Submission opposed to Bowdens Mine in Lue.

This area is known for it's beauty, village atmosphere, welcoming hospitality, agriculture and diversity of attractions, with convenience to Rylstone, Kandos and Mudgee, easy access to Sydney and other areas in the state. People, locals and tourists alike, love the area also because it is not overdeveloped, the lifestyle relaxed and the the environment clean.

I am on a property close to the project and as such will be affected by noise, light, air and water pollution. Because of this and the above mentioned connections ie community, environment and tourism consequently being threatened, I strongly oppose this project.

On reading the DPE Assessment, my concerns have not been allayed.

<u>Noise</u>

264. An admission that some operational noise would exceed the noise level criteria for 7 residences. Noise adversely affects health and leads people to leave. 293.-Blasting with subsequent vibration, airblast overpressure, flyrock and fumes, would only exacerbate and hasten the problem.

<u>Light</u>

311. I am in Lue for clear skies, not sky glow from mining.

319. I have friends in existing mining locations that report night time illumination is a problem, so I have my doubts about the 'negligible' claim regarding this. The fact that the mine is about 100m higher than and overlooking the village, places the claim in even more doubt.

<u>Air</u>

Gaseous Pollutants:-

249. Hydrogen Cynanide (HCN), a known systemic chemical asphyxiant which interferes with the normal use of oxygen in nearly every organ of the body, which stated by the CDC

(https://www.cdc.gov/niosh/ershdb/emergencyresponsecard_29750038.html) can also be rapidly fatal with exposure.

251. Likewise, breathing Nitrous Oxide can cause dizziness, unconsciousness, and even death. Long-term exposure can lead to infertility.

https://www.cdc.gov/niosh/topics/nitrousoxide/default.html

Exposure to Heavy Metals in air, water and soil:-

To minimise and justify the lack of harm of metal toxicity (p5 of the Executive Summary and 6.2-point 221), because it is already in the environment lacks logic, sensibility, duty of care and ignores data evidence to the contrary. The WHO states that lead is a cumulative toxicant, distributed to the brain, liver, kidney and bones. There is no level of exposure to lead that is known to be without harmful effects. It is stored in teeth and bones, where it accumulates in time and is responsible for disability and death.1

The Government NIH likewise states the same...with outcomes including Neurotoxicity, Haematotoxicity, Cardiotoxicity, Nephrotoxicity, Gastrotoxicity and other systems, such as skeletal, vitamin D metabolism, reproductive and possibly carcinogenic to humans. 2

The affects on the reproductive system are particularly relevant and concerning. One can only imagine that if humans are adversely affected then so too are wildlife and farm animals, the latter possibly putting farmers livelihoods at risk.

'The reproductive system is thought to be affected by lead toxicity in both males and females. It has been described as a cause for miscarriage, low birth weight and even spontaneous abortion at particularly high concentrations. In males, lead exposure has been linked with reduced sperm count, abnormal sperm morphology and reduced libido. Infertility has been observed in adult males with blood lead >1.93 μ mol/L (40 μ g/dL).' 2

'Lead stored in bone may be released into the blood during pregnancy, thus exposing the fetus.' 1 'Despite these clear recommendations for removing the exposure source, mining (and smelting (not in this project)) continue to occur in contemporary Australia, adversely affecting the health of local residents'.2

Do the residents of Lue and district, visitors, and "Bowdens Silver' investors want this legacy? I think not.

From Points 219-245, no mention is made about testing other than blood tests to ascertain the main concern of Lead. '90-95% of the total lead burden is contained within bone. Cd-based lead K-shell X-Ray Fluorescence (K XRF) bone-lead measurements allow the direct measurement of long-term lead exposure.'3

These would give a clearer reading of the cumulative effect of lead in the body and as such all the data in the report re meeting acceptable lead levels in the body is incomplete and misleading. 227. 246. The extensive health risks of exposure to Crystalline Silica is detailed on the following CDC website:-https://www.cdc.gov/niosh/topics/silica/risks.html

Residents who live in the area, who are drinking, bathing , eating and feeding animals in rainwater collected from home catchment areas contaminated by lead and silica dust, will be exposed to these health related issues.

