99 Louee Street,
Rylstone,
NSW

7 July 2020

The Minister for Planning NSW,
Parliament House,
Macquarie Street,
Sydney, NSW 2000

Dear Sir,

SSD 5765
Proposed Silver Mine, Bowdens, at Lue NSW
Submission re EIS

I am writing to you to object to approval being given to the Bowdens project; my objection is to the Main Body of the R W Corkery Environmental Impact Statement (presented to you on behalf of his employer SVL/ Bowdens).

The EIS is supported by over 20 specialist studies. I have read a number and found them to be often self-serving and a classic case of 'he who pays the piper calls the tune". Selective reporting of the specialist data by Corkery makes the mining proposal (the Project) look like a bed of roses; but it's not.

There are, in the EIS a number of separated presentations of relevant and related facts which if seen together would damage the Project's chances. Even though the main EIS is 764 pages in length it still doesn't quote some of the more relevant facts to be found in separate specialist studies. A few of the issues that may need further and better particulars are listed below.

Please reject this proposal until either the physical Project is corrected for neutral outcomes and/or the proposed mine is scrapped. Fundamentally though the geography and nature, the physics and the chemistry and social context all argue against it proceeding. Please see the logic.

For brevity my complaints are limited to just a few topics: dust, wind, noise, baseline studies and site rehabilitation; they all interest me because I see their importance.

WIND

Without wind the dust created by the proposed mine will not move; other than by small random thermodynamic and colloidal mechanisms. The truth is that the wind blows across this landscape from all corners of the compass as demonstrated by the proponent's wind roses.

The prevailing regional winds, however, are well known to farmers and other residents. They know about wind and its behaviour. Substantially we, in this region, can say that the prevailing breezes are westerly and often with

a northerly component. Correctly that is as reported by Bowdens specialist saying: 'Lue Met01 showing a change from dominant westerly quadrant flow to dominantly northeasterly flow at night Lue Met02 changing from dominant northwesterly flow to dominant southeasterly flow at night time.'

The main EIS text (Corkery) however substantially altered the observation saying "…..a dominance of southeasterly flow at Lue (Met02) due to winds from the northeastern direction being blocked……." And "…..at the mine site (Lue Met01) reflects the topography of the area with the predominant winds blowing from the north, northeast and southwest directions. It's near enough to being a contradiction of fact, why?

Bowdens is putting up the self-serving case that wind will not take dust from the proposed mine site towards horticultural and grazing businesses and to population centres to the east and south east of the mine site. This is a very flwed stance.. Because Bowdens has written words (like the Rubaiyat of Omar Kayyam' s moving finger) to favour their proposed mine; they cannot change reality (nature) ie the wind direction.

Directly downwind of prevailing wind directions are the towns of Rylstone, Kandos, Clandulla and Charbon, in addition the proximity of the location of Wollemi Pines in the Wollemi National Park. We residents know where the wind comes from and are concerned by the prospect of lead-laden dust coming in our direction for 16 years. National Parks Department, too, ought to be concerned; they currently spend thousands of dollars annually of public revenue in protecting and managing the National Park including the Wollemi Pine trees.

DUST

The Bowdens specialist SLR reports that there will be an average of 160 tonnes of dust produced by the mine per annum. This is probably conservative, modelled to produce a low and therefore favourable result; but is still 3 tonnes of dust being blown out of the mine per week for 16 years Most of this mobile dust will be in the PM 10 and PM 2.5 ranges and much of that will be ore dust containing in high proportions the target minerals.

Both the active open cut pit and the surface of the TSF are major contributors to dust in the atmosphere each providing between 10 and 13 tonnes of dust per year in wind erosion alone. The pit creates dust from powdered ore (substantially Zinc, Lead and Silver minerals) and the crust of the TSF provides a mixture of processing chemicals and waste rock from the ore; none of that dust is healthy to inhale and ingest.

The NSW Office of Environment and Heritage is concerned about dust mobility; they issue dust warnings across the whole of the Central Tablelands (from their Orange Office) for above standard limits of PM 10 and PM 2.5. That is clearly in the knowledge that the spread of the dust can be very wide, in fact, regional. PM 10 and PM 2.5 are health hazards and are the subject of community warnings for exceeding National Air Quality Standards.

