the AQIA states that the "processing of ore will only take place at the Peak Complex, therefore is outside the scope of this project", it is noted that the Proposal will produce ore within current development approvals in relation to the New Cobar and Peak complexes (800,000 tpa) and that the AQIA has assessed cumulative impacts due to activities undertaken at both complexes, including the processing circuit. However, the AQIA does not include a detailed description of the activities undertaken at the Peak complex including the processing circuit and therefore it is unclear whether all relevant emission sources from this facility have been assessed.

2.2 Response

2.2.1 Processing circuit – Peak Complex

The processing of run-of-mine (ROM) ore from the New Cobar and Peak complexes through the Peak Complex processing plant involves grinding, cyclone classification, gravity separation, flotation, concentrate filtration, carbon in leach (CIL), elution, carbon regeneration, electrowinning, and smelting. Feed to the plant is crushed underground; suitable for semi-autogenous grinding (SAG) mill feed.

SAG mill discharge feeds onto a double deck vibrating screen. Minus 2 mm material is pumped to three Knelson concentrators where a gold concentrate containing free coarse gold is recovered and sent to a Gekko intensive leach reactor (ILR). The gold rich eluate is then pumped to a dedicated electrowinning cell in the gold room.

The Knelson tail is combined with the -16 mm +2 mm material from the vibrating screen and pumped to a bank of hydrocyclones. Cyclone overflow with an approximate P80 75 µm reports to the flotation circuit. Flotation concentrate is thickened, filtered and discharged onto a concentrate storage pad. From there it is blended and loaded into shipping containers and trucked off site.

Flotation tails report to a thickener and are then fed to the CIP circuit. In the leach circuit, gold is dissolved and adsorbed onto activated carbon. The gold loaded carbon is sent to the elution circuit where it is recovered into a gold rich eluate and pumped to the gold room for electrowinning in a dedicated electrowinning cell. The stripped carbon is regenerated and returned to the leach circuit. The leach circuit tails are thickened to 60% density and pumped to the central discharge tailings storage facility.

2.2.2 Activities and dust emissions – Peak Complex

Section 7.2 of the AQIA details the activities and associated dust emission sources that were quantified for the Peak Complex.

To summarise, the following activities occur at the Peak complex:

- conveying of ROM ore from the underground workings to ROM stockpile;
- haulage of ore and waste rock from underground workings to ROM pad or waste rock emplacement area (wheel-generated dust);
- haulage of New Cobar ore via road trucks (wheel-generated dust);
- unloading of ROM ore from road trucks to ROM stockpile;
- transfer of ROM ore to hopper by front end loader (FEL);
- a processing circuit, of which the sag mill, scalping screen, ball mill and trash screen are dust generating sources, while everything after is a wet process;
- wind erosion from stockpiles and exposed areas; and
- wind erosion from dried out tailings storage facility (TSF) – the inventory assumed that 25% of the total TSF has the potential to generate wind erosion.

There are also assorted existing ventilation outlets for underground operations associated with the Peak Complex that were included as sources of emissions in the AQIA emission inventory and dispersion modelling.

3 EPA submission request 4

3.1 EPA comment

The EPA requests that the Proponent confirms, or provides additional information, that the assumed throughputs outlined in the AQIA adequately represent a reasonable worst-case scenario with consideration given to any potential variations in annual operations and processing capacities at the New Cobar and Peak complexes.

The Environmental Impact Assessment states that current development approvals at the New Cobar and Peak complexes allow for the operations to process up to 800,000 tonnes per annum (tpa) of ore. It is also indicated that the Proposal will produce ore within the existing processing limits (800,000 tpa). However, the Environmental Impact Assessment does not include a breakdown of the proposed annual capacities at the New Cobar and Peak complexes. Table B.2 in the AQIA shows that the assumed ore throughputs are 200,000 tpa for the New Cobar complex and 600,000 tpa for the Peak complex. The EPA is seeking clarification, or further information on the extraction rates from the various mine areas. This should include, but need not be limited too, the following:

- Information on the potential for extraction rates to vary from those assessed in the AQIA; and
- Demonstration that the scenario assessed in the AQIA adequately represents a reasonable worst-case scenario, with consideration of any potential variations in annual operations and processing capacities through the different mine complexes.