379. Even if Blood tests alone were given, people should not have to be constantly having blood tests and awaiting the monitoring reports re lead levels. What an imposition and not helpful, nor comprehensively accurate- ('The criteria for lead poisoning and lead toxicity are based on blood lead as a standard. However, the biological half-life of lead in blood is approximately 36 days, making blood lead an indicator only of recent lead exposure'.) 3. The NIH states that there is dismal to limited evidence of successful detox treatments... 'and prompt identification and removal of the source of exposure is advised.'

To suggest that this approach of monitoring and testing will mitigate the mental health issues of the community regarding the project is also condescending and more likely to increase rather than reduce stress and anxiety.

References:-

1-https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health 2-https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6372192/ 3-<u>https://labs.icahn.mssm.edu/toddlab/bone-lead-test/</u>

Given what these 2 points indicate, one could well be sceptical about the level of care and quality in the regeneration post mining.

Furthermore, rehabilitation needs to be undertaken not only at the end of a mine's life, but progressively during the mining process.

P5 quote from

https://www.industry.gov.au/sites/default/files/2019-04/lpsdp-mine-rehabilitation-handbookenglish.pdf

'2.3.1 Successful progressive rehabilitation requires a continuous improvement focus, based on site-specific knowledge, research and monitoring.

2.3.3 Progressive rehabilitation can also provide an early indication as to whether site closure objectives are realistic and achievable.

What guarantees do we have that this will be done?

In an article titled 'Active revegetation after mining: What is the contribution of peer-reviewed studies?' published online 23.3.22 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9280519/ state that mining activities cause profound alterations that can persist for a long time after mine closure (Kesler, 2007) and that vegetation establishment after mining can be difficult due to severe limitations of soil properties caused by mining activities. Soil removal for mineral extraction and

waste deposition generates open areas of bare soil without organic matter, soil compaction and high exposure to weathering agents (Clemente et al., 2004).'

https://australiainstitute.org.au/report/dark-side-of-the-boom/

'Mine closure, complete rehabilitation and relinguishment of the former mine site is almost unknown in Australia. There are no examples of major, modern open cut mines completing rehabilitation to the point where the site can be relinquished.' 15.4.17. That IS concerning.

Water 6.1

84. To state that groundwater levels would be reduced, that 'catchment characteristics' would be altered and that there would be potential for overflows, seepage from the WRE, TSF, open cut pit and other storage areas, beggars belief that this project be given the go ahead. Particularly in the context of 149-153, where Bowdens did not agree with some aspects of the Earth Systems review, regarding the assessment and management of WRE and AMD, which prompted the Department to 'recommend' to Bowdens what Earth Systems had recommended! It is of no reassurance that recommendations as such will in fact be carried out, especially when in conclusion from points 140-161, to claim that Lawson Creek because it is already degraded that seepage from TSF would not really matter. Lawson creek also feeds into the Cudgegong River which supplies Mudgee. 101. Insufficient water for the mine means less for other users and increased rainfall means risk of overflow of polluted water.

Whilst there is no surface flow in Lawson creek at times, especially during summer, as an example of this unpredictability, during the drought of the last quarter of 2019, there was no flow or seepage, then in October of 2022 there were two major flood events, with the creek rising to around 4 metres, with inflows from Walkers Creek (site of TSF) and Prices Creek (site of WRE)

No amount of modelling could have predicated this, nor will it be able to in the future. 108. 109. It would seem implausible to imagine that a mining operation at this scale of operation, would be even able to reduce their water needs, both financially for themselves as a company and their need to keep their staff, who would otherwise have reduced pay for the time they are not working. Bowdens would in all reality, take water from existing watercourses, which would mean less for other users.

168. To leave the open cut pit as a void post mining only adds to the possibility of toxic exposure via runoff during flooding and a large area that can't be otherwise regenerated.

