

REX CHRISTOPHER PLUMMER  
99 LOUEE STREET,  
RYLSTONE, NSW 2849  
28 MARCH 2022

The Director,  
Resource Assessments,  
Planning and Assessment,  
DPIE,  
Locked Bag 5022,  
Parramatta,  
NSW 2124

Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**BLAST FUME**

I **object** to this proposal (SSD 5765).

I declare that I **have not made any Donations or Gifts** to any political party or personnel in the last two years.

Firstly it is quite clear from the EIS that Bowdens will use 1000 tonnes of Ammonium Nitrate and oil explosive per year. It's also known as ANFO, and one kilogram detonated creates 20 cubic metres of gas.

The fume comprises carbon monoxide, carbon dioxide and some hydro carbons and a mix of oxides of nitrogen (NO, N<sub>2</sub>O, NO<sub>2</sub>, N<sub>2</sub>O<sub>4</sub>, N<sub>2</sub>O<sub>3</sub>, N<sub>2</sub>O<sub>5</sub>); there will also be fine particulate matter, dust. If inhaled NO<sub>x</sub> create (inter alia) Nitric Acid in the human lungs there also other direct health effects, often cardiovascular. A yearly fume output from Bowdens would be *20 million cubic metres* of toxic gases. The dust will mostly be in the form of PM 2.5.

The blast fume is roughly 40,000 cubic metres per week, produced every few days. (It may be 20,000 cubic metres per firing).

NSW Health Department has published a news sheet "Mine Blast Fumes and You", it highlights human health issues. (Copy attached)

'World Health Organisation guidelines for NO (gases) are a one hour level of 200 micrograms per cubic metre and an annual average of 40 micrograms per cubic metre. However typical concentrations of NO gases in post blast clouds can measure between 5.6 and 580 parts per billion, exceeding the safe limits by around 30 to 3000 times' Bowdens output should be typical; therefore it is dangerous to human health.

Secondly Bowdens will be in control of when they detonate and therefore the conditions in which the fume is created. The wind conditions at the time of firing are the most important parameters; wind strength and direction. Bowdens suggest that if the mining proposal the will put forward a blast management plan. By then it will be too late to modify and regulate. Bowdens will (literally) calling the shots

In their ideals what do they want? For example does Bowdens to wait for dead still conditions so the whole 20,000 cubic metres remains in the vicinity of the mine? It may poison staff and contractors. Bowdens may

prefer to wait for a brisk north westerly wind so they can poison edible crops in a vineyard, two olive groves, beef cattle and their pastures?

Hazards of human and environmental exposure to **20 million cubic metres of toxic fume per year** is yet another reason for DPIE and IPC to not approve the Bowdens project and to reject it in full.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'R C Plummer', with a stylized flourish at the end.

R C Plummer

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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**TSF WILL OVERFLOW TO LAWSONS CREEK**

I **object** to this proposal (SSD 5765).

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The Tailings Dam (TSF) covers around 117 ha or about 250 acres but it lies within a catchment of about 300 hectares. Based on the occasional (locally-observed) 24 hour dump of 200 plus mm of rain the TSF will overflow.

Bowdens claim that at the worst case they will have at least 500mm of freeboard at the top of the dam. The catchment will produce over 600mm depth of additional water in the dam. If the dam is anywhere near that position at the time of the rainfall event then that 600mm of runoff will cause sludge to overflow and to flood into Lawsons Creek. Bowdens would have been the sole creator of the damage

That is a potential environmental catastrophe and the DPIE must reject the Bowdens proposal;.

Yours sincerely,



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Dear Sir,

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APPLICATION NUMBER: SSD5765  
**REHABILITATION STANDARDS**

I **object** to this proposal (SSD 5765).

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Certain rehabilitation standards have been quoted by Bowdens as those with which they have complied in their planning.

NSW Minerals Council published in 2007 'Rehabilitation by Design – Practice Notes'

It is a very worthwhile document and it is NOT on Bowden's list of references. Why not?