3.2 Response

An initial indicative split of material movements at the New Cobar Complex was provided to EMM by PGM for the AQIA, presented in Table 3.1. This data was used to inform the AQIA included in the EIS. At the time of developing the AQIA, PGM was finalising the life-of-mine plan and did not have a detailed analysis of material movements.

Table 3.1 ROM and waste movement – AQIA assumptions – New Cobar Complex

Material	Annual throughput (tpa)
ROM ore from underground	200,000
Waste rock from underground	271,860
Waste rock return to underground	416,990
Total	**888,850**

Since submission of the EIS, a more detailed year by year breakdown of material movements at New Cobar was prepared after the completion of the AQIA modelling. The projected breakdown of material movement by mine year, along with the AQIA assumed material movement rate of 880,850 tpa, is shown in Figure 3.1.

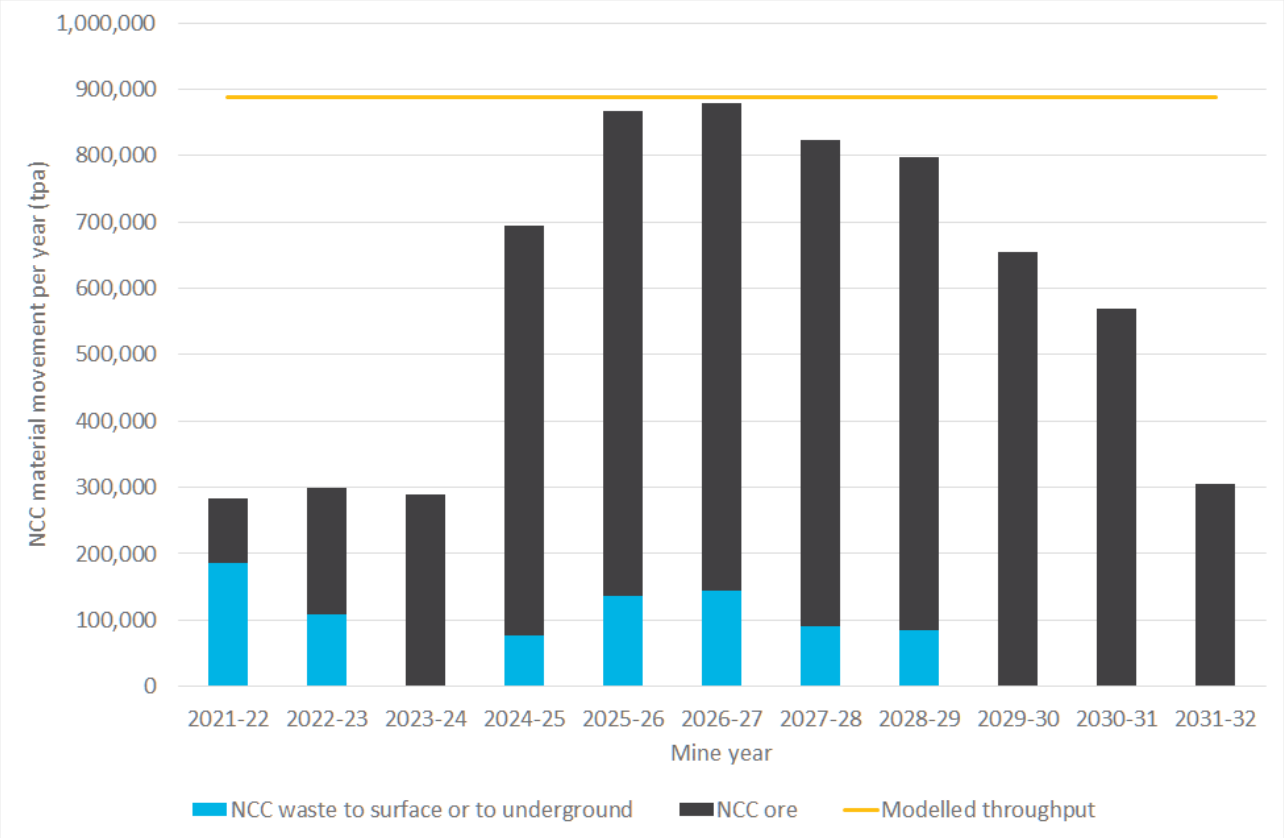

Figure 3.1 New Cobar Complex material movement annual variation

The future projections showed two things:

- the total amount of material (ore, waste from underground, waste to underground) assumed for New Cobar in the AQIA would not be exceeded in any year of the projection presented in Figure 3.1.the amount of waste rock exiting the New Cobar underground and/or returning from the surface waste rock emplacement to underground was overestimated in the AQIA;
- the ore exiting the New Cobar underground would be higher than assumed in the AQIA for several future years; and
- the proportion of ore and waste material exiting the New Cobar underground would vary notably year on year relative to the split adopted in the AQIA;

The financial year 2026-2027 shows the largest amount of material movement from the refined mining schedule. To understand the implications for air quality emissions from the refined material movement profile presented in Figure 3.1, the AQIA emissions inventory for New Cobar complex was revised to the material movement numbers for FY26-27 in the following ways:

- ore from underground to surface – increased from 200,000 tpa to 735,039 tpa;
- waste rock from underground to surface – decreased from 271,860 tpa to 6,449 tpa; and
- waste rock returned from surface to underground – decreased from 416,990 tpa to 136,913 tpa.

All other emission sources at New Cobar and Peak complexes, including the transportation of ore material between New Cobar and Peak, remain consistent with the AQIA emissions inventory.

The AQIA and revised emissions inventory totals are presented in Table 3.2.

Table 3.2 Calculated annual TSP, PM_{10} and $PM_{2.5}$ emissions – AQIA vs revised emissions inventory

Emissions inventory	Calculated annual emissions (tonnes/annum) by source category		
	TSP	PM_{10}	$PM_{2.5}$
AQIA emissions inventory	301.2	88.9	25.1
Revised emissions inventory	302.0	89.1	25.1

The emission totals presented in Table 3.2 show that the revision to ore and waste rock material amounts has resulted in a negligible difference in annual emissions from those assessed in the AQIA.

The dominant source of emissions from the New Cobar Complex, excluding the new or existing ventilation outlets, is the haulage of material (ore and waste) from and returning to the underground workings. Emissions from this source are linked to the amount of material transported on the road, rather than the split of ore and waste rock material. As shown in Figure 3.1, the amount of material transported at the New Cobar Complex in the AQIA (885,850 tpa) is roughly equivalent to the revised amount for FY26-27.

Regarding the spatial distribution of the quantified emissions at the New Cobar Complex, it is noted that waste rock emplacement is located to the northern end of the site, while the ore storage area is located to the south. Decreasing waste rock material handling and transportation would reduce emissions at the northern end of the site and thereby decrease the potential impacts predicted to the north of the New Cobar Complex.

Regarding emissions and impacts of metals and metalloids associated with particulate matter emissions. It is noted that the results of metals and metalloids presented in Table 8.4 of the AQIA are at least an order of magnitude lower than the applicable impact assessment criteria. A change in the balance of ore and waste rock material would not alter the conclusion of compliance with applicable impact assessment criteria.

On the basis of the above analysis, it is considered that the assessed scenario in the AQIA is appropriately conservative to represent potential air quality impacts from the project.

Regarding processing capacities through the different complexes, it is reiterated that all ROM ore processing will occur at the Peak Complex, as assessed in the AQIA.

4 EPA submission request 5

4.1 EPA comment

The EPA requests that the Proponent revises the AQIA to include a step by step detailed discussion regarding the methodology used to establish emission sources parameters.

Based on Figure B.1 in the AQIA, the EPA understands that a number of sources representative of different activities have been combined and modelled as one source. For instance, although it is not clear, it is likely that loading, unloading and wind erosion activities at the New Cobar complex were potentially modelled as either a combined area or a combined area line source. Whilst the EPA recognises the merits of the approach, detailed information is required to allow for a robust and transparent review. The EPA is seeking that the AQIA give consideration to, but need not be limited too, the following:

- providing a summary of individual modelled sources and their corresponding parameters (eg emission rates, initial vertical dimension -if used-, side length, aspect ratio, release heights, etc);
- in the case where various sources were combined into one modelled source, provide a segregated list of the activities included in the modelled source;

- in the case various sources were combined into one modelled source, provide detailed discussion on how the 'combined' total emission rate was estimated and how it accounts (where applicable) for any potential differences in times of the day each activity is proposed to be undertaken; and

- including any other relevant information that is not specified in points a -c above.

4.2 Response

A description of emission sources configured in the AERMOD dispersion modelling conducted for the AQIA is presented in Table 4.1.

