New South Wales Government
Independent Planning Commission

TRANSCRIPT OF PROCEEDINGS

RE: BOWDENS SILVER MINE (SSD-5765)

PUBLIC HEARING DAY 1

COMMISSION PANEL:	MR PETER DUNCAN AM (PANEL CHAIR) MS CLARE SYKES MR PETER COCHRANE
COUNSEL ASSISTING:	DR JAMES SMITH
LOCATION:	MUDGEE SHOWGROUND MAIN PAVILION
DATE:	11:00 AM, WEDNESDAY, 15 FEBRUARY 2023

RECORDED BY CREATE ENGAGE AND TRANSCRIBED BY REV

Commissioner Duncan:

Good morning and welcome to day one of the Independent Planning Commission's public hearing into the state significant development for the Bowdens Silver Project, SSD5765.

My name is Peter Duncan and I am the chair of this Independent Planning Commission panel.

Joining me

Joining me are my fellow commissioners, Clare Sykes and Peter Cochrane. We also have Dr. James Smith as counsel assisting the Commission for this public hearing.

Before we begin, I would like to acknowledge the judicial owners of the land in which we meet, the Wiradjuri people. I would also like to acknowledge the traditional owners of all of the country from which we virtually meet today and pay my respects to their elders, past, present, and to elders from other communities who may be participating today.

The applicant, Bowdens Silver Pty Limited, is seeking planning approval to develop the Bowdens Silver Mine, an open-cut silver, lead, and zinc mine approximately two kilometers north of the village of Lawey, Lue, in the Mid-Western Regional Council area with total project life of 23 years including rehabilitation.

The mine extract and process around 30 million tons of ore, up to two million tons per annum, to produce a silver lead concentrate and zinc concentrate. The mine would include a main open-cut pit, two satellite pits, and mine site infrastructure, including a processing plant, waste rock emplacement, ore stock piles, a tiling storage facility, and ancillary infrastructure. Project would also involve the relocation of approximately five kilometer section of a local road, Maloneys Road, and the realignment of part of a 500 kilovolt transmission line owned by Transgrid.

By notes, uh, the Department of Planning and Environment, in its assessment report, has concluded that the application is approvable, subject to recommended conditions.

The Commission is the consent authority for this state significant development application because more than 50 unique public objections were received. It's important to note that the commission is not involved in the department's assessment of state significant development applications, nor in the preparation of its assessment reports.

The Minister for Planning has directed the Commission to hold a public hearing into the application. The Minister has asked the Commission to determine the application within 12 weeks of receiving the whole of government assessment report from the department.

In the interest of openness and transparency, we are livestreaming today's proceedings on the Commission's website. A full transcript of the three-day public hearing will also be published on the Commission's website in the next few days.

This public hearing forms one part of the Commission's process. We have met with the department, the applicant, and Mid-Western Regional Council, transcripts of these meetings have been published on our website. The Commission has already undertaken a site inspection and locality tour yesterday. Notes documenting the site inspection and locality tour will be published on our website in the next few days.

After the public hearing, we may convene with relevant stakeholders if clarification or additional information is required. Following the public hearing, we will endeavor to determine the application as soon as possible, noting that there may be a delay if we find the need for additional information.

When written submissions on this matter will be accepted by the Commission, up until 5:00 p.m. Australian Eastern Daylight Time on Friday, the 24th of February 2023. And you can make a submission using the Make a Submission portal on the website or by email or post. We invite interested individuals

and groups to make submissions they consider appropriate during the hearing. However, the Commission is particularly assisted by submissions that are responsive to the department's assessment report and recommended conditions of consent.

All submissions made to the department during exhibition of the environmental impact statement have been made available to the Commission. As such, today's speakers are encouraged to avoid repeating or restating submissions they've previously made on this application.

The Commission may emphasize, must emphasize that there are certain matters that, by law, it is not permitted to take into account when making its determination and, therefore, submissions on some mat, such matters cannot be considered. These factors can include the reputation of the applicant and any past planning law breaches by the applicant.

Before we get underway, I would like to outline how today's public hearing will run. We will first hear from the Department of En-, Planning and Environment on the findings of its whole-of-government assessment of the application currently before the Commission, we will also hear from the applicant second. We will then proceed to hear from our registered speakers. While we will endeavor to stick to our public schedule, this will be dependent on registered speakers being ready to present at their allocated time.

Counsel assisting, Dr. James Smith, will introduce each speaker when it's their turn to present to the panel. Everybody has been advised, and advised in advance, how long they have to speak. A bell will sound, uh, when the speaker has one minute remaining and a second bell will sound when a speaker's time has expired.

As chair, I will enforce time-keeping rules to ensure everybody receives their fair share of time. However, I do reserve the right to allow extra time for the panel and counsel assisting to ask questions or hear new information.

If you have a copy of your speaking notes, or any additional material to support your presentation, it would be appreciated if you could provide it to the Commission staff. Please note any information given to us may be made public. The Commission's privacy statement governs our approach to managing your information. Our privacy statement is available on our website.

Thank you, it's time now to call our first speaker.

Dr. James Smith:

And thank you Commissioner. Uh, Commissioner, uh, I invite Steve O'Donogue. If you could please a- approach the lectern to provide your submission to the Commission.

Steve O'Donogue:

Uh, thank you Chair and Commissioners. Uh, good morning, my name is Steve O'Donogue, Director Resource Assessments with the Department of Planning and Environment. Uh, I would also like to acknowledge the- the public meeting today, it's all in Aboriginal land and I would like to extend my respects to elders past, present, and emerging, and to any aboriginal persons attending here today.

I'd like to thank the Commissioners for giving the department this opportunity to- today to present to yourselves on the Bowdens Silver Project and those here today, and listening virtually. I will use this opportunity t- today to provide further details on the key assessment issues and- and our evaluation of the project and, in particular, the key reasons for the department's recommendation to the Commission of the project, his approval.

I won't go into detail about the project itself, as this is well described in the department's assessment report and along with the information from the EIS and- and the subsequent amendment reports. I will, I will say that we are confident that our report does provide a good summary of the views about the project. Um, we also believe that this public hearing is an important process for ensuring there's fur- further input from the community, and particularly the- the local, uh, from the local region.

Before I say anything further about the development itself, uh, or the key issues, I think it is important to say from the outset that, uh, assessing greenfield mine sites, su- such as this one, uh, is inherently difficult and complex, uh, but being a-, being a new site, uh, it endeavors interesting new industrial, uh, activity into what is predominantly a- a rural setting, um, and with the village of, uh, Lue nearby.

Uh, some of the key aspects of this particular project, uh, the m-, the mine would be located about two kilometers, uh, to the north of the village of Lue, which has- has around 40 residences. Uh, there are about another 30 or so residences located on the outskirts of the village, uh, and around 12 privately-owned residences within about three kilometers of- of the project boundary outside that, sort of, Lue-Lue village precinct.

This means that the impacts on the local Lue community, including the surrounding ru- rural residential, uh, particularly the amenity- amenity impacts such as noise, air quality, visual and lighting, uh, as well as associated social impacts more broadly, uh, must be weighed against the project's broader social and economic benefits.

Another key aspect is that while the project is described as a silver mine, the ore body is rich in lead and other heavy metals. This means the potential for health impacts associated with exposure to lead is understandably a key concern for the local community and was a key assessment issue for the department, with the applicant, Bowdens Silver, the department and the Lue Action Group, engaging experts to undertake a peer review of the human health risk assessment, including risks from lead explos-, uh, exposure.

The- the mineral deposit being targeted is also a sulfidic ore deposit, which when exposed to oxygen and water can result, uh, in the production of acid. A large proportion of the waste rock material would be potentially acid forming and would require careful management to prevent downstream impacts on more users and the environment.

As a result, we have found that the key issues for the assessment are, firstly, health and amenity impacts on the local community, uh, including exposure to heavy metals, air emissions, noise, dust, and air quality, uh, visual and lighting, along with the- the social impacts.

And, secondly, impacts on water resources, particularly on water quality from acid mine and metalliferous drainage, uh, or other pollutants, but also impacts on water resources more broadly, including from drawdown of the ground water table due to pit inflows, uh, along with management of water during drier and wet, and wetter cycles over the life of the mine. There is water availa- availability during drought periods and- and potential for discharge during flooding cycles as- as, uh, as ori-, it's originally experienced.

The department also considers the following assessment issues to be important. Um, biodiversity, many related to the, to the mine footprint with the clearing of native vegetation, including Box Gum Woodland. Traffic and transport, mainly related to heavy vehicle, uh, movements to and from the site, uh, during construction operations, but particularly through the village of Lue. Uh, and- and economics, which is, like, which is the, including the employment, uh, and the regional and local business opportunities, um, from- from the project.

The department also assessed a range of other matters in our assessment report, including impacts on Aboriginal and historic heritage, agricultural impacts, impacts from blasting and vibration, hazards, and risks, and- and greenhouse gas emissions to na-, to name, uh, some of them.

First, I just want to go, uh- uh, talk a bit about the strategic context of the project. Uh, it's important to provide some context around the project in relation to the location, the importance of the resource, and the existing land use surrounding the site.

The project is located within a rural agricultural area. Although cattle and sheep raising are the predominant agricultural activities in the, in the region, in the area, it's also has a long history of great production in a growing olive industry as well.

The area is also popular for agritourism, with several guesthouses and- and bed and breakfasts in the area, including, um, the village, the- the, in the village of Lue. The area is also in the dark sky region of New South Wales. Uh, although Siding Spring Observatory is- is, uh, around 170 kilometers from the, from the site, there are se- several place, uh, amateur, um, observatories.

Mining is also a key industry in the region, providing some 23% economic c- contribution of the wider region. The department's Central West and Orana Regional Plan has ide-, identified the importance of- of the mining industry with the current regional plan identifying an objective to support the s-, the sustainable development of mining in the region.

A large part of the industry currently involves coal mining near Mudgee and as- as New South Wale phases out through more coal mining, the development of minerals, uh, mi-, mineral mining would support diversification of the mining industry and transition away from reliance on- on coal mining.