Had it been on their list and had they undertaken plans in accordance with recommendations of NSW Minerals Council we would see possibly an acceptable rehabilitation plan. Matters of landform and drainage take a high priority for the Minerals Council but not Bowdens, why not?

DPIE needs to make it mandatory for Bowdens to comply with standards such as this.

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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**BACKGROUND STUDIES: WIND**

I **object** to this proposal (SSD 5765).

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Bowdens has put forward data in the EIS about wind at the proposed mine site. Their survey and modelling produced a map, only one, which showed wind at the mine site going backwards.

Bowdens reliance on two temporary weather stations called Met 1 and Met 2 has meant that some of the data is totally wrong. Bowdens even point out Met 1 and Met 2 produce different data, yet they are a mere 2 km apart. With vanes and anemometers virtually at ground level they are **not** reading REGIONAL WIND DIRECTION AND VELOCITY. These two stations will measure microclimates (vortices and eddies influenced by the ground and local features so by their nature can be 180 degrees to the regional wind.)

Bowdens wind data and modelling needs to be seen as it is...unreliable.

All residents of the central tablelands know that wind can come from anywhere but it is predominantly from the west and north west and that those sectors show most strength.

Bowdens anemometers being close to the ground also get very low velocities in their readings. This helps greatly for Bowdens because the analysis of mine dust distribution shows it hardly moves from the site! It is a very convenient but incorrect outcome.

Bowdens attempts to explain wind direction's influences as topography etc; it is just a fudgy. The wind blowing across the REGION may have a bit of a kick around a valley or hill, some sites may have increased velocity some

sheltered, but generally it is going as a mass from west to east. This is what is important particularly for distribution of pollutants of dust and gas produced by a toxic industry.

Bowdens wind studies (observations and modelling) should be rejected by DPIE and resubmitted in a reliable form.

Yours sincerely,

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**BOWDENS NOT CORRECTING PROPOSAL**

I **object** to this proposal (SSD 5765).

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Out of the many submissions to DPIE and available to Bowdens they seem to have no interest in correcting their individual studies of plans.

The best they can do in the current proposal is "...Amended Project Description..." which account for a mere 22 altered 'figures'. I would hope that DPIE and IPC both detail and breadth of perception to reject the entire proposal by Bowdens.

Yours sincerely,

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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**Lighting Design**

I **object** to this proposal (SSD 5765).

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Bowdens recognise that they will emit light to the dark rural sky. Their recognition of the light problem is based on industry standards. They even mention the regional astronomical observatories who might be impacted.

Bowdens simply hide Australian Standards and demonstrate that they fall within prescribed limits. This is not good enough; they need to demonstrate that through additional effort they can exceed those standards and be 'good' neighbours.

Design, management and installation of a lighting system can make a massive difference but Bowdens doesn't even try. For instance zoned circuits need only switch on at the time of actual use. Pole can be short and close spaced for less spillage. Luminaires can be well-shrouded. Luminaires can be focussed. Alternate light forms can be offered, not just lights on poles.

Yours sincerely,



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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**Acid Mine Drainage AND LOW GRADE ORE**

I **object** to this proposal (SSD 5765).

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Low Grade Ore may have little content of the target metals but it is still essentially derives from Sulphide Ore (Galena). It will be stockpiled, around 2.7 million tonnes, in the open and unsealed, near the north end of the WRE. 2.6.1.2 (GCA 2020) confirms it as PAF. Probably quite certainly Acid-forming rock and nearly 3 million tonnes of it. It is ripe for weathering as broken rock with freshly exposed faces.

Bowdens says: *'Low grade ore and oxide ore generated by the mining operations....would be stockpiled.....In the event that they are not processed,, quantities of the low grade ore and oxide ore may remain in part or in full at the end of the Project life'* (Executive Summary)

These open deposits 'may' be processed at some stage (not planned or committed by Bowdens). Otherwise they are open to water (rain and runoff), oxygen and inoculation by *Acidithiobacillus* thus forming uncontrolled runoff of acid (Sulphuric Acid).

