PATTLE DELAMORE PARTNERS LTD
South British House, Level 2
35 Grey Street, Tauranga 3110
PO Box 13274, Tauranga 3141, New Zealand

Tel +64 7 **985 6440**
Web **www.pdp.co.nz**

memorandum

TO	Cheryl Low	FROM	Paul Crimmins, Service Leader – Air Quality
	Santana Minerals Ltd	DATE	4 February 2026
RE	Bendigo-Ophir Gold Project Air Quality Assessment Addendum: Cement and Concrete Batching		

1.0 Introduction

Matakanui Gold Limited (MGL) has lodged a Fast Track consent application for the Bendigo-Ophir Gold Project (BOGP). Included as part of the application was an Air Quality Assessment (AQA) prepared by Pattle Delamore Partners Limited (PDP) (dated 13/10/2025, Fast Track Document Number B.33) and an Air Quality Management Plan (AQMP, dated 05/09/2025, Fast Track Document Number G.23).

The BOGP Fast Track consent application has been reviewed by Otago Regional Council (ORC). In a letter dated 17/12/2025, ORC provided an external peer review of the PDP AQA (SLR, 12/12/2025). Based on the SLR Review, ORC letter posed nine questions as requests for further information. The responses to eight of these requests were provided in a separate memo dated 29 January 2026.

This short memo responds to ORC Request #1, which reads:

> *Please provide an air quality assessment, prepared by a suitably qualified and experienced air quality specialist, for:*
>
> *a. The concrete batching plant*
>
> *b. The cement paste plant*

2.0 Assessment authors

This response and assessment is prepared by Paul Crimmins, Service Leader – Air Quality, and reviewed by Andrew Curtis, Technical Director - Air Quality. Paul and Andrew were the reviewers of the AQA and are considered to be suitably qualified and experienced air quality specialists; both being 'Certified Air Quality Practitioners' by the professional organisation CASANZ and having more than 15 years of experience, including having assessed numerous concrete batching facilities throughout NZ.

3.0 Description of air discharge activities

Sections 1.1, 5 and 6 of the AQA describes the air discharge sources at BOGP. These descriptions focus on the key dust sources, such as establishment and operation of the open pits, soil stockpiles and haul roads. However, the scope of the AQA encompasses all stages and air discharge sources of the BOGP, including 'a new gold mine, ancillary facilities and environmental mitigation measures'.

At the Project Description (Fast Track Document Number A.10), this same broad scope of proposed activities ('new gold mine, ancillary facilities and environmental mitigation measures') is used. However, more detail is provided regarding some of the ancillary activities than was included in the AQA. These ancillary activities include:

- *A cement paste plant to support the cement paste backfill operations at the RAS Underground. The paste plant will be located alongside the processing plant…*
- *A mobile concrete batching plant to create shotcrete for use as part of the portal establishment, drive development and cement paste backfill operations at the RAS Underground. The concrete batching plant will also be located alongside the processing plant and sited within a bunded concrete pad which will direct runoff to a sump to catch all spillage and water. The BOGP will require approximately 40 tonnes of aggregate, sand and cement per day to create the shotcrete and these materials will be transported to the Project Site via trucks. All stockpiles of aggregate / sand will be covered to minimise any adverse effects associated with frost.*

The Project Description notes that a 'typical mobile concrete batching plant' will be utilised. PDP considers that such a typical plant (for both the cement paste plant and concrete batching plant) will include:

- Aggregate and sand storage stockpiles, within three-sided bin structures;
- Cement storage silos, fitted with pulse-jet fabric filter baghouses for the control of dust displaced during silo filling;
- Pneumatic transfer of cement to a mixer drum;
- Control of dust from the mixer drum by a fabric filter baghouse emission control system.

Concrete batching plants of this type are ubiquitous throughout New Zealand, including within urban areas. The air discharges from these plants are therefore well understood.

PDP understands that the cement paste and concrete batching plants are not likely to be established until 4.5 years into the BOGP, to support the underground mining operations at Rise-and-Shine (RAS).

4.0 Location of cement and concrete plants

The location of the proposed BOGP cement paste and concrete batching plants is within Shepherds Valley, alongside the heavy vehicle workshop and near to the gold processing plant, as illustrated at Figure 1, adapted from Fast Track Document Number C.02.

