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Yaldhurst dust monitoring shows safe level exceeded

Bernie Napp - Mon, 15 Jan 2018

Early results of the Yaldhurst ambient air quality monitoring programme showed dust levels exceeded the official safe level last week.

The Environment Canterbury (ECan) live data feed for PM10 - airborne particles of 10 micrometres or less in diameter - from a single, undisclosed site started on 8 January. It records both the one-hour average level, and the 24-hour average level.

Inside Resources observed that the safe level of 50 micrograms per cubic metre for the 24-hour average level was exceeded at times on 9 and 10 January.

Data from further PM10 sites will come on stream once ECan has confirmed the system is working. Because they have not yet been validated, "the data may be subject to instrumental faults, drift or erroneous values that will be removed", ECan says, and should be used with caution.

MinEx had earlier [warned](#) the programme will likely prove nothing other than that Canterbury air contains dust.

Wayne Scott, the extractives industry health and safety council's CEO, says it is too early to comment on results to date. "The data needs validation, including identification of particle types, and possible sources of each particulate in the Yaldhurst area."

Yaldhurst Quarry Air Quality Monitoring Programme

In its latest updates, [ECan](#) said it contracted "an independent specialist air quality monitoring company" – Mote and Emission Impossible - to monitor dust in response to residents' concerns about the health effects of dust coming from quarries.

The "scientifically robust" three-month programme will monitor PM10, PM2.5 and respirable crystalline silica (RCS) at several sites near the Yaldhurst quarries.

All of the PM10 and PM2.5 monitoring equipment is in place, and the RCS monitors are expected to be installed by 19 January.

Data for PM2.5 will be available in mid-January. Data for RCS will be available monthly, with analysis at a laboratory in Australia, with first results expected in March.

ECan regional leader compliance delivery, James Tricker, said the results would be vital in understanding what, if any, risk there was for nearby residents.

"Getting this equipment in the ground is a milestone for us as it's gone through so many checks, including international review, to ensure this is a robust programme."

"Both the quarry operators and residents have had input into this design, however due to privacy reasons we can't say exactly where all the equipment is located."

Cameras have been installed to detect any tampering with equipment.

"The data for the PM10 will be live so if there is any high activity we will be calling the quarries to find out what is happening and what action they will be taking to lower the dust levels," he said. "The data for RCS will be available monthly so won't be on the live feed."

Tricker said the programme needed to run full length to get meaningful results, once all live data is verified.

MfE concern over PM10

The [Ministry for the Environment](#) defines PM10 as "a mixture of solid particles and liquid droplets found in the air that are 10 micrometres or less in diameter. Particulates can be a mix of combustion particles, organic matter, metals, sulphates, nitrates, sea salt, and dust."

Aside from human activities, natural sources such as volcanoes, pollen, wild fires, dust, and sea salt can also produce PM10, and it can also form in the air from reactions between gases or between gases and other particles.

MfE says PM10 is "of particular concern in New Zealand because it is associated with severe health effects such as cancer, respiratory problems, and cardiovascular disease"; and relative to other pollutants most frequently breaches national standards and international guidelines.

The national average level of PM10 in the air for 2013 was 17 micrograms per cubic metre, well below the World Health Organisation guideline level of 20. Note this figure is an annual average, not a 24-hour average, or hourly average.

Christchurch was among six South Island urban sites where the annual average safe level for PM10 was exceeded in 2013.



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The air quality data web site is accessible [here](#). To log in: Username: Yaldhurst; password: Airquality123

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