The assertion by Dr Haydn Washington that AMD caused this way is rated second only to Climate Change (as a global environmental problem) needs to be taken seriously. Bowdens plan for open low grade ore stockpiles is not acceptable. This is to have a huge environmental impact and Bowdens doesn't mention it and also show no will to do anything about it.

Furthermore once the acid has formed it is in **solution** and cannot be precipitated or flocculated and separated and collected like dusts and colloids can be. Bowdens have not proposed any treatment of this runoff. Even mixing it with a base like Caustic Soda it would then add a new foreign soluble compound to Lawsons Creek, Sodium sulphate. It should not be allowed to be formed or discharged to the Macquarie River system.

Bowdens have made detailed plans for permanent encapsulation of PAF in the WRE. But Low Grade Ore is also PAF. They are choosing to ignore 2.7 million tonnes of sulphide ore and certainly doing nothing about it for 16.5 years. Acid could leach into the Macquarie system for hundreds of years

This is highly irresponsible of Bowdens and the proposal to mine should be rejected.

Yours sincerely,

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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**Dust suppression marque 2; Chemical stabilisers**

I **object** to this proposal (SSD 5765).

I declare that I **have not made any Donations or Gifts** to any political party or personnel in the last two years.

In the latest Amendment report Bowdens indicate a proposed change to dust suppression. Whereas all previous reference to PM control was water delivered exclusively by water trucks.

They have now indicated the possible use of stabilising chemicals. If such chemical dust stabilisers are essential to continuing operations on site because of a scarce and limited water supply they need to be managed with critical care. In the EIS all chemicals on site were nominated and described (not entirely satisfactorily but lip service was paid).

Application of a chemical to haul roads and other dust generating surfaces such as the TSF surface simply means another poisonous contaminant joins the silicates and sulphides which join the breathable airstream as PM 10 and PM 2.5. There is no way that this won't happen because the loads of high pressure tyre and steel machinery track will pulverise the entire surfaces.

Bowdens say 'approved' chemicals. If they are approved then what are they?

If they are not approved then some answers need to be provided by Bowdens. Who is to be the approving Authority? What are the parameters for approval? What is the time frame for approval? What are operational conditions eg supply line, application rate etc?

Until Bowdens properly address this wild card the proposal must be rejected by DPIE.

Yours sincerely,



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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**EMERGENCY : SHUTDOWN TRIGGERS**

I **object** to this proposal (SSD 5765).

I declare that I **have not made any Donations or Gifts** to any political party or personnel in the last two years.

In the event of catastrophe whatever it may be Bowdens have made no reference to halting operations. Most particularly in the event of an environmental etc failure no stopwork remedy is offered.

(Plenty of contributing scenarios come to mind such acts of terrorism, TSF failure, flooding accidental large scale explosion etc).

This needs to be foreseen, allowed for and provided with an Operational Management Plan to be approved by all interested entities.

Yours sincerely,



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**WRE VISUAL IMPACT**

I **object** to this proposal (SSD 5765).

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Elsewhere I have made comment on the Bowdens immoral refusal to rehabilitate the WRE. In other words that Bowdens will leave the WRE as an unnatural geometric pyramidal monolith with constant grade surface slopes and a near flat ridge roughly a kilometre in length. This sand castle or roof-like shape will never look like or replicate the natural form of the hills to the immediate east.

Similarly, elsewhere I have called Bowdens on their claim to help country villages such as Rylstone. Business in Rylstone is now highly reliant on tourism. Visitors get to or from Rylstone by car, bus or bike. Their impressions of an unsullied landscape are major selling points. Bowdens is going to fix that purity if DPIE lets them create this WRE.