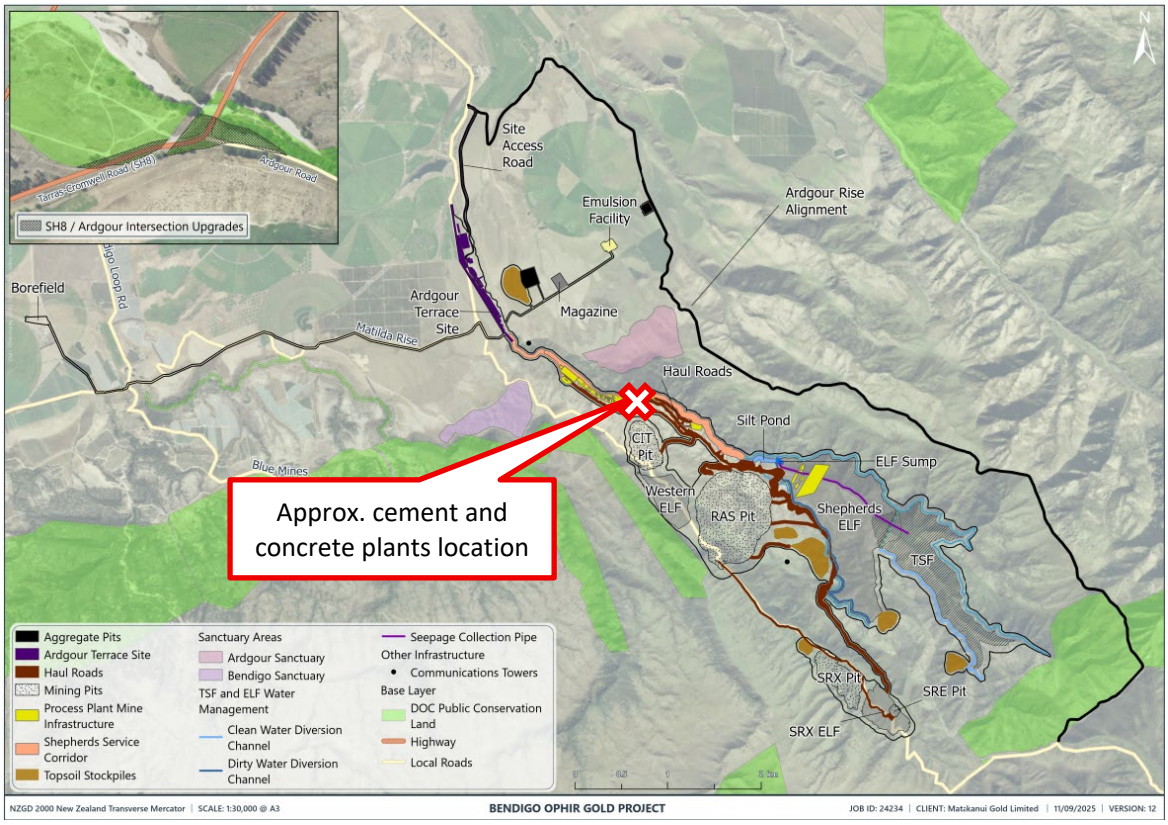

Figure 1: BOGP site diagram, highlighting cement and concrete plant location.

The receiving environment for BOGP with respect to air discharges is detailed at section 8 of the AQA, including analysis of meteorology and background dust concentrations. The nearest human and horticultural sensitive receptors are defined at AQA Table 33, with reference to their proximity to the BOGP site boundary. The distance of these receptors to the cement and concrete plants is significantly greater, as estimated in the additional column shown at Table 1:

Table 1: Potential Sensitive Receptors and Separation Distance

Type	AQA Figure 34 Identifier	Shortest Distance to BOGP site boundary (m)	Estimated Distance to Cement/Concrete Plants (m)	Downwind Direction/s from BOGP
Dwelling	Dwelling 1	480	> 3,000	South
Buildings	Shed 1	360	> 3,000	South
Dwelling	Dwelling 3	140	> 3,000	South to east
Horticultural	Cherry orchard	160	2,240	South to east
Horticultural	Cherry processing	830	2,400	South to east
Horticultural	Vineyard	970	> 3,000	East
Recreation-	Kanuka Loop track	>1,000	> 3,000	East
Historic	Welshtown	>1,000	> 3,000	East
Historic	Stamper Battery	120	370	North to east

Notes:

1. *Downwind direction considered for entire site boundary due to uncertainty about specific sensitive area within the site.*
2. *Dwellings and buildings have been identified through desktop study using google maps and observations made during the site visit.*

The topography and meteorology of BOGP are detailed at section 8.1 and 8.2 of the AQA. PDP notes that the mountainous terrain presents further physical barriers between the cement/concrete plants and off-site receptors.