The- the New South Wales Government's Region is to become a major global supplier and processor of critical minerals as outlined in the New South Wales Critical Minerals and High-Tech Metal Strategy. But silver and zinc are listed as critical minerals, uh, in the strategy noting that the project would produce a silver lead concentrate along with a zinc concentrate.

The Department of Regional- Regional New South Wales or the mining exploration in Geoscience, uh, division within-, within that or MEG, has identif- 'dentified that the deposit is the largest undeveloped silver project in Australia. The project would target, recovery of approximately 97 million silver equivalent ounces.

Um, I just want to move to the, to the key assessment issues flagged earlier. Um, firstly, in relation to health and air quality impacts. We are very aware, from the c-, of the community's concerns about the potential health impacts from- from lead, uh, along with dust emissions more broadly and- and heavy metals. This was highlighted to the department from well- well before they, uh, EIS was launched in the, in- in meetings with the, in particular, the Lue Action Group, um, and community members.

In this regard, the mining exposure pathway would be through the- the dispersal of metal, uh, of- of metal particles attached to dust from the mine with inhalation and depositioning water tanks and soil. The air emissions modeling undertaken for the project predicts that the 24 hour and annual concentrations of dep- deposited du-

Steve O'Donogue:

The 24 hour and annual concentrations of dep- deposited dust, particulate matter, including fine particles of pm10 and pm2.5, and metals would comply with criteria established in the EPA's approved methods for guidance for the modeling and assessment of air pollutants in New South Wales at all, at all sensitive receivers.

The approved methods are based on the National Environment Protection Measure, or NEPM, for ambient air quality, which sets national standards for protection of human health and wellbeing.

But Bowdens Silver has proposed a range of, uh, best practice, mitigation, and management measures to minimize and manage air emissions, including the use of water or dust suppressants over exposed surfaces, visual monitoring and development of real-time, uh, meteorological and air quality monitoring systems.

The Human Health Risk Assessment compared the existing background levels of lead and metals that occur without mining with the predicted increase in exposure to lead, uh, and other metals from the project. The assessment showed that the increase in exposure to lead and other metals would be, would be small. The Human Health Risk Assessment also compared the total exposure that would occur from all source pathways to benchmark levels for health impacts and showed that the community exposure would remain below the level that would be likely to cause health impacts. The, uh, the only exception to this in the assessment was manganese, wh- with the assessment indicating that would, would be potentially elevated due to uptake through dietary sources from the modeling that was done.

The department engaged Dr. Roger Drew to provide advice from the health impact assessment. Dr. Drew confirmed that the hel- health risk assessment was undertaken in accordance with standard practice for such assessments in Australia and that the assessment indicates that the health risk of the mine would be low.

The department has recommended commissioners to limit deposited dust in particular concentrations generated from the project at sensitive receivers and also conditions requiring Bowdens to monitor metal concentrations in the dust, uh, and in water tanks at representative locations around the mine, including the Lue School, and to develop a trigger action response plan if concentrations are higher, higher than expected.

Bowdens Silver has also agreed to provide blood lead level monitoring, uh, for any members of the community that request it before mining operations commence and again at ongoing intervals during operations. The department has recommended a con- condition to give this commitment effect through the Social Impact Management Plan which would assist in alle- in alleviating community fears over this issue.

In regards noise impacts, the highest noise levels from the project would be associated with the construction of the new section of Maloneys Road. This construction would only occur during the daytime period and is expected to take around six months. No sens- sensitive receivers are predicted to experience noise, uh, that would be classified as significant under the EPA's noise policy for industry or the department's Voluntary Acquisition, uh, and Mitigation Policy, or VLAMP.

Important, the noise policy for industry sets noise levels based on contemporary research and World, World Health Organization recommendations that represent a reasonable balance between protecting humanity and allowing permissible activities to be undertaken.

Two residences are predicted to experience noise of three to five decibels above EPA's, uh, noise criteria on some occasions during the site establishment phase and one residence for a one to two month period when the, when the 500 kilovolt transmission, uh, line is being, uh, relocated. Uh, these levels are classified in, under the policies as, uh, minor to moderate noise impacts. Not saying that that, that there wouldn't be any impact. But in, in, in relation to the policy settings that they classified as that.

The department has recommended these properties be given mitigation upon request rights in line with the requirements of, of the VLAMP. These properties and another four residence could also experience one to two decibel above the criteria during, during adverse weather conditions, during some stages of the project life. Also, for a short, uh, period, a bit of about two months during the relocation of the

transmission line, and additional eight residences would also experience one to two decibel exceedances of the criteria which are con- considered negligible impacts under the, these noise policy settings.

Nighttime oper- operational noise levels would not exceed the applicable state sleep disturbance criteria. Uh, also based on assessment, applying the, the EPA's New South Wales road noise policy, road noise levels increases from the project result in minor incremental impacts to sensitive re- receivers beyond those already experienced.

In terms of, uh, visual impacts, uh, uh, again, another, uh, amenity issue flagged in submissions, um, the und- undulating topography and surrounding vegetation would mean the mine would be largely hidden from view from residents in Lue and from most nearby rural res- residents. This is, this is the mine site. Um, three privately owned residences would have direct views of parts of the mine site or mining landforms, such as the tailings dam, uh, waste rock emplacement, however these properties located between around 1.9 to 2.2 kilometers from, from this, from, uh, these, these points.

The 500 kilova- k- uh, kilovolt transmission line would also be moved around 300 meters west of its current co- uh, position, noting that the second amendment did re- relocated the transmission line, uh, away from the top of the reach line. How- however, there would be a number of properties to the southwest of the project which would have expanded views of the relocated transmission lines and, or, or the towers, uh, with the closest of these, these properties around 1.5 k- kilometers from, from, away.

Uh, the distance between the project infrastructure and effect of private residences means that the vis- visual impacts of these properties are not expected to be significant. There would also be some views of aspects of the project from public vantage points, including parts of Lue Road and other surrounding roads. The highest impact would be from a section of Piangil Road. Uh, and the department has recommended a condition requiring Bowdens to plant screening vegetation along Piangil Road and, and other, and, and other, uh, points in the landform to reduce the impact.

Next, I'll provide a summary of the department's consideration of social impacts, uh, from the project. A- as I outlined before, it's a green fuel mine. We, we are very well aware of the potential social impacts of the project of this nature being green fuel site. This has been expressed through the large number of submissions on the project, uh, many of which ra- raise social impact directly.

The EOS did include a, a detailed social impact assessment undertaken by Amwell. Uh, and the department also engaged an independent social impact expert, uh, Ms. Martinez of, uh, WSP to provide advice and recommendations on the, on the social impact assessment. We also note that the Lue Action Group, uh, provided expert advice from, uh, Dr. Allison Zilla who, I think, is also presenting today on the SIA in, in the submission which was considered in the department's assessment.

The SIA identified important s- uh, social impacts to include health and wellbeing, particular, uh, risk of lead exposure and contamination of air, soil, and water, uh, which are also considered in, in the, the technical assessments, uh, described above. Impacts on social amenity related to dust, air quality, visual impacts, uh, and noise and blasting, which are, which are also considered in the technical assessments against applicable New South Wales policy and guidelines.

Uh, p- pro- probably, uh, some other aspects. The sense of community, uh, including concerns about loss of community members and population changes in, in the, in the village of Lue along with impacts on community cohesion and sense of place.

Economic impacts. More, probably more of positive social impact was, uh, highlighted in, in the SIA as well. Um, but also potentially negative impacts through Labor Draw from, uh, existing industries is a, is, is an issue. Also culmination of community services, uh, was a concern with, uh, midewstern regional council, uh, requesting that the conditions of in, consent, uh, include the prep- preparation of the

workforce accommodation strategy in consultation with council. And the department has, has recommended a condition to this effect, wi- uh, within the social impact management plan.

The department acknowledges that the project is already confi- contributing to health issues for some residences and la- land holes near the mine with increased levels of stress and anxiety about the project and how it could impact on their quality of life. As outlined above, to miti- mitigate some of these risks, Bowdens, Bowdens Silver proposed to keep the community informed of monitored results relating to lead in the air and water along with broader environmental monitoring and to offer the, as discussed earlier, the blood lead, lead testing for members of the community that request it.

Bowdens o- is also proposing to support health service programs through community investment program to provide investment in local projects, uh, in particular, target- targeting the Lue, Ralston, and, and Kandos, which are close to the site. Uh, noting also that Bowdens has executed planning agreement with council in the order of three million dollars over the life of the project.

To address social impacts, uh, Bowdens also proposed a community contributions and sponsorship program, uh, conti- continue to employ and procure from local sources, the community engagement strategy, uh, and continuation of the community consultative committee, amongst other measures.

The department has also recommended conditions of consent requiring Bowdens to prepare and implement the social impact management plan, including a focus in particular on monitoring and managing impacts on near neighbors, um, broader co- broader commu- community cohesion, workforce accommodation strategy, uh, local business and services strategy, how, how to deal with post closure, uh, through the SIM but also in the rehabilitation strategy, um, and trigger action response plan and community surveys to inform, uh, uh, social impacts and ongoing social research.

The department considers that, with the implementation, the measures proposed, and the application of their recommended conditions, social impacts could be appropriately managed.

I'll just now briefly touch on some aspects of water resources. Um, again, we're, we are well aware of the community's concerns about water impacts, particularly with the removal of the, the water pipeline component, whether there's an adequate supply of water, um, from, that was gonna come from the Ulan and Moolarben mines.

The community is also concerned about impacts on the supply of water for other users and downstream, uh, water, water flows. Many submissions to the department also raise concerns about spills and seepage or polluted water or, or acid mine drainage from the mine or risks of failure of the tailings dam. The EOS and the subsequent amendment reports to the project were informed by groundwater and service-water modeling, uh, with the modeling subject to s- significant scrutiny from both, uh, department's water group, experts, and, um, with the model also peer reviewed on behalf of, um, Bowdens by Mr. Noel Merrick and by the department from Mr. Hugh Middlemis, uh, to review the groundwater, uh, bottling and impacts.

