

Thank you once again for the opportunity to present to the Commission. For those that may not have been present on Day 1 of the hearing, my name is Nicholas Warren and I am a principal consultant at R.W. Corkery and Co. Our company prepared the EIS for the Bowdens Silver Project and oversaw the technical assessments commissioned for the Project.

Before I get started, I'd just like to reiterate Tony's thanks to the community and the Commissioners for their contributions to these hearings over the last few days and throughout this planning process.

We've heard a range of different views and I'd like to take this opportunity to respond to some of the more technical issues and queries that have been raised, and of course we will be providing further detail in our written submission.

Firstly, I wanted to address comments that Bowdens Silver has not addressed the Secretary's Environmental Assessment Requirements or SEARs with regards to water quality. This was raised by Earth Systems who noted that a water quality model was needed to ensure that water captured within the site was fit for purpose. As no water from areas disturbed by mining would be discharged from the Mine Site, this requirement only has relevance to water used in processing and a water quality model is not necessary to assess the Project. Our response to Earth Systems noted this and the matter was not raised in further correspondence. Bowdens Silver notes that the only identified potential risk to water quality has been from TSF seepage. This was thoroughly assessed in Appendix 10 of the Groundwater Assessment with the results also presented in Table 3.1 of the Submissions Report. The results demonstrate that there would be no impact to water quality in Lawsons Creek nor change to the beneficial uses of this water. Notably, there would be no change to existing concentrations for lead in the waters of Lawsons Creek. This assessment was also subject to peer review and has been accepted by DPE.

We have heard several comments relating to the conditions of consent and specifically that they are not strong enough and do not contain consequences for Bowdens Silver. While some conditions are standard for mining Projects, most conditions specifically target the matters raised by the community and the predicted environmental and social impacts. This is explained in the Assessment Report. An example of this is the inclusion of a requirement to monitor deposited dust, assess the lead content of that dust and establish trigger levels for lead content. This is despite predictions of very low deposited dust levels. We heard from Dr Barry Noller that measurement of TSP is not an appropriate approach to monitoring lead and note the DPE condition that requires monitoring to be of deposited dust. I also note that the highest predicted deposited dust level at a privately-owned residence is 0.15g/m²/month, which is less than 10% of the NSW EPA criteria for incremental dust deposition of 2.0g/m²/month. Voluntary blood lead level monitoring is a clear commitment in the EIS including a program of ongoing monitoring and Bowdens Silver maintain this commitment. Neither DPE nor Bowdens Silver can mandate this requirement for any community member.

The Environmental Management Plans for the Project are intended to guide the development and operation of the Mine. They are prepared to reflect the design controls, management measures and monitoring commitments made in the EIS and technical assessments. There is nothing new in these documents that is not in the EIS and other assessments, so there is no benefit to them being prepared prior to approval. On the contrary, the plans follow the approval and their preparation is overseen by the relevant Government agencies, be that the EPA, DPE Water, Heritage NSW or Council. The baseline information collected for the assessments presented in the EIS and the predictions made in modelling and other assessments will form a benchmark against which the environmental and social performance of the Mine would be measured. Annual reporting of monitoring outcomes must compare monitoring outcomes to past data and justify any variations. This information will also inform trigger action response management which is developed from the proactive and reactive mitigation measures that are proposed.

I wanted to briefly touch on the matter of AMD again, given the number of times this matter was raised over the past few days. Professional disagreement is not uncommon and where professionals apply different approaches they can often disagree on the outcomes. Bowdens Silver has sought advice from multiple sources to confirm the waste classification strategy proposed is appropriate. Regardless of this Bowdens Silver has agreed to address the recommendations of Earth Systems.

As mentioned in my presentation on Day 1 of the Hearing, there are two principal matters to consider when addressing the identification and management of AMD risks. The first is whether there is sufficient material for construction and rehabilitation of the mine, including for the management of potentially acid forming material and the second is whether the proposed management of AMD risks is appropriate.