In recent times satellite imagery has shown the spread of Australian bushfire smoke around the globe; this is PM 2.5. And while PM 2.5 includes smoke and exhaust gases in the case of mining for a galena deposit it can include zinc, lead and silver. PM 2.5 particles can stay suspended in the atmosphere for weeks (or months) and they can spread for hundreds (thousands) of kilometres. Bowdens dust modelling, by contrast is dodgey and self-serving, it shows that PM 2.5 coming from mining operation reaches barely a kilometre beyond the pit! This is so clearly wrong and an attempt to deceive and mislead in this EIS approval process that it must be rejected.

PM 2.5 is easily inhaled; it crosses membranes and cell walls and enters the mammalian bloodstream. Where the constituents of the dust particle include Lead this is a health issue; remembering also that Lead in mammalian tissue is an accumulative poison. It has come to public attentiont in recent years as developmental

problems with children in Mount Isa, Broken Hill and in Port Pirie where lead dust was dispersed through the towns. It has spawned the widely and reliably-used slogan that 'There is no safe exposure to Lead'.

BASELINE STUDIES

The Bowdens EIS has examined the village and environs of Lue in detail, largely in response to SEARS. Many potentially injurious influences and their parameters have been surveyed and then modelled. But what background data has been gathered and analysed for Rylstone, Kandos, Charbon and Clandulla and also the National Park? These areas are less likely subjects for light spillage, noise impacts, underground water depletion etc. But air quality, (dust) is a significant health impact for these locations. Accordingly these subject locations will be impacted being situated downwind from Lue. Baseline surveys by the proponent and consultants need to to reliably collect data from these sites, to the same detail at least as done in Lue.

As it appears that no data has been collected on these sites about 30 kilometres from the proposed mine; it has certainly not yet been presented in documents before the Minister. This needs to be redressed before any other aspect of the EIS is formally examined. If NSW Government thinks that mobile atmospheric PM 2.5 is an issue from 150kms away in Orange; why can the proponents of a dust creating activity not believe that PM 2.5 can travel 25 kms?

While on the matter of background surveys the specialist surveys of Lue School bring up an apparent bias. Using 7 year old data Bowdens' specialists observe the presence of Lead dust at the school. Old building equals lead paint; but because schools are well-maintained and frequently modified to maintain educational hardware and equipment standards that paint is frequently disturbed. It's of no surprise that lead dust has been found.

Curiously at Lue School there was no claim of random sampling or scientific method, no quadrants or randomising. Why not ..any lack of objectivity by the specialists must be seen as the basis for a worthless conclusion? There was pure targeted and biased collection of samples. Why in a school yard dotted with fence posts and play equipment would you not be able to target and find samples green treated pine constituents.ie quantities of Copper Chromium and Arsenic. Surely it's all in a quest to make the school look like it's already a toxic environment; so a little more atmospheric lead from Bowdens won't matter?

NOISE

As current popular expression has it we are talking about the 'elephant in the room'. Virtually every reference to noise in either the specialist reports or the EIS is to noise measured or modelled on the A-weighted scale. (dB(A)). The (C) weighted decibel scale is more relevant and should be used for, particularly SDNL and PNTL.;Accordingly the specialist consultants need to adjust their surveys, models and conclusions to the C-weighting.

dB(A) represents the frequencies and intensities of the human voice. The voice has very few low frequencies unlike crushing plants and grinding mills. dB(A) covers a lot of mid frequencies say 200 cps to 20000 cps. Lower frequencies see the weighting curve drop and cut off whereas the (C) weighting is flat, covering the full range without ignoring low frequencies. Consider a human voice screaming from the mine site across Lawsons Creek; it won't go far. Compare that to a rumbling grinding crusher and mill deep into the still of the night; it can go for miles.