The department also engaged Ms. Sophie Pape of Earth Systems, uh, to peer review the surface water model and, and AMD risk, uh, with, with a particular focus on the water, water balance model in, in relation to surface water modeling. The models were generally considered fit for purpose for environmental assessment by the experts, including, um, DP Water, subject to on- ongoing validation and calibration against monitored data if the mine were to be approved.

The modeling indicates that, that, uh, water would be available, mostly from rainfall and runoff, pit inflows, uh, advanced de- dewatering and, and clean, clean water harvesting. Eh, eh, company's entitled to capture some of this water through harvestable rights under the Water Management Act. Uh, and the remaining water take must be, is, is required to be licensed. The company already holds sufficient, uh, license entitlement for its, for its predicted maximum take for the project.

The high reliance on rainfall and runoff could, would be a risk for the project during prolonged dry periods. However, the company has considered that, that risk and accepted that operations may need to be scaled back in- in, in drier periods. Uh, because most of this water is needed for, for processing. Uh, in practice, this would, would, uh, likely mean the rate of processing may need to be reduced at times. The, the water balance did, did have a, demonstrate a high, uh, se- percentage reliability, um, through the, through the, the cycle that it looked at over a hundred- 130 years of, of weather data.

In the department's view, the key issue is the potential for water pollution particularly from acid mine drainage, uh, given the large amount of, of potentially acid generating rock that would need to be stored and managed. The company would, would need to, uh, separately handle potentially acid forming, or PAF, rock and non acid forming, or, or NAF, uh, after blasting and, and manage the two streams separately. Only, only the NAF material, um, would be for constructing infrastructure and re- rehab, rehabilitation. Uh, the PAF material would need to be fully encapsulated, uh, within the waste rock emplacement, uh, and also within the tailings dam.

The company has classified rock as non acid forming or, uh, or PAF based on geologic- geological characteristics of the rock. Earth Systems, uh [inaudible] should be verified with further study and kinetic, uh, testing. The department has recommended a, uh, a condition requiring that this be done prior to construction commencing.

The waste rock emplacement, tailings dam, and other mine water stories would be lined to reduce seepage, uh, of, of, uh, fro- from those facilities. Uh, during the project life, residual seepage would be captured downstream of the tailings dam and the waste rock emplacement and, and managed through the, through operations.

Once mining ends, the tailings dam and waste rock would be capped with a cap, capping system to, to minimize, uh, ingress of oxygen and water, which would also limit the opportunity for acid generation and leachate formation.

B- Bowdens is als- is also committed to ensuring the final void is designed as a terminal sink to prevent any outflow contaminated water, which was a key issue ra- raised by Mr., uh, Middlemis, uh, in his review of the, of the, uh, groundwater assessment.

The, the recommended conditions also required Bowdens to submit a design and verification plan for the waste rock emplacement and the tailings dam liner to demonstrate how the final design of these structures would, uh, achieve the performance measures recommended in the conditions. These include, uh, the tailings dam liners, uh, ha- have a p- a permabili- permeability of one by ten to the minus nine, one meter thickness, which is a, a requirement or performance measure from the EPA, uh, to minimize potential for seepage, and that the waste rock emplacement, uh, and landforms be designed and constructed to minimize potential for acid met- metal or from drainage.

The department has also rec- recommended the condition requiring Bowdens to prepare an acid mine drainage management plan that details how, uh, PAF rock would be managed and how they would monitor, respond to, and report on, on any AMD from the mine.

The department also knows that Bowdens would be responsible for ongoing maintenance and management in accordance with its mining lease and environment protection license regulated by the EPA. These instruments also include mechanisms for management on- ongoing and longterm environmental l- liabilities such as rehab bonds under the, under the mining legislation and a financial insurance policy of the, out of the POE act as well.

I'd just like to touch briefly on, um, biodiversity aspects. Um, around 381 hectares of native vegetation would be cleared for the project. A 180 hectares, which meets the, uh, definition of Box Gum Woodland,

which is critically endangered community. All, uh, about f- 48 percent of this is derived native grassland where the wood- woodland, um, overstory has been, been cleared.

Um, Bowdens Silver has designed the project to avoid or minimize the clearing of the n- of the native vegetation where possible, including reducing the size of the open cockpits and soil stockpiles. However, as Box Gum Woodland is dis- distributed, um, across the whole site, the department accepts that there is limited opportunity, uh, to further avoid -void the woodland.

The department considers that the project design has avoided biodiversity impacts where practical, uh, and that the residual impacts of the biodiversity could be suitably mitigated, uh, managed, managed, and, or offset, uh, under Bowdens' proposed bio- biodiversity offset strategy. Bis- uh, the department's biodiversity conservation division also supports the proposed offsetting approach.

The depa- department is satisfied there are suitable mechanisms available for Bowdens Silver to offset the biodiversity impacts, including payment into the New South Wales Biodiversity Conservation trust fund if the land-based offsets cannot be found or secured, which is, which is consistent with the, um, Biodiversity, uh, Conservation Act, the framework.

The department also consi- considers that offsetting the impacts in stages over the project's life is reasonable, provided the offsets occur prior to any clearing being undertaken within each stage and has recommended conditions to that effect.

In relation to traffic impacts, the main impacts of the project would be during the first 18 months, uh, of the project life where there would be high number of heavy vehicles to so- show up at the site, establishment and construction of the mine. Because most, uh, traffic is expected, uh, to approach the mine from the direction of Mudgee, in, in the west, the key traffic mitigation, uh, measure to reduce impacts on the Lue village, uh, is the construction of the relocated Mulaneys Road to the west, west of, of Lue. Once constructed, this road would reduce the number of heavy vehicles that would have to travel through Lue, uh, to enter or leave the mine site.

One standard operations commence, there would only be, on average, around, uh, one truck delivery per day that would go through Lue and traffic associated with the mine workforce, which would be a combination of cars and shuttle buses to get the employees to the, to the site.

Secondly, from a traffic perspective, there would be a concentration of, of trucks over the life of the mine, uh, for the construction of the, of the tailings dam embankment. So a 1.4 kilometer stretch of the re- realigned road would be used for haulage. Um, s- this is not expected to have many other uses on that road. Um, nevertheless, the recommended conditions of consent require the road to be constructed to Aus Road standard and to be sealed as a safety measure prior to that haulage occurring.

On the broader network, uh, road network, there would be about 16 truck movements per day, on average, for deliveries and metal concentrate once the mine is operating.

Bowdens has agreed to make road maintenance contributions to, uh, to council, Midwestern Regional Council, for the maintenance of public roads in addition to paying fully for the construction of the relocated Maloneys Road to the satis- to the satisfaction of council. Department has re- a recommended condition to make this effect, um, and that it should be constructed to the, to the standard, um, required by council.

In relation to the economic, uh, aspects of the project, the project would, um, employ around 210 personnel during operations and 131 during construction, with some overlap of, of the workforces for a short period. A cost-benefit analysis, or CBA, and local effects analysis was undertaken by Gillespie Economics for the applicant, indicating net benefit of New South Wales economy of around 44 million dollars net present value. And that, that was excluding employment benefits, uh, for the project, which was also, uh, identified as a benefit by, in the Gille- Gillespie, uh, assessment.

Uh, department engaged, uh, Center for International Economics, uh, to review the economic evaluation. C- CI did not agree with a number of the assumptions, particularly in relation to cost in greenhouse gas emissions and employment benefits, but ne- nevertheless agreed that there would be a, a, uh, a net, a net benefit to New South Wales to accrue from the project.

Um, I might just move on to the, uh, uh, just, uh, final evaluation conclusion. Um, as mentioned earlier, I'll now provide a summary t- of the department's overall evaluation of the project. First, firstly, we acknowledge there was a high degree of public interest in the project and that, that the range of commun- community concerns raised in submissions is broad. Uh, based on its assessment, the department considers that Bowdens Silver has designed the project in a way that would achieve a balance between maximizing resource recovery and minimizing associated impacts on the surrounding landholders and the environment through best practice, contemporary practices, and mitigation measures.

I'll just... I just got about 20 seconds. Uh, nevertheless, this mine would, would be a green fuel mine, and the department recognizes that the prospect of a new mine, uh, would cause, cause social impacts such as fear, stress, and anxiety, which are currently being felt, uh, due to uncertainty, uh, and perceptions of how actual impacts may be experienced in the future.

The department's carefully considered all the issues raised through this assessment and recommended the strict and precautious set of conditions that, in consultation with key New South Wales government agencies and on balance. The department cons- considers that the benefits of the project outweigh its residual costs. The project is in the public interest and its approval subject to the strict conditions of consent. So thank you for your time this morning.

Commissioner Duncan:

Thank you, Steve, for that presentation on behalf of the department. No questions, panel, council?

Dr. James Smith:

Uh, uh, thank you, Commissioner. Ju- just two quick questions.

Steve O'Donogue:

Yep.

Dr. James Smith:

Uh, if I may. Uh...

Steve O'Donogue:

Yes, council.

Dr. James Smith:

Um, uh, you made some comments in relation to the project relying upon, uh, harvestable rights and water licenses.

Steve O'Donogue:

Yeah.

Dr. James Smith:

Uh, as... Did the department consider, um, the availability of water in the water sharing plan and whether the use of water for this project, in terms of the allocated available water in the share- in the plan as a whole? Might be a question you might need to take on notice. Um, the-

Steve O'Donogue:

I might, I, I might need to take that on notice. But, um, it does come down to, uh, s- uh, the s- s- the, the, the component, whe- whether it's groundwater or surface water aspects, so you're probably talking more about surface water component in particular.

Dr. James Smith:

Yes.

Steve O'Donogue:

Um, s- certainly can provide more in- information around that about s- especially when it comes down to the, the security of the ability to get that, that water.

Dr. James Smith:

Indeed. Um, and the second question. So condition B80 in the proposed conditions of consent deals with...

Steve O'Donogue:

Okay.