The height and engineered form are intended by Bowdens to never be formed in rehabilitation to integrate with the native geomorphology. That is a scandal and DPIE needs to correct that.

The huge and lasting impact is the view from Lue Road on Lochiely flats. It will be a conical section with a horizontal ridge poking up into a naturally convoluted rocky landscape. Naturally Bowdens have not issued any graphic to show this impact.

The mass and its geometry are clearly engineered and not natural. And that is for ever...if they get their way! The basic land form is not going to be 'fixed' by tree planting; it is the basic landscape.

There are **no sections** drawn from Lue Road across to and beyond the WRE. Why not? Because it will reveal the real negative visual impact.



Until Bowdens demonstrate a real Rehabilitation plan which limits negative visual impact and shows real 'integration' with native landform DPIE must reject the proposal entirely.

Yours sincerely,

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APPLICATION NUMBER: SSD5765  
**SUBMISSIONS REPORT : ANALYSIS OF SUBMISSIONS**

I **object** to this proposal (SSD 5765).

I declare that I **have not made any Donations or Gifts** to any political party or personnel in the last two years.

The proponent seems keen to emphasize the greater numbers 'Support' submissions against the fewer 'Against' submissions.

Without a doubt the number of submissions received by DPIE in support for the mine proposal is greater than those against. Two main reasons are behind the numbers. Firstly Bowdens (SVL) mailed voting/comment forms and reply paid envelopes to all non-corporate shareholders (there are a few SMSF companies who were included). The profit incentive produced a high proportion of supporters. Many of the originating addresses are from interstate and urban areas.

This is little more than a 'show of hands'. When examined the support submissions say as little content as one word 'jobs'. Most are presented on a pre-prepared form issued by Bowdens and MWRC Councillor P Shelley.

The 'against' submissions show knowledge and consideration of the consequences and approach what they say with care and detail.

Mere numbers should not be a measure of the relevance of the proposal. This appears to be the stance taken by the proponent and the intellectual shallowness of that concept seen for what it is and be counted against the proposal.

Yours sincerely,



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Dear Sir,

APPLICATION NAME: BOWDENS SILVER MINE AMENDMENT  
APPLICATION NUMBER: SSD5765  
**Corkery's Improper Recording, Reporting and Modelling of Sound**

I **object** to this proposal (SSD 5765).

I declare that I **have not made any Donations or Gifts** to any political party or personnel in the last two years.

Bowdens and their consultants are intent on avoiding realities of human impact. Here I refer specifically to sound. One major site-based noise generating source is processing; it will run for 24 hours a day for a minimum of 16 .5 years.

All of Bowden's predictions and measurements are quoted in the A scale; that is dB(A). dB(A) replicates the HUMAN VOICE NOT THE HUMAN PERCEPTION. Mining noises are not human sounds.....doesn't someone get that?

Blasting, dozing, ripping and processing create huge amounts of noise but they are not like talking to a human. The huge amount of power converts to LOW FREQUENCY NOISE. Low frequency noise travels huge distances and it travels through earth and rock and building structure.

Bowdens have not included predictions nor particularly and ameliorations or limitations at source. They propose to make low frequency noise 24 hours a day for the life of the mine and they are denying reporting on it. It is a human health hazard.

When residents still lived in Wollar and the Wilpinjong and Moolarben.mines began operation their greatest irritation was 24 hours a low frequency sound. Why is such a problem not being assessed for Bowdens.....because Bowdens know the issue and won't put it on the table?

Low frequency sound is observed and recorded on the dBC scale. It is not reported or recorded by Bowdens in any of their reports because it's an **inconvenient truth**.

Low frequency sound constantly not only creates sleep deprivation but there are hosts of other human disturbances arising from it. And it can't be stopped, it goes through the earth and noise control barriers....IT CAN'T BE STOPPED and it travels way further than dB(A).....miles..

Yours sincerely,



R C Plummer

## Noise guidelines: Assessing low frequency noise

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Publication 1996 June 2021

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"*