Emissions were grouped if the type of activity, location of activity and emissions variability was similar. For example, FEL operations at the Peak Complex ROM stockpile and the unloading of ROM ore material from trucks to the stockpile were combined in the same model source. Emissions from these two activities utilise the same emission factor and have emissions variability driven by wind speed.

Further, line-volume sources were used where a spread of activities could occur over a broader area, for example FEL operations at the New Cobar waste material stockpile.

As a general note, EMM consider that, due to the separation distance between sensitive receptor locations and the modelled emission sources associated with surface activities at the New Cobar Complex and the Peak Complex, the grouping of emissions within model sources and the initial release parameters of model sources are unlikely to influence the resultant predicted concentrations.

Table 4.1 AERMOD dispersion model source configuration and emission allocation

Type	ID	Description	Release height (m)	Sigma Y (m)	Sigma Z (m)	Source side length (m)	Line-volume height (m)	Plume width (m)	Exit diameter (m)	Exit velocity (m/s)	Exit temperature (K)	Release type	Emissions associated
Point	Point 1	New vent	0	-	-	-	-	-	5.6	13.0	292	Vertical	Proposed vent shaft
	Point 2	Jubilee Vent	5	-	-	-	-	-	4.5	10.4	292	Vertical	Jubilee Vent
	Point 3	Peak vent shaft	5	-	-	-	-	-	4	12.1	292	Vertical	Peak vent shaft
	Point 4	Perseveranc e #2	2.5	-	-	-	-	-	4	14.2	292	Horizontal	Perseverance #2
	Point 5	Perseveranc e #3	2.5	-	-	-	-	-	4	14.2	292	Horizontal	Perseverance #3
	Point 6	Chesney vent stack	5	-	-	-	-	-	6	1.2	292	Vertical	Chesney vent stack
Volume	Volume 1	Peak ROM pile loading	5	1.16	1.16	5	-	-	-	-	-	-	ROM stockpile loading at Peak complex
Line-volume	Line 1	Peak Access Rd - existing	3.4	-	-	-	6.8	10	-	-	-	-	Peak complex access road - existing traffic
	Line 2	Peak Processing Plant	2.5	-	-	-	5	9	-	-	-	-	Assorted Peak processing plant emission sources
	Line 3	New Cobar pit haul	3.4	-	-	-	6.8	10	-	-	-	-	Trucks from underground and return trucks with waste to underground
	Line 4	New Cobar waste dump haul	3.4	-	-	-	6.8	10	-	-	-	-	Surface haulage of waste from New Cobar pit to waste emplacement
	Line 5	New Cobar ore haul	3.4	-	-	-	6.8	10	-	-	-	-	Surface haulage of ROM ore from New Cobar pit to ROM stockpile

Table 4.1 AERMOD dispersion model source configuration and emission allocation

Type	ID	Description	Release height (m)	Sigma Y (m)	Sigma Z (m)	Source side length (m)	Line-volume height (m)	Plume width (m)	Exit diameter (m)	Exit velocity (m/s)	Exit temperature (K)	Release type	Emissions associated
	Line 6	New Cobar Haul - existing	3.4	-	-	-	6.8	10	-	-	-	-	New Cobar ROM unsealed road - existing traffic
	Line 7	Peak rom haul unsealed - existing	3.4	-	-	-	6.8	10	-	-	-	-	Peak complex unsealed road - existing traffic
	Line 8	Peak ROM FEL	3.4	-	-	-	6.8	10	-	-	-	-	Unloading ROM ore at stockpile and ROM ore handling by FEL
	Line 9	Peak UG haulage	2.6	-	-	-	5.1	9	-	-	-	-	Haulage from Peak Underground portal to ROM pile
	Line 10	New Cobar Waste Dump ops	1	-	-	-	2	26	-	-	-	-	Unloading of ROM from underground and loading of road trucks for transportation to Peak Complex
	Line 11	New Cobar ROM Pile FEL	1.5	-	-	-	3	31	-	-	-	-	Unloading of waste trucks from underground and loading of waste to trucks for return to underground
	Line 12	New Cobar waste haul to pit	3.4	-	-	-	6.8	10	-	-	-	-	Surface haulage waste to underground
	Line 13	New Cobar Product Haul - increased	3.4	-	-	-	6.8	10	-	-	-	-	Ore haulage to exit - proposed increased
	Line 14	Peak Access Rd - increased	3.4	-	-	-	6.8	10	-	-	-	-	Peak Complex access road - increased traffic