We are not talking about different sounds we are simply talking about their perception. The low frequencies are more characteristic of large amounts of energy being expended in rock breaking etc. It's hard to measure and

model but it travels long distances through both the in atmosphere and in the ground. In a recent research paper to the Journal of the Acoustic Society of America the abstract says:

> *'…sources of human exposure to low-frequency noise and its effects are reviewed. … The effects of low-frequency noise are of particular concern because of its pervasiveness due to numerous sources, efficient propagation, and reduced efficacy of many structures (dwellings, walls, and hearing protection) in attenuating low-frequency noise compared with other noise. Intense low-frequency noise appears to produce clear symptoms including respiratory impairment and aural pain. Although the effects of lower intensities of low-frequency noise are difficult to establish for methodological reasons, evidence suggests that a number of adverse effects of noise in general arise from exposure to low-frequency noise: Loudness judgments and annoyance reactions are sometimes reported to be greater for low-frequency noise than other noises for equal sound-pressure level; annoyance is exacerbated by rattle or vibration induced by low-frequency noise; ..'*

200 to 20,000 cps can be easily attenuated by such mitigations as insulation, sound barriers, double glazing etc. And most modern machinery fixed and mobile already does this for OHS objectives. These interventions don't work for low frequency noise 10 to 160 cps.

Bowdens has nearly avoided addressing the low frequency sound issue but it does appear in a couple of locations in both the noise report and the EIS; it's clear that they want to sublimate its importance. It is as if because devices called acoustic barriers are proposed that they will function for all sound including low frequencies; it's not true.

Objectivity and acoustic reliability might be achieved if some simulations were run on site and compared with the modelling outcomes; it would be the best calibration exercise.

One thread of logic is hard to justify. Corkery says that it is hard for the human auditory system to determine a one or two decibel difference in sound level. Corkery also shows that on some selected properties there is up to and over 13 dB(C) above the accepted standard minimum level modelled to be created at that property (Table 34 house L20). The NPfI according to Corkery also says that up to 15 decibels is OK. But beyond 15 is unacceptable; surely this is splitting hairs by saying there is a lot of mine noise will be arriving at a house and then to say it doesn't meet an industry-derived standard with precision. That's skating on thin ice and exploiting local residents' health and comfort.

Corkery's noise analysis is not acceptable and needs to be rejected.

LANDFORM AND REHABILITATION

Although not backed up by a specialist report this aspect of the end of mine life is fleetingly addressed. Many objectives are stated but there seems little connection with the ultimate practice of rehabilitation. The cost of digging and placing would have been covered by the Bank Guarantee. (Refer forward to the proposal that SVL will shut down Bowdens and walk away.)

Bowdens suggest that about 7 years will spent in rehabilitating the proposed mine. It is clear on the drawings that some holes will be filled and some stock piles removed, a fair degree revegetation carried out etc. The EIS claims that '…blending with the natural topography' is a stated objective.

7 years is a bit cheeky. There may be a workforce of 2 or 3 say a truck driver and a loader driver together with some work-for-the-dole people planting trees; it will certainly not be the full operational staff. 7 years is an arbitrary number to give the appearance of being serious and thereby avoid excessive scrutiny.

The drawings show physically absolutely no integration of mining features with the native landform. In fact where native topography is shown as contours the adjacent mining features are shown without contours, Had contours been juxtaposed the glaring impact of clashing landforms would embarrass.

There has not even been an attempt to mimic local topographic shapes and grades. The WRE contours and the contours of adjacent hills say that with clarity.

The EIS text utters a weasel word repeatedly: 'landform'. This is to suggest to the reader that it is an important concept to the authors and will be attended to in the work. Nothing in the EIS demonstrates that, even though, yes, it is an important concept.

The three most large scale features have no rehabilitated landform they are largely untouched; the main pit, the WRE and the TSF. The pit will remain as a 200 metre deep benched hole for ever, slowly filling with water. The WRE with a height of about 670 AHD (the same as nearby hill tops) is about two kilometres long of constant gradient and a planar undifferentiated surface. And it faces a sculptured native topography of the hills on the eastern side of Price and Hawkins Creeks. It will always be an out-of-context eyesore rising about 100 metres above the Bingman crossing. There is no utterance of at least in principle using a huge eyesore of waste rock to fill a huge and problematic hole in the ground.

A by-product of this monolithic rock dump is the lack of surface water management (re-creation of watercourses etc) and its runoff and the potential for erosion towards the toe and thus the resulting of deposition in and siltation of Price Creek.

