

Even when adopting best practices, it is often not possible to avoid all the adverse effects from quarries with dust.

Quarries have the potential to create dust through on and off site activities including Machinery movement around the site and to and from it, as well as from the obvious ones of digging, crushing, blasting or screening aggregate.

Dust particles vary in size from coarse (non-inhalable) to fine (inhalable) to very fine (respirable).

Coarse dust particles generally only reach as far as the inside of the nose, mouth or throat.

Smaller or fine particles, however, can get much deeper into the sensitive regions of the respiratory tract and lungs. These smaller dust particles have a greater potential to cause serious harm to your health.

Most particles in airborne dust do tend to be coarse and do not pose a serious health risk to the general public, however people with respiratory conditions such as asthma or emphysema may experience difficulties. Our daughter suffers from asthma.

Dust can trigger an asthma attack and cause serious breathing-related problems as well as contributing to heart disease and reduced life span for these people (with respiratory conditions).

We often have strong winds, particularly in Spring and Summer - the drier months - and visibility for people driving on roads surrounding the proposed quarry may be significantly impaired in the event of a dust storm.

TABLED AT HEARING

Application: Joint hearing
- Tulsa Hoggs Ltd

Date: 22.11.2019
C Jones

Silica dust blowing on to our property is a real concern.

The International Agency on Cancer Research has identified crystalline silica as a "Known human carcinogen".

It only takes a very small amount of the very fine respirable silica dust to create a health hazard.

Sand and quartz are common examples of crystalline silica and both are commonly found in aggregate quarries.

Blasting, cutting, chipping, drilling or grinding of aggregate can result in the production of silica dust.

Inhaling crystalline silica can lead to serious, sometimes fatal illnesses including silicosis, lung cancer, tuberculosis disease (COPD). Silica exposure has also been linked to other illnesses including renal disease and other cancers.

Silicosis is a disabling, irreversible and sometimes fatal lung disease. Silicosis and other silica-related illnesses may not show up for many years after exposure.

The most common early symptoms are a chronic dry cough and shortness of breath with physical activity.

There are 3 types of silicosis:

Chronic - which usually occurs after 10 or more years of exposure to crystalline silica at relatively low concentrations.

Accelerated - which results from exposure to high concentrations of crystalline silica and develops 5-10 years after initial exposure

Acute - which occurs where exposure concentrations are the highest and can cause symptoms to develop within a few weeks to 4 or 5 years after the initial exposure

The impact on our animal's health - we have horses, sheep, goats, pigs, cats and a dog - is concerning as they will be potentially affected by reduced air quality 24/7.

Horses consume 86 000 litres of air per day and more when doing strenuous exercise.

Humans breath 11 000 litres of air per day and goats breath 4 000 litres of air per day.

So even a small percentage of air contamination can have a big effect.

Being a lifestyle block, we are outside for many hours each day ^{and do not want to need to wear dust masks in the wind}. We also have our windows open everyday - even in winter, though not for so long!

I hang washing on the line each day and would rather not have our life negatively impacted by extra dust.

Even with the proposed roundabout on the corner of the proposed quarry site, at the Jones Road and Dawsons Road intersection, and extra 800 trucks will cause considerable issues there.

As it is now, when the train barriers are down there is very little room to pull into Dawsons Road if you are heading into Christchurch^(Room for 1-2 cars). The options are to wait and totally block Jones Road or continue on to Templeton. Trains are regular with 5 return trips from Lyttelton to the Midland Port in Rolleston each day (with 6 return trips on Saturdays) as well as other trains using the line.

Jones Road already struggles with the traffic use it has, which has increased with work on the new motorway. It is narrow and commonly has new potholes appearing.

Noise pollution affects both health and behavior.

Unwanted noise can damage physiological health.

Noise pollution can cause hypertension, high stress levels, tinnitus, hearing loss, sleep disturbances and other harmful effects.

According to a 2019 review of the existing literature, noise pollution was associated with faster cognitive decline. Being exposed to noise pollution for 10 consecutive years or more raises your chances of suffering from at least one cardiovascular disease later in life by 300%.

Too much noise makes people easily irritable, nervous, irrational in decision making and have constant unease throughout the day.

According to the World Health Organization, children are especially vulnerable to noise and the effects that noise has on children may be permanent. Noise poses a serious threat to a child's physical and psychological health and may negatively interfere with a child's learning and behavior.

While there is currently some noise during the day, our evening and weekends are generally peaceful which we treasure. We are often outside enjoying the evenings and/or working with the animals.

Two members of our family suffer from depression

- one also has a head injury and one also has anxiety.

Additional noise will only negatively affect these sensitive people and lead to reduced quality of life for them.

Even with careful practices there still remains a risk of a vehicle accident or a fuel or chemical spill that could seep through the ground and potentially contaminate our water.

We, like many of our neighbours, rely solely on our wells for our water supply.

Any risk of contamination is unacceptable.

A study funded by the Minnesota Environment and Natural Resources fund over 6 different quarries showed significant decline in aquifer water levels due to quarry dewatering and rock removal.

The studies also showed groundwater flow paths were altered, temperature changes of groundwater and turbidity (which is the cloudiness or haziness of a fluid caused by large numbers of individual particles generally invisible to the naked eye)

The also found lowering of local groundwater and surface water levels.

Gravel extraction, processing and transpiration of aggregate involve processes which generate suspended sediment with the potential to be entrained in water and eventually discharged into storm water, surface water or groundwater free draining soil, which most is in our area, is at most risk ^{enabling} of groundwater contamination.

Though we do realise the need for aggregate quarries, the location of this proposed site is totally wrong on so many levels. Consideration for the many people this would effect needs to happen and an alternative site found. There are many suitable options further away from