Table 4.1 AERMOD dispersion model source configuration and emission allocation

Type	ID	Description	Release height (m)	Sigma Y (m)	Sigma Z (m)	Source side length (m)	Line-volume height (m)	Plume width (m)	Exit diameter (m)	Exit velocity (m/s)	Exit temperature (K)	Release type	Emissions associated
	Line 15	Peak ROM haul unsealed - increased	3.4	-	-	-	6.8	10	-	-	-	-	Peak Complex ROM unsealed road - existing traffic
Area polygon	Area 1	TSF Peak	0	-	0	-	-	-	-	-	-	-	Wind erosion - Peak Complex TSF
	Area 2	Peak ROM pad WE	2	-	0	-	-	-	-	-	-	-	Wind erosion - Peak Complex ROM pad
	Area 3	Peak Exposed Areas WE	0	-	0	-	-	-	-	-	-	-	Wind erosion - Peak Complex exposed areas
	Area 4	New Cobar Pit WE	0	-	0	-	-	-	-	-	-	-	Wind erosion - New Cobar pit
	Area 5	New Cobar waste dump WE	2	-	0	-	-	-	-	-	-	-	Wind erosion - New Cobar waste emplacement
	Area 6	New Cobar ROM stockpile WE	2	-	0	-	-	-	-	-	-	-	Wind erosion - New Cobar ROM stockpile

5 EPA submission request 6

5.1 EPA comment

The EPA requests that the Proponent revises the AQIA to benchmark the proposed mitigation measures against best practice dust control measures.

It is noted that the AQIA does not predict additional exceedances at any of the identified privately-owned receptor locations and that it includes mitigation measures primarily through the use of water for dust suppression. Nonetheless, considering the proximity to Cobar, a detailed review of best practice dust control measures is necessary to demonstrate that the proponent has evaluated and/or committed to all reasonable and feasible mitigation measures to prevent and minimise air pollution. Particular emphasis should be given to the largest emissions sources such as the proposed ventilation shaft, the existing ventilation shafts, and activities related to hauling and wind erosion. The EPA is seeking that the AQIA give consideration to, but need not be limited too, the following:

- any measures to minimise emissions from the ventilation shafts, including those that can be implemented when undertaking underground works;
- the use of chemical suppressants to reduce emissions from haulage on unpaved roads; and
- the use of alternative methods (ie conveyors, subsurface transportation) to transport ore from the proposed New Cobar complex to the peak complex.

5.2 Response

Section 7.3 of the AQIA details the emissions inventory for the project and emission sources associated with the Peak Complex. The contribution to project (ie related to the New Cobar Complex) particulate matter emissions by source category and particle size fraction is presented in Figure 5.1. The rank of contribution by source type to total annual emissions is presented in Table 5.1.

Table 5.1 Rank of source contribution to total project emissions – New Cobar Complex project only

Source type	Rank of source contribution to total emissions		
	TSP	PM_{10}	$PM_{2.5}$
Unpaved haulage	1	1	2
Material handling	4	4	4
Wind erosion	3	3	3
Ventilation outlets	2	2	1

It can be seen from Figure 5.1 and Table 5.1 that the emissions from unpaved haulage and the proposed new ventilation outlet are the most significant contributors to total project emissions across all particle size fractions. It is highlighted that the emission calculations for ventilation outlet emissions are considered highly conservative due to the application of the maximum recorded in-stack particulate matter concentration from existing ventilation outlets at the site.

Emissions from wind erosion are also reasonably significant contributors to all size fractions. Material handling emissions are relatively minor contributors to annual project emissions.

