

Dear Commissioners

Thank you for the opportunity to make a submission regarding the Bowdens Project at Lue.

I was also fortunate to be invited to speak at the IPC Hearing and my notes and presentation can be found on the IPC website.

I am a landowner in Lue and our property shares a boundary with a Bowdens property to the west.

I object to a mine in this area where no mining has previously occurred. This is a "greenfields" area, not only are there greenfields but also many farms, homes, small businesses, lifestyle farms, vineyards, olive groves and tourism businesses. This land is already being used by people and the environment and those uses are not compatible with mining or industry. In fact industry is prohibited in this area. There is no industrial land at Lue.

The adverse impacts of this project will be experienced now and for hundreds of years causing environmental, social and economic impacts for generations without any certainty of being able to fund the reversal or rehabilitation of those impacts.



Acid Mine Drainage



Tailings Dam Failures

I object to

1. The construction of a lead mine-site 2 kms from a village with over 95 residences.
2. The relocation of Bayswater to Mount Piper 500 kV transmission line
3. The construction of a new Power Supply from Bylong Valley Way or Breakfast Creek to Lue
4. The construction of a Tailings Storage Facility near Lawsons Creek
5. The construction of a Processing Plant and the operation of that Plant on the mine-site
6. The upgrade and relocation and construction of Maloneys Road
7. The closure of Maloneys Road through the mine-site
8. The diversion of waterways and creeks
9. The lack of proper rehabilitation of the mine-site and mine-pit and waste rock embankment
10. Lack of a secure, reliable water supply for the mine
11. Lack of proper financial analysis of a forced mine closure due to lack of water or excessive pollution or some other reason
12. Lack of an acceptable method to prevent Acid Mine Drainage
13. Lack of acceptable assessment or acknowledgement of the Earthquake Hazard Zone
14. Lack of and resistance to produce a workable Water Management Plan

15. Lack of Community Engagement and the disrespectful and incorrect and not corrected responses to submissions to the DPE during the EIS process.
16. Lack of Community Engagement as evidenced by the publication of material that is does not fully disclose the risks and health dangers of this mine.
17. Lack of funds available for Disaster Management, Pollution Management, Health Impact Compensation, Water Supply Compensation or any other unforeseen circumstance

I object to the proposal due to the significant and unmitigated environmental, social and economic impacts of noise, vibration, blasting, visibility, dust, lead poisoning, odour, excessive clearing of endangered woodland and animal habitat, drilling and mining into the water table, drilling and mining in a sensitive area, use of excessive quantities of water, increased heavy vehicles, mining in an Earthquake Hazard Zone, volatility of silver price, lengthy EIS process, no offer of compensation, acid mine drainage and ground, water, air, visual, light and noise pollution.



A rehabilitated mine site

The result of the impacts are loss of amenity, loss of village life, loss of views, loss of peaceful enjoyment of the countryside, bushland and homes, damage and contamination to water table, ground water and surface water, reduced availability of ground and surface water, increased mine traffic in Lue village with trucks, additional contractors and employees travelling to their homes in Kandos and Rylstone and Sydney, increased mine traffic and wide loads on Lue Road, destruction to native flora and fauna, damage to historical and cultural artefacts and locations and the lack of genuine and effective consultation with all Aboriginal groups, damage to health and well-being and amenity, job losses and the lack of job opportunities for local young people, close proximity to Windamere Dam, close proximity to a World Heritage Area and the secret location of the Wollemi Pine, location of the single wall Tailings Dam on a fault line, incompatibility with existing land use and businesses and homes, a legacy of polluted and damaged land and waterways and concerns that increased activity and the processing of mined materials may affect climate change.

I object to the proposal because there are no benefits to Lue, the environment, society or the economy but rather extraordinary negative impacts that will occur for the life of the mine and continue for hundred of years.



District view of the mine site and Tailings Storage to the east

The following table lists the benefits of the mine and some of the failures and outcomes. This is not a complete list.

