

[REDACTED],
Rylstone,
NSW 2849
23/02/2023

The Manager,
Independent Planning Commission,
Level 15, 135 King St,
Sydney,
NSW 2000

Dear Sir or Madam,

Written Submission of Objection
Proposal : Bowdens Silver Mine proposal, SSD 5765

I declare that I have never made a donation to any politician, intending politician, nor any political party in my life and I never intend to. I am also not a shareholder in SVL nor any of its known competitors.

In addition I declare that I am a retired salaried Landscape Architect and I live in Rylstone, as above. And that many of my concerns are based not on strong immediate personal impact but marginal impacts (eg diluted dust impact, unsafe roads and unavoidable atrocious visual impacts). My opposition is based on it being a bad project poorly presented with numerous proponent-originated and calculated untruths and omissions.

My objections to this proposal are many and this submission doesn't cover all aspects of the application or SEARS. Accordingly this letter to you follows no particular structure; and for that I apologise. Before addressing specific subjects I would like to point out a couple of issues.

Firstly the horrendous amount of documentation in the proposal is daunting; I don't recall the number of pages but a critical reading of the collection of documents is a tough job. Perhaps there is a better way to present the data and the plans. Secondly where amendments have been made, and many are not announced as a formal 'amendment', there needs to be a system for removing original proposals and references and at that point referring forward to the updated work..(Such as current maps still including Ulan Water Pipeline route, there are many such contradictions of presentation). The current popular term is to 'redact' which ends up in a blacking of text Redactions are not made possibly as a deceptive tactic to make reader's job difficult. Thirdly that the DPE's plan to introduce Design Review Panels for DAs can't come soon enough. Bowdens play lip service to making design decisions but they are superficial choices of mainly two alternatives only to select the cheaper option. It's an insult to people whose job it is to make valid design decisions!

1.0 TAILINGS STORAGE DAM

1.1 DUST

Bowdens estimate that during SE and C wind erosion (only PM 10 is reported) from the TSF will be in the order of **35 tonnes per year**. In other scenarios during the operational phases the amount is shown to be less but the materials (dried and toxic tailings) will be much more toxic including respirable crystalline silica dust.

1.2 INTEGRITY

As a simple earth embankment structure it has been designed without an extended impermeable core. This detail in dams helps reduce the risk of the hydrogeological

phenomenon of 'piping'. With 250 acres of dam to be waterproofed with a thin and cheap BGM it is certain that there will be breakouts and the 600 kpa head will cause leakage, piping and internal erosion leading to potential failure.

Piping in Embankment Dams

Soils can be eroded by flowing water. Erosion can occur underground if there are cavities, cracks in rock, or other openings large enough so that soil particles can be washed into them and transported away by seeping water. Then this type of underground erosion progresses and creates an open path for flow, it is called "piping." Preventing piping is a prime consideration in the design of safe dams.

1.3 RESERVE CAPACITY

There is no reserve storage should the dam bank fail. There is a dire risk for Lawsons Creeek and the entire Macquarie River system. This risky 'design' decision was taken when the sludge from processing was to be gravity fed to the TSF. (the levels were correct and it was short run)..Now that a thicker paste is to be achieved it will have to be pumped. The dam therefore can be located anywhere. And away from the Creek and provided with an appropriate sized overflow/breakout catch dam downstream of it.

1.4 MEMBRANE

The BGM liner is cheap and nasty. A 'Bidim' etc sheet is normall used as a filter layer ie it is designed to allow water to pass through it. Calling it BGM simply means that it has been coated with bitumen paint. The integrity of this dam is reliant on a coat of paint! Better membranes exist (eg Butyl sheet or EPDM) but they are not proposed because they cost more.

1.5 FREEBOARD

500mm is inadequate considering recent rains. Bowdens have shown no attempt to recalculate and redesign this allowance. As it lies there will be times when **the dam will overflow**.