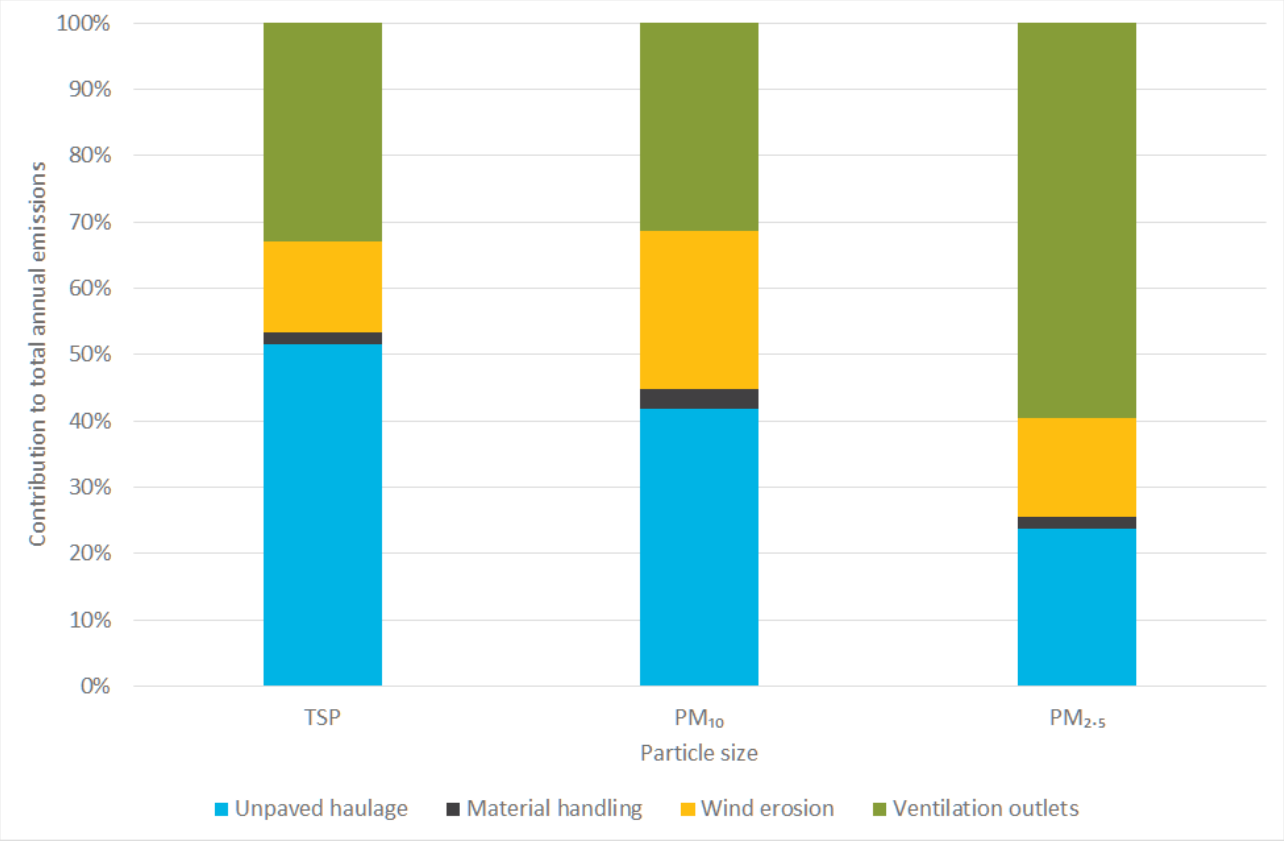

Figure 5.1 Contribution to annual emissions by emissions source type and particle size – New Cobar project emission sources

The permanent mitigation measures implemented across all of Peak Gold Mine surface operations (New Cobar and Peak complexes) include:

- watering of active operational areas and haul roads subsequent to frequent vehicle movements;
- watering of conveyor belts and feeder chutes within the Peak Complex processing plant;
- watering of all material stockpiles;
- earthworks are undertaken when there is sufficient moisture content in the soil and low wind speed;
- sealing of all major access roads;
- areas of disturbance are minimised by restricting vegetation clearance ahead of construction and exploration activities;
- all equipment utilised on site is maintained in an efficient and effective manner;
- implementing progressive rehabilitation to all disturbed land; and
- rotating tailings discharge on the TSF.

In addition, high-pressure sprays and a street sweeper are used to clean sealed roads within the complexes. Concrete walls around the concentrate pad also reduce the amount of dust generated from the stockpiles. All haul trucks travelling between the New Cobar and Peak Mining complexes cover their loads to reduce dust generation during transportation.

In November 2011, the OEH published the guideline *Coal Mine Particulate Matter Control Best Practice Site-specific determination* (OEH, 2011). This guideline document provides detail of the process to follow when conducting a site-specific determination of best practice measures to reduce emissions of particulate matter from coal mining activities. While not specifically related to the project, a comparison of the proposed dust control measures at the project with best practice dust management techniques, consistent with this guideline, has been undertaken. For the purpose of this report, best practice dust control measures have been collated from the following document:

- *NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining* (Katestone, 2011).