Dr. James Smith:

The rehabilitation strategy.

Steve O'Donogue:

Mm-hmm.

Dr. James Smith:

Um, c- You're in a position to express a view as to the way that condition is drafted to ensure rehabilitation at the end of the project?

Steve O'Donogue:

Um... J- the re- the rehab strateg- strategy sort of works hand in hand with the rehab management plan. So the strategy is providing, um, more strategic input from, uh, through the life of the mine, from the community, council, um, the community consultative committee, uh, yeah, in terms of, uh, options to, uh, improve, align the rehab, generally, generally consistent with consent, but providing opportunity for, for, for getting a, uh, uh, an outcome there that can benefit the, the community in the future.

So I think with the, the strategy in conjunction with the, uh, the rehab management plan, which is quo- required under the Mining Act and mining regulation, uh, that that component does work in terms of ensuring rehab is undertaken and, and monitoring that. Um, and that, the strategy s- sits... Uh, like it's

not overall framework for how, how that's achieved, uh, with the involvement of resource regulator as well. You know-

Dr. James Smith:

Uh, understood. Thank you.

Commissioner Duncan:

Thank you, Steve.

Steve O'Donogue:

Okay.

Commissioner Duncan:

Thanks for the presentation.

Steve O'Donogue:

Thanks.

Commissioner Duncan:

Could I just make a quick, uh, check? Can everybody hear okay, down the back?

Audience:

No.

Audience:

No.

Audience:

No.

Commissioner Duncan:

Well, if, if not, there are a lotta seats up here, and it's quite clear up at... So if you'd like... If you'd like to move up, just...

Audience:

Very difficult to hear

Commissioner Duncan:

Okay. We... This will be transcripted, so you will get... You'll get the information. But, uh, if you, if you try coming up to the front, it might be a little clearer. The fans, I think, are making some background noise as well.

Audience:

No, it's not that.

Commissioner Duncan:

Okay.

Commissioner Duncan:

We'll see what we can do to, to, to improve the sound.

Audience:

There's more speakers coming.

Commissioner Duncan:

There's more speakers coming apparently, so we'll, we'll do what we can.

Commissioner Duncan:

We will do that, okay? Thank you.

Dr. James Smith:

All right. It... I, I, I think it would be helpful. Um, yeah, if everyone at the back could come forward, there's plenty of chairs. Uh, this is an important session, and it is key that everyone does hear. Uh-

Excellent.

Audience:

[inaudible]

Dr. James Smith:

All right. I, I'm... I might sacrifice mine for the, the sake of audio. Um... But just while that's happening, I will call up our next speaker, uh, which is Anthony McClure. If you could please approach the podium.

Commissioner Duncan:

Speak close to the microphone.

Dr. James Smith:

Um, and if I could just ask you to talk into the microphone just for a quick sound check. And if the audience is having difficulty, then I'll, um, I'll provide you with mine.

Anthony McClure:

Test, test. Can you hear me clearly? Is that better?

Audience:

Yes.

Audience:

Yes.

Audience:

Yes.

Audience:

Yes.

Audience:

Yes.

Audience:

Yes.

Anthony McClure:

That's good. Okay. Good morning. On behalf of the company and our team at Bowdens Silver, I'd like to acknowledge that we are speaking from Wiradjuri land and would like to pay our respects to the traditional honors, elders past and present.

My name is Anthony McClure. I'm managing director of Silver Mines Limited, the parent company for Bowdens Silver Proprietary Limited, which holds a hundred percent of the rights to the Bowdens Silver project. I'm also the director of Bowdens Silver Proprietary Limited. I live in Sydney, and I also live and work in Lue, um, at the mine site, and I've done so for the past six and a half years. Full disclosure, I'm also a part owner and the person responsible for a local business, being the Lue Hotel, where we are also currently in the process of opening a café. I'm a geologist by trade with over 35 years of experience, uh, from project generation, mineral exploration, mine and processing assessments, and financing and managing mine developments.

Move to slide two, please. Next slide. Thank you. A few comments on our parent company, uh, Silver Mines Limited. Silver Mines Limited is a public listed company on the Australian Securities Exchange. Although the company has been listed for some time, uh, in mid-2016, the company changed substantially with the purchase of a Bowdens Silver project. And with that, a new board of directors, uh, was appointed, new management installed, and the company was recapitalized and refinanced.

We are an Australia company based in New South Wales. We have almost 12,000 shareholders, of which, over 95 percent are Australian domiciled. We do have institutional shareholders, both local and offshore. However, by far, the most shareholders are individual investors in Australia.

The project is in a wonderful part of the world, being approximately 30 kilometers of where we are, here in Mudgee, uh, in the midwestern region of New South Wales. Our local towns are Lue, Ralston, Kandos, with the main center being Mudgee.

Next slide, please. We have a great local team onsite. Uh, most live locally, and we have a school base across geology exploration, field services, community, administration, finance, mine development, and production. Bowdens Silver first commenced work on the project straight after our takeover in mid-2016. We currently have a team of 24 staff working onsite. Uh, several of our team are here today.

Next slide, please. We have an active farm onsite with around 2,000 sheep and 200 cattle. Uh, we have a small local team who manage the day to day running of the farming operations.

Next slide, please. Having a close look at the project, Browden- Bowdens Silver is the largest undeveloped silver project in Australia and one of the largest globally. Contrary to what you might've heard, we actually will be a silver mine. Around 70 percent of our revenues, uh, will be from silver, around 20 percent from zinc, and around 10 percent from lead. Development and live of mine capital costs will be approximately 310 million dollars. The mine will initially produce around six million ounces of silver per year with byproducts of zinc and lead. Our products will be taken by Rydon Rail for further processing. The main product of silver and lead will go to Port Pirie in South Australia while the zinc products, uh, will go through Port Botany or New Castle for shipping to Tasmania or Asia or anywhere else.

There will be no smelting onsite. This is a, is an important point. As any comparison of historical, uh, uh, historical mining operation such as Broken Hill or Mount Isa are, are relevant.

Our mound, mine life is 16 and a half years with a total project life of 23 years. The mine life is likely to increase with production continuing much longer into the future. We will have 320 jobs during construction and 228 jobs during operations at the site. Uh, we have always had and will continue to have a local, locals first approach. Local jobs, high-paying jobs, and with a significant training and advancement operations will be available throughout the life of the project.

Next slide, please. We acquired the project mid-2016. And since then, we've spent over 80 million dollars on exploration and assessments, free hold purchases, uh, local services, and local businesses. Uh, that is all onsite expenditure and excludes project acquisition and corporate costs. We've spent almost nine million dollars in wages locally. That is locally. Not Sydney, not elsewhere, not corporate.

We inherited a lotta work, uh, from the previous owners. However, our first job was the completion of the drill out of the deposit, which resulted in our maiden mineral resource calculations in 2017. Work then moved through feasibility studies, being the economic assessment of the project. And, uh, right from the very start, we commenced our environmental work in the preparation for the long process of completing our environmental impact statement, or EIS. In May 2020, we submitted our EIS and, and then upgrade- updated our amendments.

As we're all aware, just before Christmas 2020, the New South Wales Department of Planning and Environment completed its assessment report recommending the project for approval subject to strict conditions of consent. And they also stated that the project was in the public interest. With our ongoing work and with approvals, of course, we expect to be in development ready, readiness, uh, later this year for construction next year.

Next slide, please. From day one, we've st out to create an environmentally robust and socially and financial- financially responsible development. Our place within and acceptance in the community was paramount. We had a very m- different approach to our pre- predecessors, and we reduced the proposed size of the operation from four million tons per annum to two million tons per annum. That was driven by economics, but also we, we sought to significantly reduce water consumption. Our plan has always been not to affect environmental flows of water and not to compete with agriculture for water.

Our community policies are widely known and well documented and include the preservation of the Lue township. No man camp... No man- mine camp onsite and a strong commitment to local jobs and local training. This mine will be staffed and managed locally. It will not be a fly in, fly out operation, and the project will le- a, uh, leave a legacy of training and schools development so locals continue to live and work in the local area with such skills.

We are extremely proud of our community credentials. Our board of directors and management have significant experience in achieving social license and through acting honestly, transparently and, and being active in, as community members. These are not just words. These are the people we are.

Next slide, please. I've been asked to provide some further inform- uh, uh, further detail on the potential future of the project. There is a wealth of information that we supply on our websites, uh, on the ISX, uh, platform, and publicly elsewhere. The deposit is very unusual for New South Wales, for the Eastern Seaboard, and indeed for Australia. There's nothing like it. We are still learning. Even when we took over of the project, um, the... Uh, when we took over the project, the deposit poster service was reasonably well understood, but there was little knowledge as to what was at depth. Early work concentrated on the top 100 to 150 meters where silver mineralization is in- evident right from the surface. The blue area on the diagram, um, is the planned open pit design. And drilling underneath, this area demonstrates strong continuity of the deposit. We see good continuity of high grade sheets to the north. And as we move underneath into the south, we shre- we see stro-

Anthony McClure:

The north, and as we move underneath into the south, we sri, we see strong continuity, which also includes gold. The state of material is subject to a scoping study or a pre-feasibility study for a potential underground operation in the future. Any further development, of course, would be subject to further state or government approvals.

We have completed approximately 50,000 meters of drilling since our original mineral resource assessment in 2017, and we plan to have an upgrade assessment, um, announced shortly.

The other point to make is that the deposit is very much open, so further discoveries and extensions are highly likely. We are in a very substantial mineralized system. Next slide, please.

The world uses over 1.1 billion ounces of silver per year. Most mine production comes from Mexico and China, being around 38%. Australia produces about 5% of world silver. Just over 17 per- 17% of overall production comes from recycling, of which the USA and China are the main contributors. Historically, silver has been a major source of, of, of store of wealth and used in currencies. Silver has been used for thousands of years and it was used in co- coinage way back around 2000 years, even before the Egyptians were building pyramids.