1.6 REHABILITATION

Whilst there is some mention of surface shape, the dam wall shape and vegetation there is no mention of the big bowl of toxic porridge. The 'porridge' needs to be dewatered ((bores and pumps and treatment) and the 'membrane' needs to be methodically breached with the goal of allowing close to natural soil/water profiles to return.

1.7 DUST CONTROL

There is **none proposed** by Bowdens and it needs to be addressed, Bowdens modelling of PM 10 (only) shows a major wind erosion dust source. What will they do? Major structures like pivot irrigators may work but they have not even been offered.

2.0 VISUAL PARAMETERS AND DESIGN

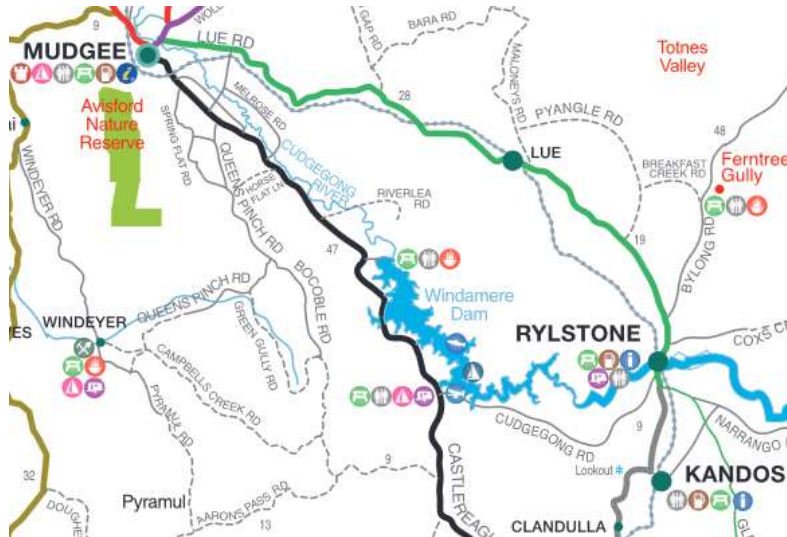
2.1 SCREENING

One of the joys of the tourist drive between Rylstone and Mudgee is the variety of visual landscape. But there is a lot of open landscape; there is freedom and the driver has absolutely no sense that someone wants hide something. It's honest and it's free. There are those

qualities of restriction of views, focus of views and always with release to openness.. One of the Bowdens presenters at the Mudgee IPC proudly said that they would plant trees to screen the WRE. Firstly screening is always seen as a bad and cheap solution and secondly it is an admission that the WRE is to be **created ugly** by Bowdens.

2.2 PRIORITIES

Lue Road is the Number Two tourist drive in the MWR Council LGA. This is a copy of their map: It and its users deserve respect not contempt.



2.3 SUBJECTS

Whether it be Lamb, Bowdens or GHD there seems a corporate position to deny the importance of the above tourist drive. All consultants seem to be pre-occupied with visual impact of the mine etc on the village and residents of Lue. It is not a SEARS objective but totally self-generated ideal by Bowdens; why? The GHD study concentrates on just 2 houses and their view of the powerline. Why? The mine and related components are virtually not impacting the village visually. The tourist will be heavily impacted. Tourism lasts for ever and the mine life is 16.5 years

2.4 SIGHT LINES AND SECTIONS FOR THE WRE

Where are they? Lue Road's visual impact has not been analysed at all. And yet it has the greatest impact on the greatest number of people, particularly the views of the WRE.