The review of proposed dust control measures for the project with best practice measures is presented in Table 5.2. Across the range of particulate matter emission sources listed, the associated control measures proposed for the project are generally consistent with best practice measures wherever practicable taking the specifics of the project into consideration.

Table 5.2 Best practice particulate matter control measures review

Emissions source category	Best practice control measures (Katestone, 2011)	Proposed for implementation at project	Comments
Unpaved haul roads	Surface treatment - chemical suppressants	No	Chemical dust suppression is not implemented at the project as water suppression is considered sufficient. This is supported by historical air quality monitoring records.
	Surface treatment - watering	Yes	All unpaved haul routes are controlled through water suppression
	Surface improvements - low silt aggregate	Yes	Site roads are constructed with road base and maintained regularly. Fines become an issue with use and are managed accordingly.
	Surface improvements - pave the surface	Yes where practical	The main access road to the Peak Complex and first 50 m of the New Cobar entrance roads are sealed. Not practicable for other roads at either site to be sealed.
	Reduction in vehicle travel speed	Yes	Speed limit within the site is generally 20 km/hr, and ranges between 40 km/hr and 10 km/hr depending on the level of vehicle/pedestrian traffic.
	Use larger vehicles rather than smaller vehicles to minimise number of trips	Yes	Haul trucks from underground are optimised to balance size constraints and load size
	Use conveyors in place of haul roads	No	Not practicable to replace haul trucks from underground or between New Cobar and Peak Complex with conveyors
Wind erosion - exposed areas and overburden emplacements	Avoidance - Minimise pre-strip areas	Yes	Minimal new surface disturbance is associated with the project
	Surface stabilisation - Watering	Partial	Surface areas of active work are serviced by a water cart for wet suppression purposes
	Surface stabilisation - Chemical suppressants	No	Not practical or necessary for New Cobar Complex waste rock emplacement (WRE). This is supported by historical air quality monitoring records
	Surface stabilisation - Paving and cleaning	No	Not necessary for New Cobar Complex WRE. This is supported by historical air quality monitoring records
	Surface stabilisation - armour with gravel	No	Not necessary for New Cobar Complex WRE. This is supported by historical air quality monitoring records

Table 5.2 Best practice particulate matter control measures review

Emissions source category	Best practice control measures (Katestone, 2011)	Proposed for implementation at project	Comments
	Surface stabilisation - Rehabilitation	Yes	Progressive rehabilitation of exposed surfaces, topsoil stockpiles and WRE will provide vegetative cover for exposed areas
	Wind speed reduction - fencing, bunding, shelterbelts or in-pit dumps	Partial	New Cobar Complex is surrounded by bunding and fencing.
	Wind speed reduction - vegetative ground cover	Yes	Progressive rehabilitation of exposed surfaces, topsoil stockpiles and WRE will provide vegetative cover for exposed areas
Wind erosion from ore material stockpiles	Avoidance - bypassing stockpiles	No	Ore material stockpiles are a necessary component of the project
	Surface stabilisation - watering	Yes	Material stockpiles are serviced by water sprays and / or water carts for dust suppression
	Surface stabilisation - chemical suppressants and crusting agents	No	Not practicable given stockpiles are continually accessed
	Surface stabilisation - carry over from wetting from load in	Yes	Material stockpiles are serviced by water sprays and / or water carts for dust suppression
	Enclosure - silo with baghouse	No	ROM stockpile at New Cobar is continually accessed, and enclosure is not practicable
	Enclosure - cover storage pile with tarp during high winds	No	ROM stockpile at New Cobar is continually accessed, and tarping is not practicable
	Wind speed reduction - vegetative wind breaks	Yes	New Cobar Comp;ex site features an established vegetation tree barrier between ROM stockpile area and Kidman Way
	Wind speed reduction - reduced pile height	Yes	ROM stockpile is accessed by truck dumping and FEL, therefore stockpile heights are limited
	Wind speed reduction - wind screens/wind fences	Yes	New Cobar Complex is surrounded by bunding and fencing.
	Wind speed reduction - pile shaping/orientation	No	ROM material stockpiling occurs over a broad area rather than a fixed point. Therefore, traditional pile shaping and