	Benefit	Failure/outcome
Environment	No	Catastrophic
Aboriginal Heritage	No	Catastrophic
Noise	No	Constant – 24/7
Landcare	No	Catastrophic Failure
Visual	No	Failure Havilah to Monivae
Light	No	Failure
Jobs	At the expense of other industries	Failure in Lue as tourism, agriculture, lifestyle
Water Quality	No	Catastrophic
Water Quantity	No	Catastrophic
Earthquake	No	Catastrophic
Flood	No	Catastrophic
Road users	No	Fatal
Health	No	Fatal
MWRC	\$3mil	Cost of Road destruction, water supply failure, corruption
NSW Govt	Doubtful royalties	Cost of Water, roads, environment, long term costs

Feds	Tax losses	Cost to Environment, health, endangered and protected wildlife and flora
Community	Sponsorships	Failure in Lue
RFS	No	Failure
Tailings Dam	No	Catastrophic failure
Waste Rock Embankment	No	Failure significant
500Kv Transmission Line	No	Visual failure significant
Mudgee	Jobs	Travel on Lue road - fatal
Rylstone	Jobs	Travel on Lue road - fatal
Kandos	No jobs	Failure
Tourism	Loss of jobs	Failure
Shareholders	Uneconomic	Failure
Operation		24/7 – failure
Work safety	Lead & dust poisoning	Failure
Total	Jobs, royalties, sponsorships = 3 wins	Everything else = 27 plus fails

Water Supply at Lue

Lue is an interesting place - water wise.

1. It is located near the top of Lawsons Creek catchment, and the Murray Darling Basin,
2. It is located at the “confluence” of the Lachlan Fold Aquifer and the Sydney Basin Aquifer
3. In this area the aquifers, groundwater and surface water are connected. It has been shown in reports but it is obvious as Lue’s rainfall alone could not sustain the flow in Lawsons Creek
4. there are many springs in the hills to the north, south, west and east of Lue
5. the hills and escarpment to the north of Lue are in fact the Great Dividing Range
6. in places the groundwater is very close to the surface
7. when it rains new springs flow out of the ground in the hills and elsewhere (in fact part of our property is named the Springs)
8. Some springs closer to the Range are fed by groundwater
9. Huge storms are experienced in the hills around Lue, 3 days of heavy rainfall led to the flooding in 2022.

All reports including Jacobs (for Bowdens) note that the water supply in and around Lue will be affected by the mine operation.

Jacobs states that the effects will not be significant. The fact is that the effects on the ground and surface water at and around Lue will not be insignificant.

It is, as one submitter stated, “beyond belief” that one operation could take water that is the lifeblood to others. This water they take cannot ever be returned to the system. Almost 2000 megalitres every year for 16.5 years is 33,000 megalitres as well as the water falling on the site and flowing into the pit forever. Even after the mine closes it will “take” 100-200 megalitres a year. That’s a lot of water. That really is beyond belief. The greed of Bowdens and their

It should not be left to the DPE – Water, NRAR and the EPA to police and regulate these water users and polluters.



In comparison to the predicted 33,000 megalitre water take by Bowdens the capacity of Windamere Dam is 368,120 megalitres. At Lue Bowdens propose to have one tenth of the capacity of Windamere Dam stored on a small no release mine site, refilling and evaporating forever. Not just for the life of the mine but forever.

The Water Sharing Plan and the DPE- Water are clear that every user has an equal right to water.

- Not all water users are licensed, nor are they required to be.
- Those on the creek have riparian rights to stock and domestic water,
- those with very old bores are not legally required to register them,
- unlicensed farm dams and bores are permitted and
- where the water table is close to the surface users are able to grow crops making use of that water
- There are 46 irrigation licences in Lawsons Creek, most are not used due to the lack of constant flow in the creek

All these forms of water use are seen around Lue and in fact on the full length of Lawsons Creek along with some licensed irrigation.

Somewhere in this process the rights of those water users and the environment have been disregarded.

The SEARs was issued with the expectation that one of the main components of this mine was an external water supply. It was obvious to landowners and others in the district that the pipeline from Ulan would never be realised. And it was subsequently removed. At that time the DPE should have issued a new SEARs and required the applicant to provide an external clean water source. They are not even listing that in the conditions.

Bowdens have said for many years that they have enough water licenses to supply their mine site and keep the water within the small mine site area. Well... they have access to half the water in the state via the aquifers which lie under their site. Even so, whether Bowdens hold the licenses or not it is doubtful that the water will be available to be pumped.

They say they will get their water entirely from their site. This statement is not strictly true as they plan to harvest water from their adjacent property and pump water from the ground, from the aquifer under their site.

There are now enough reports and evidence to support the conclusion that Bowdens will take water at the expense of other users. See Baguley 2022, FDP 2022, Earth Systems 2022 and Hydrogeologic 2022. In fact Bowdens say that other water users will be protected by the law. I presume that means Bowdens will pay fines to the regulator when they pump more water than they should. Why should the regulator or the NSW Government be required to police the applicant?

The EIS prepared by RW Corkery and Co with reports by Jacobs and WRM have not addressed many issues that should have been addressed. The DPE should have followed up these queries and lack of information provided but they have not. Instead they have accepted Bowdens unsubstantiated statements to the detriment of other water users.