Nowadays, it's all about, uh, more about electronics and other high-tech applications. Approximately half of the world's silver production is used in industrial applications, including electronics. The main reason for that is silver is by far the best electrical conductor, uh, of all the metals. Think of solar power, electric vehicles, 5G, which are major growth industries right now. Almost all electronics use silver, TVs, computers, mobile phones, aerospace, robotics, nanotechnologies, and so forth.

Silver has around 10,000 applications, the highest amount of uses of all the metals and second only to petroleum products. Silver also has antibacterial and antiviral and an- antifungal properties, which is why it's used in water purification. Silver can destro- destroy over si- 650 pathogens, which are viruses and bacteria that can cause disease. In fact, silver has numerous and increasing applications a- across many areas of medicine and in pharmaceuticals.

The reason I wanted to point this out is this. Next slide, please. Bowdens Silver's uh, Bowdens Silver's production of silver and zinc falls under the New South Wales government's critical minerals and high tech minerals strategy. A quote from the strategy: "Establishing New South Wales as a world leader for investment in substantial, sustainable mining is a key priority for the New South Wales government. The 20-year economic vision for region of New South Wales and the forthcoming Regional Investment Attraction Strategy identify critical minerals as an emerging sector and represents a new future for the

New South Wales, New South Wales mining sector. The global race is on to locate, develop, and establish secure supply chains of responsibly sourced critical metals and high-tech metals. Critical metals are a key enabler for a range of global and domestic industries, including advanced manufacturing, renewable energy, defense, aerospace, battery storage, automation, and electric vehicles. Critical metals will play a crucial role in reducing emissions, given the direct role of critical metals in the manufactured components of renewable energy and technologies like batteries, solar panels, and wind turbines. Securing these supply chains is of vital, is, is vital to secure a low-emissions future."

Assuming we achieve approvals for the dev- de- development, uh, Bowdens Silver will be the first new mine development approved under the strategy which was released by government in November 2021. To be clear, under this strategy, this does not replace the need for thorough environmental, um, assessments and justification under the New South Wales planning laws.

A few words on royalties. In our state's recent budget update, mining royalties for the state, uh, for this, uh, financial year are, are expected to s- to peak at around $6 billion for the 2023 financial year. The bulk of this is from coal mining. Those royal- royalties are forecast to reduce to around 2.8 billion by the 2026 financial year. That's a drop of $3.2 billion. That's a lot of money. Think of our schools, our hospitals, our roads, and other infrastructure being massively less funded. As we decarbonize our societies over the coming decades, coal will be phased out. But what is coming behind to fill that massive void? Net zero 2050 is 27 years away, and that's exactly why the government has introduced the critical metals and high-tech metals strategy. We need to get moving on it. Next slide, please.

Like any industry, mining, transport, agriculture, construction, you name it, we all have greenhouse gas emissions. Our scope 1, 2, and 3 emissions will contribute about 1.4 million tons of carbon dioxide equivalent over the life of the mine. This will reduce with the planned decarbonization, um, of the electricity grid that we take our power from, but we've also been looking at a small fa- solar farm that may reduce our grid dep- dependence by around 35%. So our emissions will reduce, and most likely significantly.

However, let's put that 1.4 million tons of carbon dioxide equivalent into context, and on the assumption that we do not reduce our emissions. Does sound like a big number. Um, we, but we're often, often erroneously compared, uh, to a coal mine that, but we're not remotely similar. As an example, a recent proposed coal mine locally was going to produce about 150 tons more carbon dioxide equivalent than that of Bowdens Silver. The scope 3 emissions were going to be roughly 1200 times that of Bowdens Silver, hardly comparable.

We take our corporate governance very seriously. We are very active in our environmental, social, and governance, ESG, compliance. And as we move closer to pre-development, our ESG responsibilities will be further expanded. Our reduction in greenhouse gasses and emissions is one, but one part of it. Next slide, please.

The Bowdens Silver Environmental Impact Statement, along with its amendments, is one of the most comprehensive EISs done for a metalliferous mine in New South Wales ever. In addition, for our commissioned peer reviews, our requirements that we would complete peer reviews over health, groundwater, and economics. However, we also voluntarily un- undertook additional peer reviews on noise, air quality, surface water, and acid mine drainage. As part of the DPE process, Bowdens Silver has reviewed and accepted all of the recommended conditions of consent, as provided with the DPE assessment report.

I'd like to take the opportunity to thank our Board of Directors and management and staff, all of our specialty consultants, and peer reviewers for their hard work in getting us to where we are today. I would also like to thank the, the various government departments, 14 in all, the Department of Planning and Environment, and of course the communities. It's a long and thorough process to get to this point.

I'm sure I speak for everyone, including in our communities, that we're happy to see the process come to this determination point.

Before I hand over to Blacke Hjorth, who'll run through our community items, I'd like to make one final point. We very much pride ourselves in the work we have done. I'm confident we have and will continue to do an exemplary job. We bass our, base our work on the highest level of cap- capability in science, diligence, transparency, proper consultation and, importantly, the facts. Unquestionably being moral and ethical in all facets of our work is paramount. We are passionate about our business, and I'd like to think this is well demonstrated.

It is very pleasing in, in, in that on the most part, we are well accepted locally. We have a solid local support and we're very proud of that. Blacke will have more to say on that in a moment. But I'd like to take this opportunity to per- p- personally thank the community for their contributions and the time they've invested in this process. We acknowledge the uncertainty and frustration in, in ge- that is generated by the extended approvals process and the long time this project has been in the planning and under assessment, as is required in the environmental planning and a- assessment act for the state, for a state significant devel- uh, development.

There's always going to be opposition to projects, such as in mining, building construction, and energy projects, hydro projects, housing, forestry, manufacturing, other industries, uh, government projects, council projects. The list goes on. We've welcomed the community's feedback and it's played an important part in shaping our proposal.

At the same time, it has been disappointing to see the distribution of false and misleading information disseminated over many years, which we know has had an impact and caused worry and anxiety for some of the most vulnerable and impressionable members of the community. I suspect we'll continue to hear some more claims over the coming days, such as it's a toxic lead mine, children's health is at risks, there'll be no jobs for locals, it'll be fly in/fly out, there has been no community consultation, it will drain the water table for miles around forever. Comments like these are simply not true, as clearly demonstrated by work by Bowdens, other consultants, and government's assessments, and peer reviewers.

When developing an assessment and, and assessing projects, it's important we engage in proper debate, ask questions, seek answers, begin the dialogue, suggest views, provide ideas, but most importantly, we must stick to the facts. That is how we do the very best we can possibly do. At Bowdens we've always looked at, looked carefully to understand the issues with the neighbors in our, in our communit- communities and those further afield. That is proper consultation and we are committed to upholding this approach throughout the life of the project, should it be approved.

To close, I would like to say it again. Our commi- commitment and focus in, uh, and our focus on delivering the best for our region. This project is an exciting opportunity for the local community and we look forward to continuing working closely to deliver the wide ranging social and economic benefits, uh, that Bowdens Silver will bring to Lue, Rylstone, Kandos, Mudgee, and beyond. Thank you.

Commissioner Duncan:

Thank you, Anthony. We have a quick question, if that's okay.

Commissioner Sykes:

Thanks very much, Anthony. Um, Commissioner Sykes. Um, I just had a question. You made a comment on the resource potential of, of the project and the fu- future resource potential. Um, and I guess my, I mean, recognizing that, um, we are, um, assessing the project at hand at, um, in, in terms of the

information before us. But in light of your comments, you did state that the project could continue for much longer in the future and it ha- does have that, um, future resource potential. Could you explain or clarify, um, for the panel what that, um, in terms of firming up that resource potential, what activities will, would be expected to take place that would drive into or feed into scoping and pre-feasibility studies? Um, for example, exploration programs that could be working in parallel with the operating mine.

Anthony McClure:

Yeah.

Commissioner Sykes:

Um, and you also mentioned that there was a zone that could potentially contain another product strain. Um, could you clarify whether, um, the planned infrastructure and processing facilities that you've proposed could accommodate, um, an exis- an, an additional product strain?

Anthony McClure:

Yeah, thank you, Commissioner, for the questions. Um, firstly, the exploration work that we've done over the years, so our first, uh, resource assessment for the open cut area was completed in 2017 and since tha- since that point, we've completed, uh, 50,000 meters of drilling, and that's drilling in and around the Bowdens project, not further afield but close to, uh, the, the site.

The, um, that's obviously shown that there's continuing mineralization at that depth. Some of the deeper components, we're talking probably 300 meters down to 550 meters, something like that, that area's now subject to a, um, a pre-feasibility or scoping study for a potential development, probably about halfway through that. Uh, that is obviously a, a, a very separate potential development that will ho- obviously go through the whole assessment process, if, indeed, the scoping study is, is going to determine that that's, um, a possibility for further development.

Um, close to the surface, so further drilling that's been done close to the surface, uh, within that 50,000 meters of drilling has, um, shown there is potential for, um, the expansion of the open pit in the future, and again, uh, we haven't commenced scoping study on that, but, uh, uh, but again, that will be subject to, um, further assessments in, in, in the future.

I think, um, the, the main point in all of that is, um, the, the, the surface mineralization is, uh, is well understood and that's obviously the topic for, uh, determination. Um, however, the mineral system is much, much larger. We do, we still do not know the extent of it. Deeper down, uh, yes we see, um, gold coming into the system. Deeper down, we see copper as well. Now, what that means, we just don't know yet. But, uh, um, the, uh, the potential is, uh, very significant. And that's not unusual for this type of, uh, deposit. They, they continue with it.

The oth- the other point, um, on the, um, uh, uh, in terms of the gold, uh, mineralization, so, uh, that is something, there's an area of, component of that that is rea- reasonably close, uh, to surface but directly under the open cut pit design, um, in the south. And, and again, that is subject to, um, um, assessments. There is the potential that that could be, in the future, comple- compu- uh, uh, roll into, as a byproduct, um, as well. We don't know that extent. Um, the, the work that's happening at the moment, we have completed that drilling in that area. We're not undertaking metallurgical work, but again, that will be subject to further assessments, of course.