Mineral Resources 3.2.

2. Table 1. The title of the Assessment report is 'Bowdens Silver Project' and the IPC website for entering Submissions is 'Bowdens Silver'. It is quite misleading to give the impression that this project is predominately a Silver mine, when in fact it is more a Zinc and Lead mine, (with approximately 2 t Silver, 130,000 t Zinc, 95,000 t Lead), to falsely support and justify 3.2 points 19-22. This is guite a significant concern, particularly as this appears to be the basis on which many people give their support for the project.

3.2, point 18; 3.3 Point 29

In the pursuit to transition from coal and Gas mining to mining of minerals and metals, the risk of environmental destruction should not be accepted as justification for this new focus of mining. In addition, Austrade and the IEA do not regard silver, lead and zinc as 'critical minerals' https://www.globalaustralia.gov.au/sites/default/files/2022-12/

Australian Critical Minerals Prospecuts 2022 Dec22.pdf

https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executivesummary

3.2, point 27, reiteriated in 470

The possibility of future mining expansion than is already indicated in this report indicates a need for further environmental impact studies.

Social Impacts 6.4

361. The claim of job creation and economic opportunities is questionable. Pt 458 Construction worker numbers has been reduced in this document to 131, when previously the community was told it would be 320. Economic opportunities for Lue and the wider LGA are in Tourism, not mining, especially with the close proximity to Sydney. If the mine goes ahead, not only does it come with all the uncertainties and toxic exposure, which in turn will adversely affect tourism, it has a limited lifespan. Tourism on the other hand will continue to sustain a vibrant, diverse welcoming, strong cohesive community with subsequently ongoing economic growth opportunities. People live and visit Lue for it's beauty, peace and village atmosphere, all of which is threatened with the advent of a mine coming to invade the town, it's people and it's environment. 387. To say that impacts of an increased population through the associated operational workforce would affect Mudgee, Kandos and Rylstone because they would reside in these well serviced towns, ignores the fact that these towns are already stretched, and that Lue residents would in fact be affected because they too rely on these services in these places as many are not available in Lue.

Biodiversity 6.5

417, 418. State and Federal governments acknowledge the endangered and extinction crisis of many species, and the clearing of box gum woodland (one of the rarest ecological communities in Australia) which would occur if the project goes ahead, contravenes the recovery plan that aims to restore this ecology. The rich diversity of Flora and Fauna, including koalas and honeyeaters would also be threatened.

422. With natural disasters like the recent bushfires, vegetation and hence habitat is already compromised.

425. - 430. The following report shows the failure of the offsetting scheme, which makes these proposed offsetting plans doubtful.

https://www.audit.nsw.gov.au/our-work/reports/effectiveness-of-the-biodiversity-offsets-scheme

Concluding Statement

I have grave concerns for the 'Modelling' which is the basis of most points in Bowdens proposal. Modelling has many flaws, one of which is not having all the data and that it be correct and current. Even then, you still have the unpredictability of many given factors. How to safely mitigate any negative changes to predicted and updated modelling?

Is the 'Precautionary Principle' to be ignored?

It's too late when ground and surface water are poisoned, people's health and livelihoods adversely affected.

Given the misleading title of a 'Silver' mine and the dismissive attitude Bowdens indicate to have taken with others concerns regarding many aspects of the project, including toxic waste and contamination; them needing to have many additional recommendations by specialist consultants, (when one would have thought obvious to already have considered and incorporated in prior applications) and then the Department needing to step in to affirm this, gives me concern that the company and it's board are capable and concerned enough to operate and manage such a project, both in it's lifetime and post mining. In addition, these are all just recommendations.

Recommendations are not directives, or legal agreements to be adhered to.

Will the company follow these recommendations, who will be watching to see if they do and who will they be accountable to?

The people of Lue and the wider LGA may well be left 'high and dry', all by themselves?

Should this project proceed, ecology will be lost forever. *No Ecology, No life.*