- There has been no assessment of predicted effects to downstream users in both quantity and quality of water.
- There has been no assessment of the consequences of Tailings Dam failure to other water users
- There has been no assessment of any water storage failures other than a statement “no effect or it won’t happen”.
- There is no Water Management Plan
- There is no Earthquake Management Plan or assessment despite being located in an Earthquake Hazard Zone
- There is no assessment, plan or costing of the 66Kv powerline, the main Power Supply for the mine site
- There has been no assessment of Acid Mine Drainage to Lawsons Creek or the surrounding area

Bowdens will have access to at least one third of the state's ground water via two of the largest aquifers in NSW and nothing to prevent them from taking that water.

The removal of water from the unregulated Lawsons Creek valley will destroy, diminish and pollute the creek and the groundwater not insignificantly causing major environmental, social and economic and long lasting impacts.

Earth Systems states the potential for acid and metalliferous (mine) drainage (AMD) from sulfidic waste rock, low grade ore, ore and tailings is a significant water quality risk for the Project, in both the short-medium term (during operations) and the long term (post-closure).



Acid Mine Drainage at Macarthur River Mine NT, the Glencore Zinc, Silver and Lead mine who happen to use the same surface water consultant, WRM Water and Environment.

Expert Reports

The Lue Action Group and the DPE have commissioned experts to review and report on the groundwater and surface water at Lue.

These experts have provided the following reports some of which are attached to the end of the report while others can be found on the DPE website. Many of the attached reports have been updated for the IPC Hearing and will be available in the Lue Action Group submission. Others will be attached to this submission should they need to be referred to.

1. Bowdens Silver Project Groundwater Assessment Review (*Middlemis, Hydrogeologic, December 2022*)
2. Technical Memorandum - Bowdens Silver Mine Update on Independent Review – Water Balance Modelling and Surface Water Management (*Pape & Taylor, Earth Systems December 2022*)
3. High-Level Mining Review of the Bowdens Lead, Zinc, Silver Project (*Michael White, July 2020*)
4. Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 2020) (*Taylor, Dept of Earth and Environmental Sciences, 15 July 2020*)

5. Key issues and weaknesses of the Bowdens Silver Project Environmental Impact Statement (*Noller, Sustainable Minerals Institute, University of Queensland, 24 July 2020*)
6. Bowdens Silver Project – Environmental Impact Statement Groundwater Assessment Review (*Flavel, Water Technologies, July 2020*)
7. TECHNICAL REVIEW - SURFACE WATER ASSESSMENT (SSD-5765) (*Shields, Engeny, July 2020*)
8. Technical Review of selected EIS reports in response to the Proposed Bowden's Silver Mine Development, State Significant Development No. 5765, Lue NSW (*Aberton & Serov, ABSolution, July 2020*)
9. SIA review report re. proposed Bowdens Silver, Zinc and Lead mine (*Ziller and Walton, Social Planning Consultant, July 2020*)
10. MSW Comments on Bowden's Response to Submissions Report and the Proposed Amendment (*Michael White, March 2022*)
11. Independent Review of the Bowdens Silver Pty Limited Surface Water Assessment – Updated (*Shirleen Baguley, May 2022*) (This report is updated at Feb 2023 and is attached to the Lue Action Group submission to the IPC)
12. 40 queries relevant to water use (*Field Development Planning*)
13. Aquifer Connectivity Study (*AWE, 5 June 2018*)
14. Review of Bowden's response to multi-agency feedback regarding groundwater in Bowden's July 2021 Amendment Report (*FDP 13 August 2021*)
15. Review of Bowden's Response to Groundwater Questions: Bowdens' March 2022 Amendment Report Version: 4.0 (*FDP 4 July 2022*)

These reports have concluded:

- Lawson Creek is identified in the NSW Stressed Rivers Assessment to be in the most seriously stressed category (S1) – with the highest level of environmental stress as well as a high extraction rate.
- Many assumptions in Bowden's amendment appear to overestimate the quantity of rainfall, harvestable surface water and ground water at the mine site.
- Decades of carefully recorded rainfall records of local farms near the mine support the argument that annual rainfall has indeed been overestimated in the Amendment.
- Initial assessment suggests that the quantity of water used by the mine will result in a 10.9% loss of flow in the Lawsons Creek catchment. This would be an enormous and unsustainable impact

on the water resources in this catchment, having a significant impact on all land downstream of the proposed mine site.