Dr. James Smith:

Anthony, we do have one other question, and feel free to take them on notice if required.

Commissioner Cochrane:

Tha- thank you, Anthony. Uh, Peter Cochrane, Commissioner. Uh, the impact of your added workforce, uh, one of the proposed conditions is to, um, develop a, an accommodation, workforce accommodation strategy in consultation with council. Um, perhaps in your closing remarks on Friday, you could address impacts on crowding out of tourism accommodation, given the importance of, uh...

Anthony McClure:

Yeah.

Commissioner Cochrane:

... agrotourism in the region.

Anthony McClure:

Indeed, Commissioner.

Commissioner Cochrane:

Thank you.

Anthony McClure:

Yeah, thank you. Um, I'll just now hand over to, to Blacke Hjorth.

Commissioner Duncan:

Thanks, Anthony.

Anthony McClure:

Thank you.

Blacke Hjorth:

Uh, good morning, commissioners, and, uh, thank you for the opportunity to present to you today. My name is Blacke Hjorth and I am the Community Liaison Officer at Bowdens Silver. I started with Bowdens Silver in 2016 and was given the opportunity to use my existing skills in what was a new industry for me on a world leading mining project. The importance of the Lue community was impressed upon me, even prior to my commencement.

Sorry.

Um, even prior to my commencement in the numerous conversation I had with Anthony and other existing employees during my interview process. One important point was made very clear. The community of Lue, our honesty in how we interact with them, and the long-lasting sustainability of the village was at the top of the priority list from day one. If I wanted to work with Bowdens, I had to be on board with that and it was an easy decision. Next slide.

Audience:

bring the microphone closer, please

Blacke Hjorth:

Is that better?

Audience:

Yeah.

Blacke Hjorth:

Let's skip two more slides. Uh, next slide, please. In 2016, it was clear that we had inherited some long-lasting community issues from the previous owners of the project. From the outset, my role and the focus of the Bowdens Silver team has been to be approachable, open, and honest, transparent in our dealings, and importantly, listen to the community. This approach has helped us to inform and change our mine design over time and also created opportunities for all members of the community to interact, ask questions, and learn about the project.

Our open door policy has been in place from day one and continues to this day. We believe that for the majority of the community, we do have a social license to operate. As you can see on the slide, our engagement has involved a whole range of different methods to ensure we can communicate in a manner that suits our diverse community and to ensure we can listen, explain outcomes, take comments back to our consultants for consideration.

For instance, at various community open days, we've had a range of technical experts on site in the fields of human health and lead, surface and groundwater, noise, air quality, and visual amenity. This was to give locals the opportunity to speak directly to them and ask questions. We've tailored our interactions to suit based on personal needs, and our approach to developing the project has been directly informed through interviews with members of the community.

The community consultative committee was implemented in 2016 and allowed for the sharing of information between Bowdens Silver and the wider community, the LUE Action Group, indigenous groups, Midwestern Regional Council, and the business community. I could go on and on, but it's clear that our consultation has been far reaching and effective.

It must also be said that not unlike similar projects, some within the community will always choose not to engage, and that is their right. But again, our door is always open.

Audience:

bring the microphone closer, please

Blacke Hjorth:

Ne- next slide, please. On the previous slide, I touched on a recent community survey. This was a quantitative and statistically sound survey conducted throughout the entire mid-western regional LGA and run by an independent company, SEC Newgate Research. Specific objectives were to identify and quantify issues of concern within the local community to see where mining sits, attitudes to the local mining industry, knowledge and perceptions of the proposed Bowdens Silver project, and response to information.

As you can see, 8 out of every 10 people were aware of our project. This was confirmation that our consultation engagement was making it into the wider community. After being provided information on the project, importantly, nearly 7 out of every 10 people were supportive. More importantly, less than 2 out of every 10 people were not supportive of our project.

Other findings included that 75% of participants believed the project will have a positive impact on the local economy, while 75% believe it will pri- provide jobs for locals. Job creation at 43%, the potential for growth generation and investment in local infrastructure and services, and the need for mining were the primary drivers of positive sentiment. Almost two thirds at 64% of parci- participants were positive towards the local mining industry in the Mudgee region, while only 15% were negative.

A similar survey was conducted in 2019 as part of the social impact assessment. Reassuringly, the results from then are very similar to now. It shows that our support, our supported community sentiment during our assessment phase, during AIS exhibition, and now at the very last part of the process has remained strong. This was an important process and confirms the countless positive interactions we have had with community members throughout the years. It has reinforced what we know, and that is that the majority of people we speak to want this project to go ahead. Next slide, please.

In its assessment report, the DPE considers that the project would result in considerable economic benefits to the region and to the State of New South Wales through employment and royalties, but there is more than that. There are benefits that can't be defined as easily as numbers, and yet they have a large part to play in the long-term social impacts on the community.

For instance, our priority to hire locals and to provide training and up-skilling for youth and other job seekers will enhance the skills base in the region. This will have positive knock-on effects for family structures throughout the region, and I've heard many times from locals, including those within the teaching profession, that school leavers often have to move away from their families to find meaningful work and opportunities. Our project will help address that. Another key point is our project will provide resilience within our region in an ever-changing landscape of work attitudes and decarbonization.

It's well known and recognized that the mid-western region has benefited greatly from the existing coal mines. At some point, that will change, just as we saw with the closure of the cement works and associated industries in Kandos, and the negative effects of that are still experienced by that community today. The opportunity for our project to introduce a new and different mine in the region will increase the existing employee skills base and provide diversity in industry.

Also, we know firsthand that opportunities provided to farmers by the mining industry help them secure off-farm income that allows them to both plan and get through the daily rigors of everyday farming in extreme climate cycles.

The Bowdens Silver project will also be an integral part of the New South Wales government's critical minerals hub. Silver and zinc are crucial to the success of the critical minerals and high-tech metals strategy, which will ultimately lead this state into a new era of mining success. Next slide, please.

So as I reach the end of my part of this presentation, I want to assure the commission, and just as importantly, the community, that we are more than aware of the changing elements within the region. Our region has recently endured years of drought followed by major flooding events. The employment landscape has changed in areas within our region on the back of COVID and its associated hangover. Our tourism industry has gone from strength to strength, but at the same time has impacted the housing market. The creation of the Central-West Orana Renewable Energy Design has seen a proliferation of potential renewable projects in the region and the associated pressures that come with that. We understand that, but we also know how our mine fits in that space. Ultimately, we have changed it over time to ensure it fits.

A commitment to hire locals wherever possible and encourage our workforce to reside in the local towns and villages negates the need for a FIFO workforce. We have received in excess of 300 job applications from locals to date, and just locals. That doesn't count technical roles where there's been

thousands of applicants over time. We have a desirable project and we expect this local interest will continue.

We're investigating short and longterm accommodation options with council to ensure that our construction workforce does not negatively impact the tourism industry or local services. We have seen tourism boom in the region as a result of COVID, and the area has also come into its own as an attractive place to visit. We have heard the community's concerns regarding this and are confident that our project has been designed in a way that does not impact the local tourism or agriculture industries. Our multiple assessments confirm that.

To conclude, we understand and acknowledge that there will be a range of both positive and negative social impacts, which will be experienced by different people and at different times throughout the life of our project. However, I am hopeful that in the medium to long term, everyone in our community will be able to experience the benefits a project like ours can bring to our region. So on that note, I would like to thank you once again for, uh, the opportunity to speak and your consideration.

Commissioner Duncan:

Thank you, Blacke.

Dr. James Smith:

Great. Uh, thank you and thank you, commissioners. Uh, the next speaker is Nicholas Warren. Mr. Warren, if you could please come to the podium.

Nicholas Warren:

Thank you. Can everyone hear me okay? Is that loud enough? I'll do my best to speak up. Um, good morning, commissioners, and thank you for the opportunity to present to you today. Um, my name is Nicholas Warrant. I, I'm a principal consultant with RW Corkery & Co. We were the, uh, consultancy that led the preparation of the IS and managed the technical assessments that, uh, accompanied that document and the amendments that followed.

Firstly, I'd like to start by paying my respects to the Wiradjuri people, who are the traditional custodians of the land upon which we are meeting, and on which the Bowdens Silver project would be located, and acknowledge their elders past, present, and emerging. RWC works on numerous projects throughout New South Wales and Australia, and respect the advice and involvement of all aboriginal community members on the lands in which we work. In particular, we have appreciated the involvement of First Nations peoples in this project, including in consultation, archeological survey, and in providing comments on the assessments completed. We are confident that this involvement and cooperation will continue if the project is to be approved.

The Bowdens Silver project would be a green field mine, meaning that it brings with it a change to the local area and communities. These changes are inevitable with these types of projects and mean that mining activities would be seen and heard for the first time, which often results in amenity and social impacts. The type of mine proposed would also involve a number of activities that are not familiar to the local community and present a sour- a source of fear and anxiety. I refer here to tailings and waste rock management in particular. These are activities that are well understood in the mining industry and undertaken in day-to-day operations.

Today I'm briefly going to discuss some of the key matters raised in the submissions preven- presented to the IPC to date, uh, and I expect we'll hear more of these over the coming days. Uh, next slide, please.

I'd, uh, first I'd like to start with a discussion on, um, the acid mine drainage risk, uh, and in particular, the, um, the peer reviews that have occurred for tho- those processes. The identification and management of acid mine drainage risks has been raised as a key issue, and were the subject of disagreement between experts commissioned by Bowdens Silver and the expert commissioned by DPE to review the project.

Importantly, it should be made clear that the identification and management of AMD risks occurs at most metalliferous mines. Identification through geochemical testing informs risk management. This process continues throughout mine development. The controls and management measures are commonly applied and well understood. It is in the interest of Bowdens Silver to manage these risks, as failing to do so would impact the long-term future of the development and result in significant financial and reputational damage.

This is not a mine being developed 50 years ago. Modern mine development in Australia is informed by rigorous analysis and technical assessments and is strictly regulated with bonds in place to ensure financial commitments to rehabilitation. I will briefly run through the comments from the DPE peer reviewer at Earth Systems to discuss the nature of the professional disagreement for the benefit of those present today.

