

*SOL Quarries
put hearing
7/2/2020*

**BEFORE THE DECISION MAKERS APPOINTED BY THE CANTERBURY
REGIONAL COUNCIL AND CHRISTCHURCH CITY COUNCIL**

IN THE MATTER OF The Resource Management Act 1991 ("RMA")

AND

IN THE MATTER OF Resource consent applications CRC193563,
CRC193564, CRC193773 and RMA 2019 373 by
SOL Quarries Limited for a discharge permit to
discharge contaminants to air

**SUPPLEMENTARY EVIDENCE AND SUMMARY OF EVIDENCE IN CHIEF:
JEFFREY GEORGE BLUETT ON BEHALF OF SOL QUARRIES LIMITED**

AIR QUALITY

1. ON-SITE DUST MONITORING

**SUPPLEMENTARY EVIDENCE: Installation and Calibration of Dust
Monitoring Equipment.**

- 1.1 Following a review of my evidence, Mr Chilton advised me that his opinion was that the concentrations of total suspended particulate (TSP) from the SOL monitor were much lower than was his experience at other similar sites. Mr Chilton and I agreed that a review of the data was justified.
- 1.2 I have checked that the data presented in my evidence is from the correct source (SOL dust monitor) and can confirm it is. I followed up with AeroQual, the equipment supplier, on their quality assurance process for the manufacture and calibration of the equipment. They provided me with the manufacture quality assurance report and with instrument's calibration certificate. I have also check in with Outback Communications, who are maintaining the instrument. Outback Communications confirmed that a flow calibration was performed on the instrument after it was installed. The information I have obtained from AeroQual and Outback Communications gives me confidence that the instrument is operating as designed.
- 1.3 During my discussions with AeroQual, it was discovered that the SOL monitor is in fact measuring PM₁₀ rather than TSP. I have updated Mr Chilton on this issue and I understand he is now more comfortable with the concentrations that were presented in my evidence.

- 1.4 My evidence presented an analysis of the SOL monitor data referring to TSP rather than PM₁₀. The change in the particulate matter metric does not alter the conclusions I reached using the SOL on-site monitoring data. My four key conclusions are repeated below, but amended in respect of PM₁₀.
- 1.5 The scatter plot and wind rose show that there may be a slight increase in PM₁₀ concentrations when the quarry is downwind of the monitoring site. However, in my opinion any increase observed is relatively small and concentrations are not close to trigger levels which would require work to stop work or require additional mitigation measures to be implemented.
- 1.6 The 24-hour average concentrations of PM₁₀ are all below 11 µg/m³ with 70% of the days being below 5 µg/m³. In my experience these concentrations are in line with those monitored at rural background sites, which do not have any significant close by sources of PM₁₀.
- 1.7 The analysis of 24-hour average suggests that PM₁₀ concentrations are well below the NESAQ concentration of 50 mg/m³ and therefore unlikely to produce any significant adverse health effects.
- 1.8 These findings are based on site specific data. The findings of this quantitative assessment is consistent with the qualitative conclusions provided in both PDP dust

2. WATER AVAILABILITY FOR DUST SUPPRESSION

- 2.1 An alternative water source has been found to the Paparua Water Race Scheme which will provide the 110 m³ per day for the irrigation portion of dust mitigation water supply. The ground water bore supply will address any concerns about security of supply of water for dust mitigation.
- 2.2 As a back up plan, SOL intend to follow through with the Paparua Water Race Scheme water take agreement with Selwyn District Council. These two measures demonstrate SOL's security of supply of water in the short and long-term and should address Ms McClintock's concerns.

3. COMMENTS ON SECTION 42A REPORT AND TONKIN AND TAYLOR'S REVIEW OF SOL'S AIR QUALITY ASSESSMENT

- 3.1 The conclusions reached in the Canterbury Regional Council's S42A report on ecological, human health, amenity and cumulative effects align with those provided in SOL's AEE and find that any adverse effects are likely to be less than minor.
- 3.2 In his evidence¹ Mr Chilton describes the relevance of the Harewood Gravels Environment Court decision (2017 NZEnvC 165) to the SOL application (paragraphs 19 to 23).
- 3.3 I consider that the quality and quantity of information I have used to assess the cumulative effects is sufficient for me to provide the opinion that the "lived experience" of dust for the residents near the proposed quarry expansion is most likely to be normal or very close to normal for a rural environment. In summary, my evidence addresses the two key issues of the Harewood Gravels Environment Court decision highlighted by Mr Chilton.

4. SUBMISSIONS

Health Impacts and Respirable Crystalline Silica

- 4.1 The health impacts of PM₁₀, PM_{2.5} and Respirable Crystalline Silica were raised by a number of submitters.
- 4.2 I am of the same opinion as Mr Chilton in that the Yaldhurst data is robust and provides a useful insight into the likely concentrations of contaminants likely to be experienced in the area around the SOL site.
- 4.3 The Yaldhurst (and now the SOL) monitoring shows that the quarry contribution to overall concentrations of PM₁₀, PM_{2.5}, and RSC at a separation distance of 250 m or more from quarrying activities will be negligible and well below the respective health impact assessment criteria.

¹ Addendum to Section 42A Officer's Report, Report of Richard Chilton.

Cumulative Effects

- 4.4 Given the background dust concentrations, separation distances between the sensitive receptors and the SOL and between other quarries, along with the mitigation of emissions of dust from the proposed SOL quarry, Mr Chilton and I reach the same conclusion, that the potential for any appreciable cumulative dust effects is low.

Effectiveness of Mitigation Measures and Loss of Amenity Value

- 4.5 Submitters questioned the effectiveness of the proposed mitigation measures and the consequential loss of amenity values.
- 4.6 The real-time dust and wind monitoring, and warning systems will significantly increase SOL's ability to identify and respond to any adverse metrological conditions or dust event. In my experience the mitigation measures proposed by SOL align very well with accepted good practice and some measures are leading edge, for example the automated water spray system. It is my opinion that the mitigation measures are appropriate and if effectively implemented, will result in any loss of amenity values being less than minor.

Consent compliance

- 4.7 I note that in the SOL Quarry Compliance History² a total of five formal inspections have been made over the period from July 2018 to August 2020. One non-compliance issue was noted in July 2018 where speed limits on haul roads were not being complied with.

5. RECOMMENDED CONDITIONS OF CONSENT

- 5.1 The CRC and I agree that if mitigation is available at all times and diligently implemented, it is likely that effects on the surrounding residences will be less than minor. To achieve this outcome, CRC has recommended a comprehensive set of conditions. I have reviewed the recommended conditions and I am in general agreement with the majority

² SOL Quarry Compliance History, Mary Mortiaux (CRC Resource Management Technical Lead) 30 October 2020.

of conditions. I have suggested some minor amendments to make the conditions practical to implement and monitor.

Jeffrey George Bluett

A handwritten signature in black ink, reading "JG Bluett". The signature is written in a cursive, flowing style with a horizontal line extending from the end.

4 December 2020