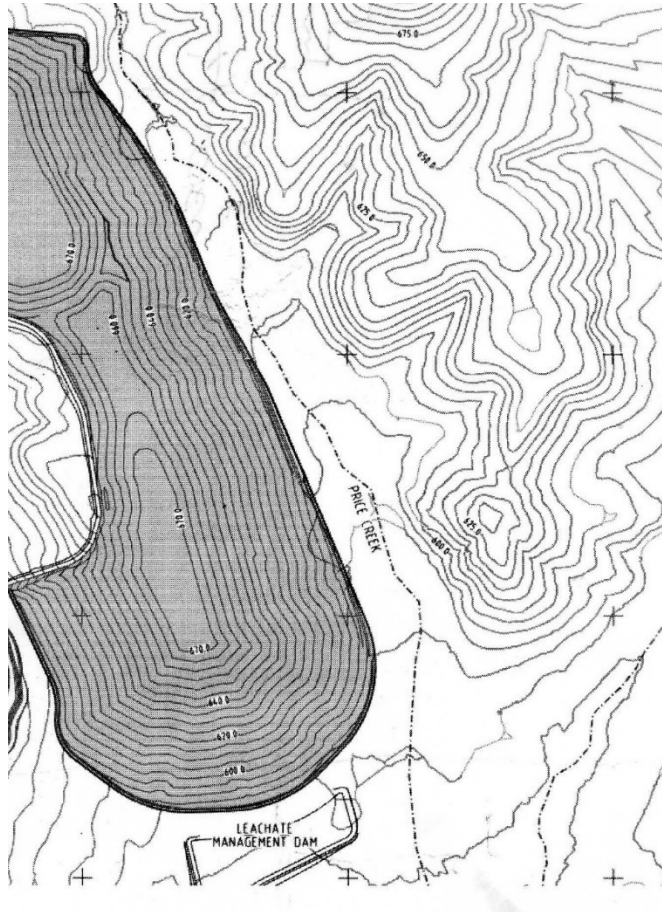
2.5 WASTE ROCK EMPLACEMENT

This is an ugly geometric engineered form. Bowdens claim that it has shaping to assimilate with the natural landscape. **It does not conform at all!** The following contour drawing by Bowdens show that clearly.

The grey blob is the WRE. On the right of the map are the natural contours of the native landscape. The variation in topography of the native landscape is significant. Sections would help the reader understand the proposal but they have not been provided by Bowdens.

Natural water relations in the locality (rainfall intensity and frequency) have derived a need for drainage creeks and swales every 200 metres. The proposed **WRE has none**. This must be a formula for **massive future erosion and the silting consequences etc**.

As it stands the WRE is 1600metres long (one mile), it has a ridge one kilometre long, the ridge is effectively horizontal (dominating a natural landscape noted for its varied ridge forms), it is 90 metres high (**taller than Sydney Opera House**). It will obscure the existing hills behind it.



DPE has now required for improving the AMD impact, the incorporation of the low grade ore (PAF) into the WRE and to be encapsulated there. It has not been presented by Bowdens but the WRE will now have grown even bigger, to the tune of 40 million tonnes. With bulking factor and additional clay that is probably about the same number in cubic metres.

DPE's dictate complicates and stagnates the process. Had Bowdens proposed to reshape the WRE as part of a rehabilitation design it now looks impossible or very costly. To undo and to redo encapsulation of PAF and Low Grade Ore on this scale would be prohibitive.

3.0 DUST COMPOSITION AND CONTROL (LEAD SULPHIDE AND MICRO XTALLINE SILICA)

3.1 TYPES

All the dusts emitted from the site are a problem. The fine white dust produced from Cadia's tailings dam has become quite famous and there is no reason why similar fame might be ascribed to Bowden's TSF. It is said to be respirable crystalline silica and has caused major health issues with neighbouring farmers etc.. Silica is the main component of the earth's crust;

it's in all rock. Then there is the main ore being sought ,Galena, it is largely lead sulphide. So two major types of poison dust will arise from the surface into the atmosphere.

3.2 DISTRUBUTION

Bowdens in the Ramboll report show modelling for dust distribution. They show maps of dust from the proposed mine site getting to just beyond the property boundary. It probably at worst according to Bowdens doesn't even get to Breakfast Creek Road, perhaps 3 or 4 kilometres.

