

Air quality monitoring

Air quality is monitored within the operational area and at designated locations around Fosterville Gold Mine. Monitoring allows FGM to assess compliance with prescribed air quality guidelines and continuously improve how air emissions from the operation are managed.



Air Quality Guidelines

FGM's air quality guidelines are set in accordance with EPA Victoria air quality publications, which are based on the best available environmental and health research.

Indicator Objectives	Criteria	Averaging Period
PM ₁₀	50 µg/m ³	24-hour
PM _{2.5}	25 µg/m ³	24-hour
Deposited Dust	4 g/m ² /month	30 days +/- 2 days

Left: Replacing filters in an air quality sampling unit

Air Quality Monitoring Program

FGM maintains an extensive air quality monitoring program consisting of:

Quantity and type	Purpose
14 x Depositional dust gauges	Measures the mass of deposited dust that settles from the air
3 x High volume air samplers	Draws a precise volume of air through a sampling hood to measure the loading of fine-grained particulate matter (PM ₁₀ and PM _{2.5}) captured on a filter paper
2 x Continuous beta attenuation monitors	<ul style="list-style-type: none"> Draw ambient air filtered for PM_{2.5} onto a filter tape. The mass concentration of particles is quantified using beta rays and transmitted in real time to the FGM Environment & Community team for immediate analysis and response, if necessary.
5 x Continuous ambient air quality monitors	<ul style="list-style-type: none"> Measure particles in the air through light scattering technology, providing immediate results to FGM for response, if necessary. Measures a range of different air quality parameters, including Total Suspended Particles, PM₁₀ and PM_{2.5}.



Above: Depositional dust gauge.
Right: High-volume Air sampler.



Continuous ambient air quality monitor placed near the TSE

Why Air Quality monitoring is conducted

Air quality monitoring informs any adjustments that are made to our impact mitigation measures, which include:

- › Application of water and chemical dust suppressants on tailings heaps, stockpiles and unsealed roads.
- › Hydroseeding/hydro-mulching of topsoil stockpiles and earthen walls.
- › Limiting vehicle speeds on unsealed surfaces.
- › Restricting works during unfavourable weather conditions.

Monitoring results are reviewed to:

- › assess local/regional air quality conditions;
- › identify potential mine-related sources of dust; and
- › inform additional air quality management measures where required.

Monitoring results are routinely reported to the Environment Review Committee, which includes Earth Resources Regulation and EPA Victoria.



Applying water to reduce dust on unsealed roads



Applying chemical dust suppressants to tailings heaps.