I have mentioned previously that Bowdens Silver's approach to AMD management is consistent with best practice in Australia and internationally. While store and release covers and geosynthetic liners are not appropriate for all developments, our assessment and the advice of Advisian and Okane Consultants is that it is appropriate for this setting and the waste materials generated by the Project. While on the topic of the TSF, I refer the commissioners to the preliminary design report for the TSF that discusses the design approach to earthquakes. An approach that considers the 1:10,000 AEP event is required under Dam Safety NSW guidance and has been applied.

The risk that the ratio of NAF to PAF changes is considered to be low. Our initial results from subsequent testing as recommended by Earth Systems confirm this. However, should that be an outcome of the additional testing program there are contingency measures available to Bowdens Silver. I will briefly summarise some of these for the benefit of the commission.

- The material in the floor of the open cut pit is PAF and it would be feasible to reduce the depth of the open cut pit and forego resource in order to maintain the necessary ratio of PAF to NAF.
- Bowdens Silver has also proposed to backfill the satellite pits with NAF material prior to closure. It may be possible to use this material for other rehabilitation purposes if needed.

- There may also be options to source NAF material from within the site at closure. These sources are commonly referred to as borrow pits and I note that sections of the Mine Site are overlain by the Sydney basin sandstone deposits that is not acid generating and would be a reliable source of material for rehabilitation. Areas previously disturbed for mining may be used for this purpose such as the topsoil stockpile areas and processing areas.
- Another alternative would be to source material from outside of the Mine Site..
- Finally a redesign of waste management structures would be an alternative, allowing for refinement of storage and rehabilitation should it be required.

Some of these options would require a modification to the development consent but the need to employ these scenarios is considered unlikely

We have heard over the last three days a lot of commentary on what the consequences of lead exposure may be for the community.

When assessing and presenting these matters to the community Bowdens Silver can only rely upon the advice of specialist consultants in the field of human health risk assessment. Dr Jackie Wright of EnRiskS prepared the assessment and Bowdens Silver commissioned a peer review by Professor Brian Priestley. DPE commissioned a peer review by Dr Roger Drew. Each of these consultants is a Fellow of the Australasian College of Toxicology and Risk Assessment with Professor Brian Priestley a former president of the college. Each of these specialists agreed that the methods applied in assessing health risks was appropriate and that it was reasonable to conclude that there were no health risks of concern for the local community. Regardless of this, DPE has conditioned monitoring, assessment and trigger action management for potential lead exposure and Bowdens Silver has committed to monitor blood lead levels for those who request it.

On the basis of the human health risk assessment and the peer reviews, we confidently state that there would be no physical impact to agricultural production and no risk to tourism. We acknowledge that some in the community may not accept this and for these people the prospect of the Mine proceeding represents a source of fear for their way of life including their ability to grow vegetables on their property and to run productive businesses. The evidence provided to Bowdens Silver indicates these fears are not warranted. We deeply respect the views and local knowledge of the long-term residents of the Lawsons Creek Valley but our health risk assessment concludes that that the health risks would not be as expected by some in the community.

The approach to the risk assessment uses relative risk levels based on very conservative exposure standards agreed by government and scientific experts. The assessment by EnRisks applied an assumed 70 years worth of potential dust and therefore deposition. This clearly conservative method produced the results in the assessment. Review of existing pathways of exposure to all metals identified that by far the highest pathway of lead exposure is in the food we consume. Yet as a community we continue to take this risk. Relative to existing exposures in food, the Project is conservatively predicted to result in lead exposure risks 4 times lower than existing exposure from the food we eat.