On the other hand the NSW Office of Environment and Heritage (Orange Branch) approximately 100 km from Rylstone monitor Air Quality. When they assess AQI to be substandard they send to me a WARNING. Thus:

High Regional AQC Central tablelands
1/02/2023 10:37 AM

airquality@environment.nsw.gov.au alert

Central tablelands – Wed 01/02/23 09:00
Air Quality category has reached **Poor or worse due to **PM10****

Pollutant thresholds for **Poor air quality alerts**

That's from 100 kilometres. Someone is not telling the truth here; and I think that I trust the OEH.

4.0 WIND AND WEATHER DATA

4.1 WEATHER STATIONS ARE NOT RELIABLE

Met 1 and Met 2 the Bowdens weather stations are another cheap, nasty and unreliable part of the DA.. When for modelling wind distributed dusts and gases for approval presentation need to work with **regional winds directions and speeds not simply local and ground level observations.**

Bowdens anemometers etc are close to the ground surface and measure local turbulence and NOT REGIONAL WINDS.. And they admit it in the EIS. The whole Ramboll report should be rejected and an alternate sought.

Bowdens say:

'.... These local meteorological monitoring sites are strongly influenced by local topography and display significantly different wind direction patterns'

And they somehow still proceed with modelling winds etc. but then admit that it requires fixing with:

'The existing air quality monitoring network would be reviewed and augmented (if required) for the operation of the Project'

In the locality FPM including smoke generated at ground level may rise vertically and, then, at height, to be taken away in REGIONAL winds.

4.2 WIND MAP

Whilst there are many wind roses presented there is only one actual map. All locals know that the dominant winds are westerly.

Bowdens show it to be 180 degrees wrong, the reverse of reality.....EASTERLY! It's a bit like driving down the M4 in reverse gear! It's absurd.

5.0 BLAST FUME AND BLAST MANAGEMENT PLAN

5.1 POISONOUS NATURE

NSW Health have issued a document (Mine Blast Fumes and You) warning the community of this state that Blast Fume is poisonous and how to avoid it. Bowdens won't even address it in the EIS. They say:

*'Oxides of nitrogen (NOx) Emissions would be managed in accordance with the blast management plan developed for the Project. **No quantitative assessment of blast fume is presented in this report**'.*

In other words Bowdens won't even indicate the nature of objectives for a Blast Management Plan. eg do they intend to not poison people, crops and the environment?

5.2 VOLUME OF POISON GAS

Bowdens avoiding a statement of quantity of blast fume is because it might be too scary for public disclosure. They will be using 1000 tonnes of Ammonium nitrate per year. It will be mixed with a similar quantity of fuel oil to become what is known as ANFO. Upon detonation each kilogram of ANFO creates 20 cubic metres of Oxides of nitrogen gases (various) and some hydrocarbons largely from ignition of the oil. Therefore the output of **poisonous gas is 20 million cubic metres per year**

6.0 14 MISSING DOCUMENTS FOR APPROVAL

6.1 PRIORITIES

Bowdens proposes that if they gain approval from IPC then and only then they will prepare 14 strategies for the effective and compliant operation of the mine. This is a recipe for shoddy shortcuts and has to be a major flaw. The list of policies, strategies and plans is:

Management and Monitoring Plans

When development consent is granted for the Project, Bowdens Silver would prepare a range of management and monitoring plans including the following.

- Environmental Management Strategy.
- Construction and Operational Noise Management Plan.
- Blast Management Plan.
- Air Quality Management Plan.
- Greenhouse Gas Management Plan.
- Site Water Management Plan incorporating Surface Water and Groundwater Monitoring Plans.
- Visual Impacts Management Plan.
- Biodiversity Management Plan.
- Transport Management Plan.
- Heritage Management Plan.
- Social Impact Management Plan.
- Waste Management Plan.
- TSF Management Plan including a Seepage Management Plan
- Conceptual Mine Site closure plan / final Void Management Plan.
- Cyanide Management Plan.
- Rehabilitation Management Plan.