Earth Systems recommended that additional static geochemical analysis be undertaken in the northern section of the open cut pit, as the material classification strategy for this section is differentiated by the presence of minerals that would neutralize acid generation and therefore result in it being considered non-acid forming. The sampling completed for the IS was targeted at decision making for the project. Ultimately, the waste classification strategy was informed by a detailed understanding of the geological setting, direct mineralogical observations, the geochemical testing, and new technology that was used to scan elemental distribution.

Graham Campbell and Associates and Bowdens Silver are also aware of mining processes which influence how the mater- the material would be mined, handled, and stored. Importantly, all of the data collected by Bowdens Silver supports the proposed classification strategy. Earth Systems took a more conservative approach and sought a broader sampling pr- campaign to rule out unexpected outcomes. While there is disagreement on the need for this. Bowdens Silver has accepted the recommendation of Earth Systems on this matter.

Earth Systems also recommended a more conservative, 0.2% total sulfur cutoff for acid-forming material in the remainder of the open cut pit until such time as the 0.3% total cutoff that was proposed for the project had been justified. Bowdens Silver has accepted this approach, noting that the majority of the material outside of that northern section is quite clearly above or below that boundary and this will not influence project outcomes.

Kinetic leaching tests investigate acid and other pollutant generation over time. A number of these tests have d- already been undertaken for the project and were targeted at specific sections of the open cut pit to address uncertainties in the material classification. Earth Systems again recommended a more conservative approach, which has also been accepted by Bowdens Silver. The kinetic leach samples undertaken to date demonstrated that acid generation in the waste rock stabilizes relatively quickly and remained stable for the duration of testing, which was 12 months for most samples, and for some up to three years. While additioning, additional testing will rule out unexpected outcomes, the expectation is that it will produce consistent results with those found to date.

So in summary on the testing that has been done to date, targeted geochemical testing has been completed and more will follow over the life of the project. Some of the static geochemical samples in the northern section of the open cut pit indicate weak acid generation despite total sulfur being below a 0.3% cutoff, and this is what was questioned by our systems.

The kinetic leaching tests completed to date indicate that the acid generation stabiliz- stabilizes relatively quickly, which supports using this material in construction. Kinetic leaching tests that would be at- commissioned will directly address the relatively small area where this, where there is uncertainty in the static sampling outcomes. However, it should be noted that static sampling focuses on a snapshot within a limited area and mining occurs over meters of rock at a time. So the mixing that occurs during mining and then the handling of the material and its placement all support further acid neutralization.

The combined qualifications and experience of Graham Campbell and Associates, Okane Consultants, and Bowdens Silver support the classification strategy. Regardless of this, it has been agreed that the work needed to satisfy Earth Systems would be completed. Earth Systems also recommended review of the design of the waste rock emplacement once the additional sampling was complete. Bowdens Silver had commissioned Advision to complete a preliminary, preliminary design of the waste rock emplacement and the reproach has, has now been peer reviewed by Okane Consultants. The preliminary design of the proposed capping and lining of the TSF and waste rock emplacement is considered to be consistent with best practice and meets current Australian and international guidance for the management of path material.

It is also best practice to trial, test, and refine closure strategies with these prescri- procedures described in the AMD management plan and the rehabilitation management plan for the project. So review of the waste rock emplacement design will occur as recommended by Earth Systems throughout the life of the project.

Earth Systems noted that na- NAF waste rock sourced from the northern section of the open cut pit and intended for use in construction of the southern barrier may be a potential source of, of neutral mine drainage. Due, this is due to the presence of high levels of manganese in some of the samples that were identified. Bowdens Silver identified this risk in the EIS documentation and noted that management strategies would be refined to ensure that any source of neutral mine drainage would be encapsulated. This would not affect Bowdens Silver's ability to construct the southern barrier or any other aspects of the project. It would def- it would be a management task.

Finally, Bowdens Silver has agreed that all of the additional work recommended by our systems would inform an AMD management plan, and this plan would be, would guide waste rock classification, handling, and placement. The plan would be subject to continual review and updated as a, as a, a result of the field trials and ongoing testing consistent with modern mining practices. Next slide, please.

So as the commission is aware, Bowdens Silver has accepted a condition of consent requiring a materials classification verification program to be undertaken prior to mining commencing. This condition and the program it describes was included by DPE to ensure a conservative outcome for AMD risks and their management. Bowdens Silver remain-

Nicholas Warren:

... outcome for AMD risks and their management. Bowdens Silver remains confident that the approach proposed will be justified and accepted by DPE and its experts, following the additional program of sampling and analysis.

There are two important aspects relevant to AMD that have been considered by the company and its consultants. The first is whether there is sufficient material available to construct site components and to undertake rehabilitation. Review of the waste classification strategy in response to the peer review comments has identified 5% more material than previously expected would be NaF and available for construction. As mentioned before, should a- a 0.2% total Sulphur cutoff applied in the AMD management plan, in its final, in its final version. It has been identified that this approach would see a reduction in the NaF materials by only 1%, and would not materially affect construction and

rehabilitation activities. Importantly, there are contingencies available to address shortfalls, should they arise.

The conditions proposed by DP are noted as being conservative and make it clear that Bowdens Silver must verify the materials balance to the sa- satisfaction of DBE prior to commencing mining. The second aspect is whether the proposed management of AMD risks is sufficient. Bowdens Silver sought advi- expert advice in designing the waste rock placement and capping concepts, for the for the waste rock in placement in TSF. Okane consultants were subsequently commissioned to review the approach in response to the Earth Systems comments.

In particular, Earth- uh, Okane consultants pointed to the importance of procedure in managing AMD risks during mine development. For example, the proposed approach to development of the waste rock placement in two meter thick layers, for each ten meter lift, would result in compaction of each layer that would mitigate gas transport by reducing poor spaces. This in particular is particularly relevant for oxygen ingress and possible AMD generation. This- this approach is consistent with best practice, as are the store and release covers proposed by, for the waste rock in placement in TSF, which have been approved in numerous mining operations in New South Wales and Australia.

Okane consultants are also currently overseeing a program of further testing and verification. Initial results have been presented to the commission and support the approach taken to date. Following an approval of the project, a detailed materials characterization, verification program would be developed in consultation with DPE and its experts. As previously noted, this wouldn't form an IMD management plan that would be implemented over the life of the project, and be subject to regular review and updates. Next slide, please.

Um, as, um, mentioned by, uh, Steve O'Donogue earlier for- for DPE, to discuss the human health risks, but the- the risk to human health from exposure to lead have been identified as a key community concern, from the commencement of mining plan, mine planning and EIS preparation. As, uh, Steve noted, a comprehensive human health risk assessment has concluded that the project presents no health risks to the local community. The outcomes of this assessment have been supported by two independent peer reviews, and most importantly, by DPE. The key to this assessment, the consultants at EN Risks considered a risk index, which res- represents the scale of risk where one represents the level at which health risks would be expected.

The project would result in only marginal incremental change to the risk index for existing exposures for most metals, and importantly, for lead. Next slide, please. Um, turning to water resources. It is ackno- it is acknowledged that the community has experienced drought and flooding rains in the past five years. In addition, Bowdens Silver has amended the project to remove an external water supply, and would now apply a strategy that relies only on on-site sources. This has created some unease in the community a key objective in developing the mines integrated water management and supply strategy, has been to minimize local impacts and ensure water availability and water quality outcomes are not exacerbated.

To support this, site water balance modeling tested water supply reliability and expected conditions over 130 years of historical climate conditions, including higher peaks and worse droughts. As a result, the proposed integrated water management and supply strategy will result in negligible- negligible changes to water available in terms of stream flow and ground water. Impacts will be limited to two additional days of no flow conditions when the- the water flo- the stream flow is less than one mega liter per day under extreme conditions. A relatively small reduction in ground water base flow to n- nearby creeks is predicted, minor reductions to stream flow, and possible draw down impacts at one registered ground water bore.

Our assessments have also predicted that water quality would remain consistent with existing conditions. In terms of water supply to the mine, the worst case water supply reliabili- reliability would

meet 94.5% of production demand, and 99.5% of dust suppression demand. So, in the context of droughts and flooding rains, these outcomes have been difficult for some in the community to accept, but in most cases, once the time has been taken to discuss the outcomes, it's generally been a- agreed that during dry times everyone is limited and in wet times everyone is trying to manage. However, the mine would not substantially exacerbate the wet and dry experiences for the community. I'll turn quickly to, um, TSF seepage, um, as this has been identified as a key ri- key management risk as well.

The preliminary design of the TSF included an estimate of 94.6 mega liters per year of seepage. This is based on three liters per second over the entire impoundment area, and not a concentrated point. The New South Ma- New South Wales EPE- EPA reviewed the approach, uh, to the, to lining the- the TSF and confi- confirm that the proposed compacted clay liner would meet its permeability requirements for this type of structure. Bowdens Silver is now committed to apply bitumen as GMM arage to the entire TSF impoundment, or to the extent of the decant pond, depending on the outcomes of detailed design. Following additional assessments, we have confirmed that the seepage from the structure would be reduced through this additional mitigation, to 16.2 mega liters per year. So, uh, transport modeling has indicated a peak of 0.26 mega liters per year of seepage would enter Lawsons Creek.

This maybe compared to assess no flow conditions in the creek of less than 1 mega liter per day. Um, again, modeling of water quality risk has identified no adverse impacts of TSF seepage to beneficial water uses in Lawsons Creek. I've got, um, two final slides, if that's okay.

Commissioner Duncan:

Keep going.

Nicholas Warren:

Yep. So, next slide is on, um, local amenity and social impacts. I won't, um, won't dwell on this one, as these were- were addressed pretty comprehensively by- by Steve, and- and Blake's touched on this as well. But I will just add that, um, any green f- field site will result in changes that impact local amenity, and may also have social impacts. Um, uh, note as, that land owners are expected to, pre- predicted to experience noise related impacts have been approached regarding mitigation options and, in- in accordance with the voluntary land acquisition and mitigation policy. Um, importantly, the exceedance outcomes requiring mitigation are predicted during site establishment and construction.