Table 5.2 Best practice particulate matter control measures review

Emissions source category	Best practice control measures (Katestone, 2011)	Proposed for implementation at project	Comments
			orientation with dominant wind directions is not practical for New Cobar ROM ore stockpile area
	Wind speed reduction - three-sided enclosure around storage piles	No	While ROM stockpile area is surrounded by earth bunds, a three sided enclosure is not practical for New Cobar ROM ore stockpile area
Loading and dumping waste rock	Excavator - minimise drop height	Yes	Wherever possible, material drop heights will be minimised when loading trucks at the WRE
	Truck dumping - minimise drop height	Yes	Wherever possible, material drop heights will be minimised when unloading trucks at the WRE
	Truck dumping - water application	No	Water carts will supply wet suppression to travel routes and working areas at the WRE; however, specific water application to unloading trucks is unlikely to be practical
	Truck dumping - modify activities in windy conditions	Yes	Dumping of material at the WRE will be conducted behind an existing earth bund.
Loading and dumping ROM ore	Avoidance - bypassing stockpiles	No	Not practicable given stockpiles are necessary for the project
	Truck dumping - minimise drop height	Yes	Wherever possible, material drop heights will be minimised when unloading trucks at the ROM stockpile area
	Truck dumping - water sprays at ROM pad	Yes	Water carts are used to control dust generation at to the ROM stockpile area
	Truck dumping - three sided enclosure at truck unloading ROM hopper	NA	No ROM hopper at the New Cobar Complex

The NSW EPA submission raised the following specific matters with regards to dust control measures:

- any measures to minimise emissions from the ventilation shafts, including those that can be implemented when undertaking underground works;8
- the use of chemical suppressants to reduce emissions from haulage on unpaved roads; and
- the use of alternative methods (i.e. conveyors, subsurface transportation) to transport ore from the proposed New Cobar Complex to the Peak Complex.

Regarding emissions from ventilation outlets, the following measures are currently implemented to control emissions from underground operations:

- sprinklers in the decline used as required;
- stand-off zones and times after firing stopes to ventilate the areas;
- washing down of faces, backs and walls as required; and
- drill rigs are connected to mains power during drilling.

Regarding the use of chemical suppressants, no chemical suppression methods are proposed by PGM. The predictions of air quality impacts from the surface operations at New Cobar Complex are low and historically have not been an issue for PGM with regards to community complaints or ongoing compliance monitoring. However, should dust emissions become an issue, PGM would investigate additional measures, such as chemical suppressants, necessary to increase controls.

Regarding the use of alternative methods for the transportation of extracted ROM ore material from New Cobar to the Peak Complex processing plant, there is no direct underground link between the two sites.

The distance between the two sites on the surface is approximately 6 km. PGM consider that the life of mine or the air quality emissions and impacts from road transportation would not justify the cost of an overland conveyor. The conveyor would require significant disturbance between the New Cobar and Peak complex and would require need to cross a major state-owned road (Kidman Way). PGM consider that road trucks are the only viable surface based option for implementation at the project.

6 EPA submission request 7

6.1 EPA comment

The EPA recommends that the Proponent nominates and commits to the implementation of mitigation measures during the construction phase of the Proposal, if approval is granted.

The AQIA indicates that the construction phase of the Proposal is expected to take six months and therefore the potential emissions will be minor and shorth term in nature. Nonetheless, considering the proximity of the proposed construction works to Cobar, the EPA considers that the Proponent must nominate and commit to specific mitigation measures to be undertaken during the construction works as required.

6.2 Response

The construction phase referenced in the AQIA was covered under a separate Review of Environment Factors for the Great Cobar Exploration Decline project (RW Corkery 2020), which was approved by the NSW Resources Regulator in May 2020. Particulate matter emissions from construction activities will be managed in accordance with routine air quality emission management practices currently implemented at site.

7 References

EMM 2021a, New Cobar Complex Project, State Significant Development (SSD10419) Environmental Impact Assessment. Prepared by EMM Consulting on behalf of Peak Gold Mines.

EMM 2021b, New Cobar Complex Project, State Significant Development (SSD10419) Groundwater Impact Assessment. Prepared by EMM Consulting on behalf of Peak Gold Mines.

Katestone 2011, *NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining*

RW Corkery 2020, *Great Cobar Exploration Decline Review of Environmental Factors Revised Underground and Surface Infrastructure*

Yours sincerely

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