Most of these are integral with the development and should have been presented as a part of the EIS.

6.2 PREPARATION AND APPROVAL

DPE stated at the IPC Hearing in Mudgee that the preparation of most of the plans and strategies will be at DPE's discretion. This not just approval of these essential plans but the decision as to require presentation or not. This gives the public very little confidence. Already the DPE's role looks compromised; one has only to read their recommendation conditions to see cut-and-paste text from the Bowdens EIS text. Pure puppetry.

7.0 LOW FREQUENCY NOISE, CREATION, TRANSMISSION AND HEALTH

7.1 HEALTH

Presenting to the IPC Dr Peter Roberts reported on the hospitalisation of residents of Wollar whose conditions were attributed to mine-originating noise from Willpinjong Coal Mine. Dr Roberts didn't elaborate on the nature of the noise but it would most certainly have been low frequency noise. As the mine is some distance from the village high frequencies would have attenuated. Noise-generating activities at Willpinjong have a very effective topographical cut-off. In addition higher frequencies move through the atmosphere and attenuate with distance. LFN on the other hand travels through the ground and persists over greater distances.

7.2 WHO

The World Health Organization recognizes the special place of low frequency noise as an environmental problem. Its publication on Community Noise (Berglund et al., 2000) makes a number of references to low frequency noise, some of which are as follows

"It should be noted that low frequency noise, for example, from ventilation systems can disturb rest and sleep even at low sound levels"

"For noise with a large proportion of low frequency sounds a still lower guideline (than 30dBA) is recommended"

"When prominent low frequency components are present, noise measures based on

A-weighting are inappropriate"

"Since A-weighting underestimates the sound pressure level of noise with low frequency components, a better assessment of health effects would be to use C-weighting"

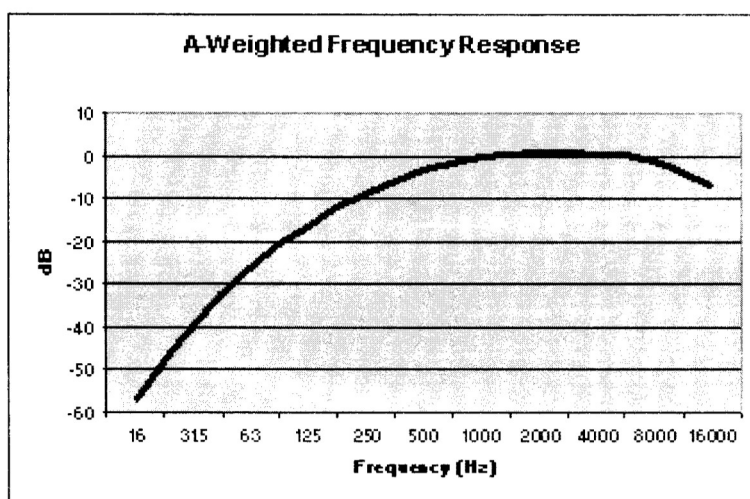
"It should be noted that a large proportion of low frequency components in a noise may increase considerably the adverse effects on health"

"The evidence on low frequency noise is sufficiently strong to warrant immediate concern"

7.3 OBSERVATIONS AND REPORTING

DPE and Bowdens both avoid addressing the WHO concerns. Both report on sound as dBA scale. This is WRONG and misleading. If driven by ignorance or a wish to deceive the public and the IPC, I don't know.

