

**Submission  
No 58**

**INQUIRY INTO CURRENT AND POTENTIAL IMPACTS OF  
GOLD, SILVER, LEAD AND ZINC MINING ON HUMAN  
HEALTH, LAND, AIR AND WATER QUALITY IN NEW  
SOUTH WALES**

**Name:** Mr Alex Kalkman

**Date Received:** 4 September 2023

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To the Committee  
Parliamentary Inquiry into Mining and Health

I have worked as a nurseryman for 40 years. I have spent 17 of those years in the Central West NSW working in and around Bathurst.

I am writing to express my concern over the proposed gold, silver and lead mines that will be built at Kings Plains, Hobby's Yards, Neville and Lue.

In terms of health I would like to touch on both the human and plant impacts.

Firstly I would like to challenge the claimed economic flow-on benefits often cited for why a mine should proceed. I have included the article on seed collecting that Regis Resources published in the Blayney Chronicle recently. I note that Skillset has been used to collect the seeds. Any benefit to local businesses will be lost as a result of contracts being channelled to businesses heavily subsidised by the state and federal governments. These sorts of arrangements also muddy the waters between government and mining companies. I include this as part of the inquiry into health impacts of the mining industry as I foresee serious mental health impacts for young people being trained for jobs that do not exist on a long-term basis.

Watching clients come into my nursery who are making decisions about how best to protect their properties from dust and noise pollution with plantings — or alternatively whether it might be better to sell up and move away — can be distressing for both parties realising that a community is being divided and in the process of disintegrating.

Selling trees as screens, windbreaks or part of land regeneration is also heartbreaking, knowing the challenges plants face against dust and clearing, increased temperatures and reduced biodiversity and nutrients, not to mention increased toxicity in ground water. It is a well-documented fact that photosynthesis is affected by dust caking on leaves. In order for remediation to be successful, it takes years of careful monitoring and management. We have already seen photos at the IPC hearing into the McPhillamy Mine, showing the state of saplings that were planted and abandoned. The success rate of these programs was pathetic.

The mental and physical toll on our largely rural, agricultural community is going to be profound.

I ask you to seriously consider whether this is an appropriate region in which to create this kind of toxic mining industry, especially given the legacy of contamination that has been left largely ignored at the abandoned mine at Sunny Corner.

NSW can barely manage to cover the cost of natural disasters at the moment. Relying on interstate mining companies to oversee remediation at the end of a mine's life seems foolhardy. Especially as the slap on the wrist fines are inadequate to deal with current breaches.

I have enclosed some reports and articles on funding and support provided to Regis by government agencies and the difficulties faced when tree planting and as a flow on effect, human health.

Thankyou

Alex Kalkman

Garden Starters Nursery

Bathurst

"Plants often face significant challenges in obtaining an adequate supply of these nutrients to meet the demands of basic cellular processes due to their relative immobility. A deficiency of any one of them may result in decreased plant productivity and/or fertility. Symptoms of nutrient deficiency may include stunted growth, death of plant tissue, or yellowing of the leaves caused by a reduced production of chlorophyll, a pigment needed for photosynthesis. Nutrient deficiency can have a significant impact on agriculture, resulting in reduced crop yield or reduced plant quality. Nutrient deficiency can also lead to reduced overall biodiversity since plants serve as the producers that support most food webs."

Morgan, J. B. & Connolly, E. L. (2013) Plant-Soil Interactions: Nutrient Uptake. Nature Education Knowledge 4(8):2

"Will the planting of trees be used by mine-owners to side-step the responsibility to return the site to its original land capability? Tree planting may be seen as a simple and cheap form of land rehabilitation, not requiring the degree of site restoration which would otherwise be demanded. Alternatively trees may be a sensible and economic land use while natural processes restore an equilibrium to the landscape. It is essential that trees be recognised as a transient land use and that the ultimate objective is either to restore the land to its original form, or at least to leave this option open to any future land manager."

THE USE OF VEGETATION IN THE AMELIORATION OF THE IMPACTS OF MINING ON WATER QUALITY - AN ASSESSMENT OF SPECIES AND WATER USED. B. VERSFELD, C.S. EVERSON AND A.G. POULTER  
Environmentek CSIR  
Report to the Water Research Commission by The Division of Water, Environment and Forestry Technology, CSIR p.6

<https://www.wrc.org.za/wp-content/uploads/mdocs/413-1-98.pdf>

"Mining is an inherently invasive process that can cause damage to a landscape in an area much larger than the mining site itself. The effects of this damage can continue years after a mine has shut down, including the addition to greenhouse gasses, death of flora and fauna, and erosion of land and habitat."

<https://web.mit.edu/12.000/www/m2016/finalwebsite/problems/mining.html#:~:text=Mining%20is%20an%20inherently%20invasive,erosion%20of%20land%20and%20habitat.>

"The leaf surface of plants constantly absorbs particulate matter, which helps to improve air quality. However, plants can also be affected by the accumulation of particulate matter. This article reviews research on how dust affects the morphological, physiological, and biochemical properties of tree

leaves. The ability of vegetation to capture and retain atmospheric particulate matter depends directly on the interactions between particulate matter and plant surfaces. Atmospheric dust places additional stress on plants because they often respond to atmospheric pollution in a manner similar to drought and other environmental stresses. However, the extent to which leaf properties are affected by particulate matter is still controversial. Dust impacts on morpho-anatomical characteristics of the leaf. Young leaves with soft tissues are more vulnerable than rigid leaves. High-trichome leaf can keep more dust causing necrosis and chlorosis on the leaf. Fine particles with sizes of about 2.5  $\mu\text{m}$  can penetrate inside the leaves' tissues through the stomata leading to the degradation of chloroplast and pigments. With reduction in plant photosynthesis, a change will happen in wood cellular features by affecting the cambium. The lack of basic information on changes in plant structure, as well as the role dust plays in life cycles, is a challenge for developing management protocols and research plans on this problem."

Akhlaq, M., Sheltami, T. R., & Mouftah, H. T. (2012). A review of techniques and technologies for sand and dust storm detection. *Reviews in Environmental Science and Biotechnology*, 11(3), 305–322. <https://doi.org/10.1007/s11157-012-9282-y>