Dust Monitoring
Cherrabah Granite Mine February 2017

Introduction:

There are zero sensitive receptors within 1km of the proposed Mining Lease, the nearest neighbour (N1) is approximately 1.3km West-Southwest. As the prevailing winds are from the Northeast throughout the year it is proposed to place a dust monitor (DS1) at the boundary of the property in a direct line between the Mining Lease and N1. No direct line of sight is possible between the ML and N1 as there are two elevated ridgelines in between.

Monitoring Equipment and Location:

The dust monitor (DS1) will be set up near the western property boundary. The dust monitor will be setup at the fence line to provide the best indicator of background dust levels. The plan below shows the proposed monitoring location for dust in the event of a complaint and the nearest neighbours.

Monitoring Locations

Site Wind Conditions:

The potential for nuisance dust at the nearest neighbours is greatly affected by the dominant wind direction, and weather data from the Bureau of Meteorology was used to identify this. Data was generated using weather information from nearby Tenterfield (approximately 61km South of site). This data is does not consider site topographical features, and so on-site conditions may not reflect this accurately.

The charts below show that whilst the wind comes from most directions at different times, the prevailing wind comes from the Northeast. They also indicate that generally winds aren’t strong and it can often be calm (26% of the time at 9am).

N2, N3, and N4 are not in direct line with the dominant wind direction, and are located at least 1700m from the quarry operations. This distance, in conjunction with the topographical features and dominant wind direction should prove favourable in minimising dust impacts on the nearest neighbours.
Rose of Wind direction versus Wind speed in km/h (01 Jan 1955 to 04 Apr 2016)
Custom axes selected, refer to attached site for details
TENTERFIELD (FEDERATION PARK)
Site No: 5620131 • Opened Jan 1870 • Sit Open • Latitude -29.8476° • Longitude 152.0372° • Elevation 838m
An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.

9 am
18057 Total Observations

Calm 36%
Rose of Wind direction versus Wind speed in km/h (01 Jan 1965 to 04 Apr 2016)
Custom times selected refer attached note for details
TENTERFIELD (FEDERATION PARK)
Site No: 036933 • Opened Jan 1870 • Site Open • Latitude: -29.0479° • Longitude: 152.0722° • Elevation 838m
An asterisk (*) indicates that calm is less than 0.5%. Other important info about this analysis is available in the accompanying notes.

3 pm
17464 Total Observations

Calm 4%
Ongoing Monitoring and Reporting:

The site manager has the responsibility of recording and reporting all dust monitoring data undertaken on site. The ongoing requirement for monitoring will be subject to the approval conditions placed on the development by the administering authority. Usually dust monitoring is instigated in the event of a valid complaint. The site will implement appropriate dust mitigation measures by operating as a ‘wet mine’ using wet drilling and cutting as well as regular watering of haul roads and exposed stockpiles. As per environmental best practice clearing will be staged to avoid large exposed areas that may be subject to windborne dust generation. The SBMP details dust management and mitigation measures for the proposed operation. Given the significant distance between the mine and the nearest neighbours it is considered that the operation poses a minimal risk of nuisance dust emissions.