5.0 Assessment of air quality effects

PDP considers that the AQA's comprehensive assessment of dust discharges and effects to off-site receptors sufficiently encompasses all aspects of the BOGP, including minor ancillary activities such as the preparation of cement/concrete for use within the project. The preparation and use of cement and concrete is an anticipated activity related to the construction of the mine.

Given the scale of the activity, mitigation measures and separation distances involved, no off-site dust effects are likely to arise from the use of cement or concrete as part of the BOGP.

The key air discharge from cement and concrete handling of this nature is dust, including some dust particles less than 10 µm in aerodynamic diameter (PM_{10}). The potential for dust and PM_{10} discharges, offsite transport and amenity/health effects from the BOGP as a whole were assessed in detail by the AQA.

AQA section 10.3 presents a comprehensive dust risk assessment from activities within the 'southern zone' of the BOGP utilising the combined FIDOL and Source-Pathway-Receptor methodology recommended by the Good Practice Guide for Assessing and Managing Dust (GPG:Dust, Ministry for the Environment, 2016) and the Institute of Air Quality Management (IAQM, 2016).

Without repeating this assessment here in detail, PDP considers it sufficient to note that the relatively minor dust sources from the ancillary operational activities of cement handling and concrete batching as part of the southern zone activities are also assessed as having an overall negligible off-site effect. In particular, the significant separation distances to off-site receptors (refer Table 1 above), means that there is no credible Pathway for any dust to be transported to a Receptor.

The relatively minor scale of the cement handling and concrete batching activities also means that any dust discharges from this Source are trivial in the context of the BOGP. Sources of dust/PM_{10} from these activities are effectively minimised by standard air emissions controls for these activities, such as fabric filter baghouse dust collectors on cement storage silos and mixing vessels. The specific details of these emissions controls are not yet known, given that the cement and concrete activities are not projected to commence until at least four years into the BOGP. However, nearer to the time of commencement of these activities, the AQMP could be revised to note dust control and monitoring measures (such as routine inspections of the dust collectors) for the cement handling and concrete batching activities.

The relatively trivial nature of air quality effects associated with the cement handling and concrete batching activities is further illustrated by Australian planning guidance for the separation of air discharge activities and sensitive receptors (Environment Protection Authority Victoria, 2016). These separation guidelines are recommended by the GPG:Dust to be considered when assessing discharges to air to address unintended/accidental releases and/or effects that cannot be internalised even with adoption of the best practicable option.

The EPA Victoria separation distance guidance recommends that the production of more than 5,000 tonnes of concrete per year should be separated from sensitive receptors by 100 m. This is a relatively low recommended separation distance compared to other dust generating activities scheduled by the EPA Victoria guidance.

As set out in Table 1, the nearest sensitive (human) receptor to the proposed cement handling and concrete batching facilities at BOGP is more than 30 times further than this recommended separation distance. The guidance therefore indicates that there is negligible off-site dust risk from these activities.

6.0 Conclusion

The ORC requested an assessment of dust effects from the cement paste plant and concrete batching plant proposed as ancillary activities as part of the BOGP. This memo provides this assessment to demonstrate that there are negligible air discharges and effects arising from these minor ancillary activities at BOGP. The screening assessment demonstrates that no further detailed dust assessment is required beyond that already provided for the BOGP as a whole (including ancillary activities) by the AQA.

Standard dust control measures are recommended to be detailed within a future revision of the AQMP to outline the measures for the cement handling and concrete batching facilities, which will include fabric filter baghouses for cement storage silos and mixing vessels, given these are standard across the cement industry. PDP's experience with similar systems, even within dense urban areas, is that these measures effectively mitigate dust discharges from concrete batching activities with low impacts even where sensitive receptors are located within 500 m.

At BOGP, the nearest sensitive receptors are separated from the proposed BOGP cement and concrete plants by an order of magnitude greater than these typical distances and those recommended by separation distance guidance. Given this separation, there is no credible pathway for any potential dust discharges from the cement and concrete activities to impact these receptors.

Prepared by

Paul Crimmins

Service Leader – Air Quality

Reviewed and Approved by

Andrew Curtis

Technical Director – Air Quality