- The loss of water in Lawsons Creek is still being investigated and because Bowdens used stream flow data from another catchment and have not used actual local rainfall data the report is taking longer than expected.
- Water use tables use averages rather than actual high and low rainfall therefore are unable to calculate accurate worst and best case scenarios in the event of prolonged drought or extreme flood events, both of which have occurred in recent years.
- The frequency of dry years appears to have been underestimated and consequently the impacts of the mine withdrawing the water needed for its operations on local people, farms and the environment have also been underestimated.
- Bowdens groundwater licenses have been purchased in the Sydney Water Basin catchment as well as further downstream in the Murray Darling catchment. The Sydney Water catchment is not relevant to western waters and the NSW government has historically indicated a preference not to move licenses upstream within the same catchment, as the water is less likely to be available high up in the catchment and will consequently disadvantage local people and farmers reliant on that water.
- Bowdens attempt to 'get by' by recovering and recycling more water from the tailings dam and leachate dam are likely to increase the health impacts on the local community and environment. Recovery of this water will reduce water levels in each dam, exposing more toxic elements in the soil (i.e. lead, cadmium, cyanide, etc.) to wind events, which will spread these compounds further afield.



40 m in Context: potential to alter regional hydrology

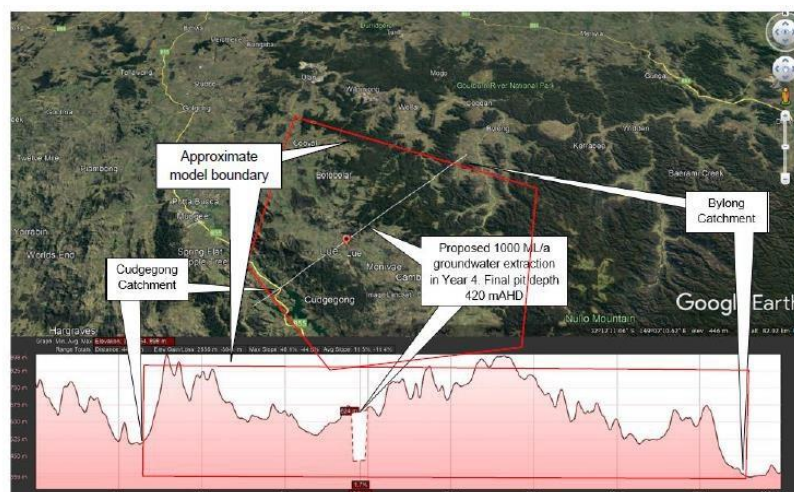


Figure 3: SW-NE Cross Section Source: GoogleEarth 2022

Other Water Considerations

Social Impacts

The EIS was presented to the public and the government with a **major component** being an external water source. Without an external water source to the mine site, the water available in Lue and within 5 kms of Lue and most likely much further afield will be diminished in quality and quantity.

The Water Supply Amendment removed the external water supply to the site. The current plan has no external water supply. The water for this SSD, mining project will come entirely from groundwater bores, caught surface water and rainwater. This is unsustainable.

Bowdens is aware that many bores in Lue are very old, not deep and also not registered. There is no legal requirement to register an old bore. What this means is that many bores will not have been considered in the DPE – Water assessment and therefore should be considered in either the Social Impact Assessment or the Agricultural Impact Assessment. They have not been considered or assessed by any Bowdens expert and will most likely be severely impacted. This water is used for domestic purposes, gardening, house water and stock water. It is supplemented by rainwater for drinking water.