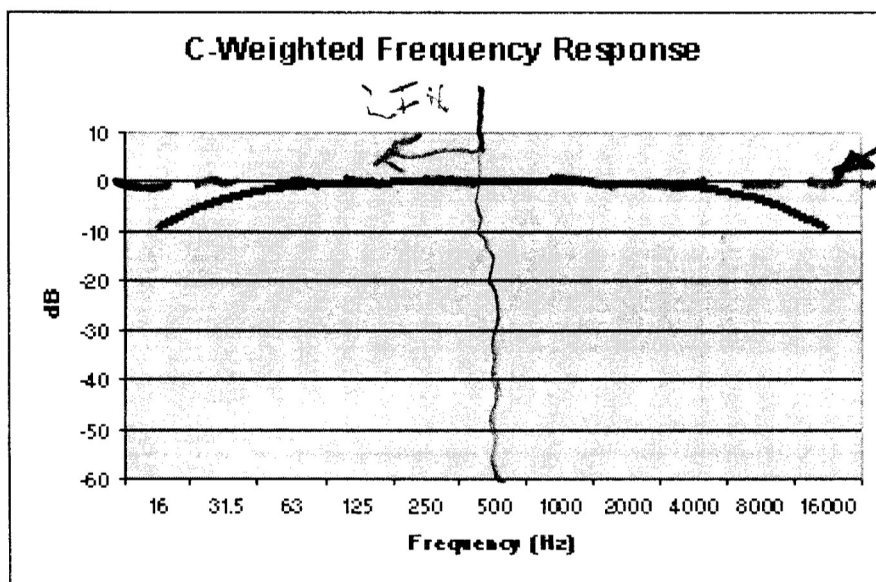
In the EIS Bowdens has three paragraphs separated and scattered uttering words about LFN's importance. They then do nothing further, why not? Everything is recorded and reported as dBA.



This A scale weighting is the most popular standard and it is used because it records and model the production and perception of the human voice. The curve shows omission of LFN.

Elsewhere an article reporting low frequency noise lists some typical sources of low frequency noise. It is no surprise to find generators of LFN include blasting, compressors diesel engines, heavy machinery, loading and dumping activities, vibratory screens, I could add to the list jaw crushers, SAG mills, dozing, ripping, percussion rock drilling etc all of which are to be found on a metalliferous mine site, such as Bowdens Bowdens proposes to be a huge generator of low frequency noise yet their EIS ignores it and so does DPE rather tame efforts.

As the reader can see in the sub 200 herz range there is very little response. Those noise monitors don't pick up the 10 to 160 herz low frequency noise. But for dBA and dBZ low frequency does exist:



NSW EPA scarcely mentions low frequency noise, however the Victorian EPA has issued a Manual on the Assessment and Management of it and they give the impression that they take it seriously. Perhaps NSW DPE should take it seriously; so for they don't.

Noise guidelines: Assessing low frequency noise

Publication 1996 June 2021

8.0 DECEPTIVE GRAPHICS AND PRESENTATIONS

8.1 INTENTION

It can't be proven that Bowdens and Corkery planned to be deceptive with a scrappy inconsistent documentation but it seems to be working. In written works simply omitting words and sentences works quite well. Graphically however it is more difficult.

Scales are normally only presented on maps and plans by Bowdens/Corkery as bar scales. So the task by the reader of measuring dimensions and taking off quantities is made impossible; It has been acceptable to the Department so Corkery and Bowdens have won. In estimating and interpolating some scales the task is impossible. I know that I cannot walk in to Eckersleys and buy scales for 1:11,000 or 1:35,000 or even 1:220,000 but these are the scales Bowdens expects DPE and any reader to use, why?

It's a ploy of deception to eliminate objective assessment by DPE and anyone else!

8.2 READABILITY

Where landform is shown by Corkery it is often shown as contours but the values are not shown and certainly not readable. They present grey contours on a grey background! In another case where the nature of existing topography is needed it is then hidden by Corkery they covered it with notes and a legend.;

8.3 CONVENIENCE

When stating output of Hydrogen Cyanide from processing plant 0.03 g/s is claimed and it sounds like a tiny amount but in other words it is 2.5 kg per day or 900 kg per year! The smaller figure looks easy to digest. And this is not the only such instance of parameters-of-convenience tabled by Bowdens/Corkery.

Finally, as you can see I object to the proposal. It is a bad proposal and it is poorly prepared and presented. Please reject it in its entirety.

Yours sincerely

R C Plummer