The TSF similarly denies the existence of natural topography. The planar constant slope of the downstream dam wall is topped with a dead horizontal construction and access road on the crest. There are no dead horizontal earth surfaces elsewhere in the district; this is not rehabilitation; it's certainly not 'blending with the natural topography'.. In addition the 300 acres taken over by the TSF and its associated works remains as a flat-topped sludge resting place with no attention given to runoff and recreation of drainage courses (other than leaving the spillway in situ).

What of the long term soil chemistry issues for the entrapped sludge in the TSF. No indication of techniques and methods to neutralize the toxic waste has been proposed.. At the least Bowdens should put effort and funds into the future of the TSF. Something must be put in place by Bowdens as doing nothing is not a responsible course.

A specialist Rehabilitation report has not been a part of the EIS. If it were to be prepared professionally and included it may have specified extensive and therefore costly works which Bowdens would find it difficuld to sweep under the carpet. Corkery has stated very little but kept it in generalised and non-specific terms; the works are very limited. So it is of no surprise that estimates for rehabilitation works are very rubbery; it is the game plan.

The limited and minimal extent of rehabilitation works has a business case! The least work proposed means that its dollar value is least so the Bank Guarantee is lessened (Bank Guarantee held by Division of MEG). Bowdens at this stage has clearly run the MEG Rehabilitation Calculation Tool over this minimal standard job and is happy with the estimate. That Bank Guarantee dollar figure then becomes a bottom drawer project cost. And it is built into the mine feasibility and financial plan ie the sacrificial bank guarantee for when SVL liquidates Bowdens.and walks away.

In such a ploy (Bowdens not proceeding with proper rehabilitation of the site, walking away and thus releasing the undervalued Bank Guarantee to MEG) then MEG has some minimal funds to fix the site but nowhere near enough to do a proper job. It's an environmental scandal if this is permitted by the Minister to proceed.

The system is at fault here. The MEG rehabilitation has to be approved before the EIS application and perhaps the design approval can be simultaneous with the EIS. The separation of EIS and approved rehabilitation plan is bureaucratic madness.

A realistic scope of proper rehabilitation works needs to be in place for the EIS ie now not later. If the EIS approval were to be given for this substandard and minimal rehabilitation scope it simply adds to Bowdens/SVL profits and ensures ecological degradation and wrecked landscape for ever. Bowdens would have been given the green light to walk away and leave a mess; this a potential scandal and it needs to be nipped in the bud now.

Perhaps my post script should be that (because I mentioned the profit motive) I am not at all opposed to Bowdens making huge profits. But they should not do it at the expense of the existing community and local and regional environments nor with the apparent administrative deception which is presented here. It's becoming very obvious that this proposed project located 50 kilometres from an existing happy calm community may be feasible; this is the wrong place.

SEPP 33

Under the specialist consultant studies Part 4 (Hazard Analysis etc.) Part 2.6 POTENTIALLY OFFENSIVE DEVELOPMENT is quoted thus:

*"SEPP 33 defines **potentially offensive industry** as follows:*

> *'Potentially offensive industry' means a development for the purposes of an industry which, if the development were to operate without employing any measures (including for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including, for example, noise) ina manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land and includes an offensive industry and an offensive storage establishment.*

In the absence of controls, the Project has the potential to cause pollutants such as dusts and contaminated waters to be discharged to the surrounding environment. Therefore the project is considered 'potentially offensive industry' and would require an Environmental Protection Licence (EPL)."

Therefore under this EIS application even one of the paid consultants has been prepared to define the proposed mine as Potentially Offensive Development. This is hardly an endorsement for the Project, and accordingly a further point to reject approval.

CONCLUSION

In the few topics which I have visited here there are too many unresolved matters. All reporting is selective and that selection of course favours the mine proposal. And in the selection and reporting and manipulation of the data the results are often so finely in favour of the mine proposal. It means that impacts of the proposed mine are recognised but Bowdens, Corkery et al are saying that it doesn't matter.

Those impacts do matter. They should be seen in aggregate but they're not. The issues are being separated as a deliberate ploy to get a default approval.

As the proposal stands it is not acceptable. The impacts on residential (personal) existing amenity, the environment in all respects, public health and landscape management are so clear. You don't have to read between the lines too much, the EIS documents prove it.

Please reject the EIS.

Yours sincerely

R Christopher Plummer