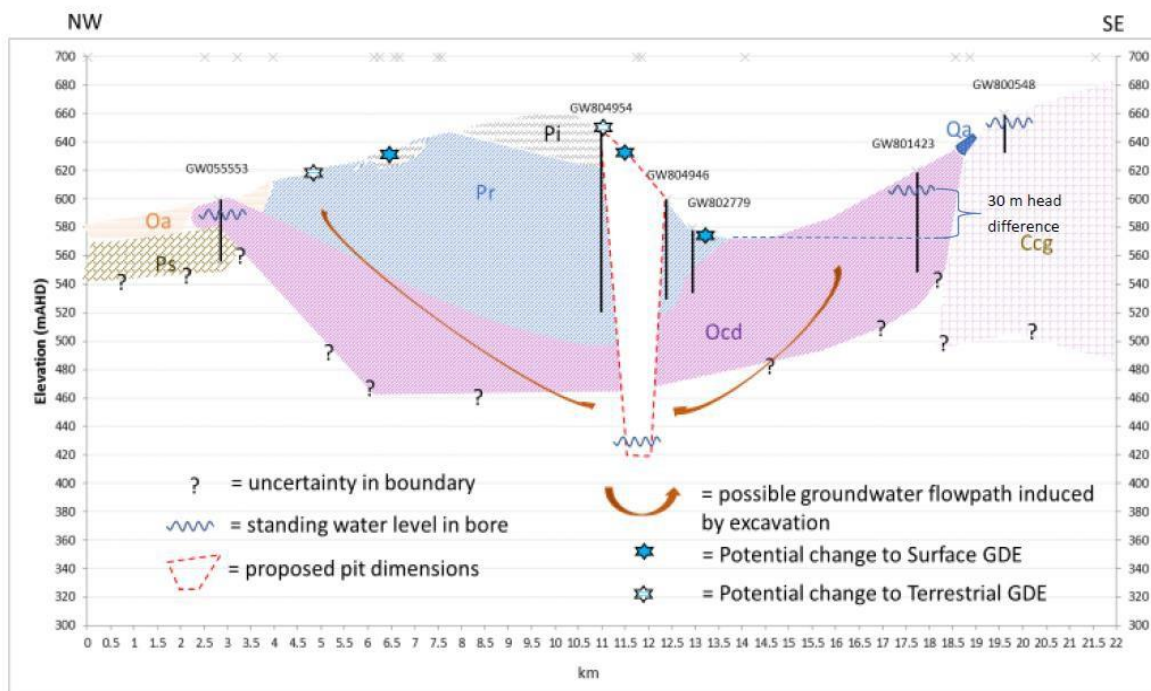
There is no assessment of the impacts on those individuals and landowners who have unregistered groundwater bores and or take water for domestic and stock use from Lawsons Creek, as is their riparian right, and who have properties that will be impacted by reduced and or contaminated water supply.

Agricultural Impacts

The Agricultural Impact Statement was carried out by RW Corkery. It should be noted that no adjacent property owners have been interviewed or investigated by RW Corkery regarding annual rainfall, flows in Lawsons Creek, bore flow rates, water availability in wet or dry times or any other matter regarding water use for agricultural purposes. Some local residents have rainfall data for 37 years and others have a 100 years of records. RW Corkery has not used this data, (some of which is missing), to compare its assessment of the impacts of high and low rainfall with actual high and low rainfall. RW Corkery simply uses averages and therefore has no indication or expectation when or what might be occur in extreme events.

A mining operation with no reliable water source is not sustainable. All water used by Bowdens will be at the expense of all other users including people, pets, farm animals and native flora and fauna.

The impacts of the removal of large amounts of water from the region will have long lasting impacts on other water users and those impacts will be experienced long after the mine is closed.



Potential surface and groundwater impacts

Conclusion

A mine without a reliable external water source cannot be sustainable. While Bowdens will most likely take more water than they are licenced to take from their groundwater and dewatering bore or bores and pay the fine this cannot knowingly be permitted. It is clear from all Surface and Groundwater reports that there will be a major effect on other water users and especially unregistered water users which make up a large proportion of water users in Lue and all surrounding areas and on Lawsons Creek. Bowdens have shown themselves to be deceitful, dishonest and disrespectful in their dealings with the Government, MWRC and the public. Bowdens have provided dubious expert reports in favour of this Application and their consultants modelling and conclusions have been labelled by NSW DPE experts as inadequate, optimistic, biased and not consistent with best practice.

The conditions proposed by the DPE in the Conditions for Consent regarding water supply compensation, B38 to B44, are not workable and are therefore unacceptable.

The Bowdens Project will after consideration be shown to have little merit with the environmental, social and economic impacts of this project having a lesser benefit than the environmental, social and economic benefits of not proceeding with the project.

ATTACHMENTS

1. MSW Comments on Bowden's Response to Submissions Report and the Proposed Amendment (*Michael White, March 2022*)
2. Independent Review of the Bowdens Silver Pty Limited Surface Water Assessment – Updated (*Shireen Baguley, Updated May 2022*)
3. 40 queries relevant to water use (*Field Development Planning*)
4. Aquifer Connectivity Study (*AWE, 5 June 2018*)
5. Review of Bowden's response to multi-agency feedback regarding groundwater in Bowden's July 2021 Amendment Report (*FDP 13 August 2021*)
6. Technical Review – Surface Water Assessment (SSD-5765) (Shields, Engeny, July 2020)
7. Bowdens Silver Project (Water Supply Amendment Report) - Application Number Ssd-5765 (*Lue Action Group April 2022*)
8. Review of Bowden's Response to Groundwater Questions: Bowdens' March 2022 Amendment Report Version: 4.0 (*FDP 4 July 2022*)