We have heard that the Project would not have a secure water supply. Firstly, the comments quoted from the Earth Systems peer review were all responded to in detail and are considered satisfied by DPE. Bowdens Silver considered a range of opportunities to reduce water demand or to reduce water lost to evaporation. A lot of this work focused on improving water efficiencies in tailings management. For the EIS, high rate thickening was included but this has been replaced by a paste thickener plant that reduces water demands by 390ML/year. Alternative options for refinement of the TSF included a filter press and the dry stacking of tailings. This process involves a predominantly dry tailings managed in a smaller area. However, we did not believe that the community would accept an approach that has a greater potential to produce dust. One change that was made is that Bowdens Silver now proposes to manage the decant pond at a water level of 0.5m which is reduced from the original design water level of 2m. This requires more active pumping and management including the use of a Turkeys Nest Dam. We looked at alternative sizing and locations for this turkeys nest dam. We are confident that the Integrated Water Management and Supply Strategy would provide water security to the site while minimising as much as possible impacts to water users.

We have also heard that the site would not be rehabilitated. Rehabilitation would need to be complete progressively and finally to the satisfaction of DPE and the Resources regulator. Substantial financial bonds, required under NSW legislation, would be in place to ensure that the funds are available for rehabilitation of the Mine Site. It is acknowledged that a final void would remain in the landform. Alternatives to this have been considered including backfilling of the open cut pit. Notwithstanding the high cost of this alternative, the principal reason this has been rejected is that Bowdens Silver did not want to sterilise access to significant underground mining opportunities identified in previous presentations. I note that the correspondence relating to expansion of the final void at closure was intended to demonstrate that Bowdens Silver's commitment to construct the final void as a groundwater sink was technically and economically feasible. It is not currently proposed to extend the open cut pit but has been noted as a contingency available should it be required. Similarly, Bowdens Silver has demonstrated the feasibility of using a constructed wetland in the final landform. Again, these options have been deemed as feasible and appropriate mitigation options by DPE's peer reviewer and accepted by DPE.

We appreciate there are concerns about climate change and the possibility of more extreme events with regards to extreme rainfall and drought conditions. We also heard comments on high wind events and what that may mean in relation to environmental impacts. It should be noted that although we expect these events to occur more often, they are infrequent and do not represent ordinary operations.

Water balance modelling considered extreme events including rainfall and drought over a 130-year period of record. This period includes higher peaks and worse droughts such as the specific events referred to by the community. Dust dispersion modelling has considered dust-related impacts under conditions that enhance dust dispersion such as winds in the direction of the receptor. In this way, worst case outcomes are addressed and planned for. It should be noted that the outcomes of these assessments present worst cases in order to understand the worst level of impact, it does not reflect the day-to-day outcomes.

By presenting the worst case outcomes, Bowdens Silver must also plan and manage the Mine for these events. Specific actions for management during extreme events include but are not limited to:

- Using metrological forecasting to plan for extreme events. This might lead to limiting operations on a given day, reducing activities at exposed locations or actively managing water storage infrastructure to plan for high rainfall events.
- Using the trigger alarms on continuous noise and dust monitors to alter operations proactively before exceedances occur.
- Using on-site water balance modelling to manage the water needed for dust suppression and processing so that water use and management is efficient.

During extreme events there are also management measures that can be applied. For example, there will be a series of pumps and pipes connecting water management infrastructure across the site and water can be moved in response to extreme rainfall to manage water levels in these structures.

Importantly, the modelling indicates that under no historic climate conditions would water have discharged from the Mine Site.

During drought conditions the mine would be managing water to reduce evaporative losses. This would also require the active movement of water around the site. It is important to note that a large volume of water would be actively recycled and Bowdens Silver would also source water from groundwater bores. Therefore, there would be water within the processing systems that can be used and reused, with groundwater bores remaining a source of water. Bowdens Silver would need to meter water taken from any water bores and the open cut pit and in this manner water take from these bores would be recorded. Therefore, Bowdens Silver would need to report water use and would not be able to take more water than their licensed entitlements.

Thank you again for to the commissioners and counsel assisting for taking the time to listen to the presentations over the past three days and thank you to all who have spoken and contributed to this process.