Um, just the next slide on- on biodiversity. So, in relation to the residual biodiversity impacts, it's important to note that the mine site was designed with an- an understanding of biodiversity constraints, and an objective to a- avoid impacts as much as possible. What you can see on the slide here is the, is the traffic light model that was used, uh, t- presented map vegetation and areas that- that we should be aiming to avoid. This was principally focused on boxcam woodland. Although some of the, uh, impacts were identified as being significant without mitigation, this is to the regent honeyeater and the boxcam woodland, the proposed biodiversity offsetting strategy would see vegetation and important habitat conserved in perpetuity, at a scale that is commensurate with the proposed impact.

Um, just in- in closing the biodiversity offsetting would involve, uh, onsite and local conservation, as well as other opportunities in the region. With the proposed biodiversity offsetting strategy, the residual biodiversity impacts are considered acceptable. Thank you.

Commissioner Duncan:

Nicholas, we do have a quick question, council?

Dr. James Smith:

Yes, uh, tha- thank you, Commissioner. Uh, James Smith, council assistant, um, Mr. Warren, just a point of clarification, in terms of the t- two additional days of no flow that you mentioned. Wh- wh-

Nicholas Warren:

Mm-hmm, yes.

Dr. James Smith:

That's over a- an annual criteria?

Nicholas Warren:

Yes, basically it's two, additional two- two days per- per year. Um, but it- it's only, basically, we, in the assessment we assume no-flow to be at one mega liter per day.

Dr. James Smith:

Mm-hmm.

Nicholas Warren:

That was considered no-flow conditions. So, in- in- in a, in a dry, ve- in a very dry year there'd be two additional days of no flow.

Dr. James Smith:

And the- the- the second point, um, is there's a condition which is proposed, which requires the preparation of an air quality management plan. Um, in particular requires real-time monitoring and trigger action response protocols to be prepared.

Nicholas Warren:

Yes.

Dr. James Smith:

Um, if- if you're unable to address that now, um, potentially at the close of the hearing, if you ... how would that work practically and in reality for a- a large, multi-faceted mine project in terms of trigger action response protocols, if there were exceedances of air quality identified during the monitoring?

Nicholas Warren:

So, the- the, um, continuous monitoring for air quality is common across many mines. And I think you, if you look at any of the coal mines, they have multiple, um, multiple, um, they called, sort of equipment setup in different locations around the mine, to- to sort of continuously monitor air quality. So, when- when you plan a management strategy, you would have both, um, proactive and reactive strategies in place. The reactive strategies are, uh, they, uh, it's part of that- that trigger action response. And so, the- the trigger action response is the- the monitors generally have a- a warning alarm in them. So, as you approach the criteria with your dust, 'cause it's a, it's a daily, um, criteria, as you approach that criteria, it sends a text message or an email to the right people, and they react accordingly.

So, that generally that- that works in the manner of, uh, the mine manager gets a- a- a text message saying the dust is getting, levels are getting high. And he- he basically does a reconciliation of where

he's, where the equipment is, where everyone is sta- is working. And he might pull someone down off a, off a- an area, or he might look at the winds and say, "All right, stop for an hour." Um, and that's- that's basically how you react generally to those things. But the reactive management is also in response to complaints, um, and any incidents. So, anything that- that occurs outside of those- the monitoring. So, yeah.

Dr. James Smith:

Understood.

Commissioner Duncan:

Thanks, Nicholas. Thank you.

Dr. James Smith:

Uh, thank you, commissioner. Um, can we call the next speaker, who is Susannah White, if you could please come to the podium.

Susannah White:

Can you hear me okay? Good afternoon, commissioners. Thank you for the opportunity to address the commission today as part of the assessment of the Bowdens project at Lue. My name is Susannah White. I live with my husband, two year old son, and one year old daughter, along the Lawson Creek, 10 kilometers from Lue. Together with my brother and sister-in-law, we run an Angus Cattle Stud, supplying high performing genetics to beef producers in the region and interstate. I'm appearing today as a member and representative of the Lue Action Group. Forme in 2011, the Lue Action Group is run by volunteers, who are local Lue residents and residents of the surrounding area.

We are not anti development and we are not anti mining. Rather we came together in 2011 to understand the impacts from the proposed mining operations on our homes and our properties, and to ensure development for the region is undertaken responsibly. Our support base numbers over 260 people today, coming from all over, but mostly they are people from the Lue, Mudgee, Rylstone region, who oppose the development of the Bowdens project. As you would be aware, commissioners, the Bowdens project is situated in a spectacular green fields landscape, on an elevated site, at the headwaters of the Lawson Creek, which is a major tributary to the Cudgegong river.

The mine is proposed just two kilometers from Lue, a beautiful village between the thriving agricultural and tourism towns of Rylstone and Kandos and Mudgee, which as you've heard today, was voted top tourism town in the whole of Australia, for 2021, and again in 2022. For our community, the development approval process of the Bowdens project has been drawn out, it has been riddled with amendments and examples of often clumsy and unclear data analysis, which has been heavily criticized by independent experts commissioned by both the Lue Action Group and the DPE.

To assist the commission in making its assessment now, Lue Action Group has coordinated a group of seven independent experts in their field to outline their analysis and assessments of the project across several key areas. I'm going to let the experts speak to the detail of their assessments, but essentially, commissioners, I hope as you listen to these presentations today, you begin to see a trend of unanswered questions and missing details in the Bowdens proposal. Our view is that the combination of a lack of technical detail across key aspects of mine viability and the complex nature, uh, an location of the site means the Bowdens project should be refused.

I'll now briefly touch on the shortcomings of this proposal, but as I mentioned, technical experts speaking after me today will elaborate in much more detail. So, on surface water, Bowdens do not have an adequate water supply. The EIS document from 2020 states clearly that the project is not viable without an external water supply. As you would be aware, Bowdens initially proposed to pipe water from the Ulan Coal fields. In 2022, they lodged an amendment to their application to remove this water supply pipeline and source all water from the site, i.e. the Lawson Creek catchment. Earth Systems has raised concerns around the data supporting the site water balance, and our water expert, Shireen Baguley, will elaborate on this today.

The project doesn't have sufficient water, and as a result, the true water quantity and water quality impacts of the proposal have not been adequately assessed. On ground water, this project m- raises far more questions than it answers. The middle most review of the project consistently raises questions about the potential role of mapped default structures beneath key mine site infrastructure, like the tailings dam, Bowdens dismissed these concerns as being of little consequence. Groundwater expert Craig Flavel will talk about how this is just one example of the lack of clarity around impacts to groundwater from the mine.

The consequence of this being the issue that adequate risk assessments have not been completed, and the project should not be approved. Acid mine drainage, and you've heard a lot about this already today. But other than perhaps lead poisoning of humans animals, acid mine drainage from the site bears the largest and longest lasting risk to all stakeholders. We see three significant problems attached to this project in terms of acid mine drainage, each of which have been plainly called out by Earth Systems, and will be elaborated on today by mining expert, Michael White. But briefly, the current design of the waste rock in placement is inappropriate and not fit for purpose. The design of the tailings dam will allow seepage into the water table, and is an unsuitable long term solution with no appropriate mitigation strategy.

The final void pit lake is accepted by both Bowdens and the department to have a more than 50% flow through risk. The mitigation strategy proposed of increasing the size of the lake by 50% has not had its impacts assessed and is not something that should be worked out in the conditions of consent post approval. Dust suppression, you need water to suppress dust. On an already water constrained site, we have real concerns about the prevention of dust and dust borne contaminants like lead and heavy metals leaving the site. The DPE itself identified dust as the key pathway for heavy metals to leave the site.

Bowdens itself acknowledged that during dry weather periods, when evaporation is high, more water for dust suppression will be required. But Earth Systems identified that now with all water to be drawn from the site, Bowdens have actually reduced the allocation of water for dust suppression, from 204 to 133 mega liters per year, with no explanation and no assessment of the impacts. I put it to you, commissioners, that this is just one example of the proponent shuffling numbers around to retrofit an inadequate water supply strategy to their broader mine design.

Human health. Given that dust particles carrying heavy metals could leave the site, and that this project, whichever way you spin it, will produce 50 times more lead than silver, there are uncertainties around the modeled risks to hu- human health. The intrinsic link between an elevated site location and uncertain water availability raises serious doubt about the accuracy of the modeled outcomes for human health. Barry Noller and Mark Taylor will speak to this shortly, but it's really important to remember the green field context here, and the elevation of the mine site, in relation to the village of Lue and numerous surrounding residents.

Whichever side of the baseline modeling fence you land on, commissioners, I urge you to remember the fact that today, as we stand here, lead contamination is not a burden currently carried by the people of

Lue. If this mine goes ahead, it will be. Mine precedents. There are countless examples of poor, unproven mine design resulting in significant failures and damage to people in the environment. Chris Pavich will elaborate on this, but the complexity and technical resolution required to execute effective mine design is challenging for even the most experienced mining companies. Not only are key design elements inappropriate, with no track record of success on this scale, but Bowdens have never operated a mine before and have no experience in constructing or managing those risks.

Add to this the challenges posed by a tight balance sheet, and it's not difficult to see why we as a community have little confidence in their ability to operate the mine safely. On social impacts, Al- Alison Ziller will address the commission. But we've all seen firsthand as villages like Wollar, Bylong, Bulga, Wybong and Ulan become essentially ghost towns as a result of either the threat or reality of open c-mining on their doorstep. The lived reality of residents subjected to noise, vibration, traffic, dust, health risk and declining property value is always worse than the modeling accounts for. Irrespective of the number of jobs it may or may not create, is it really appropriate to allow a project to go ahead, knowing it will mean that residents nearby, including children and pregnant women, have to monitor the toxic lead levels in their blood as a direct result?

Tourism. The reputation this area has a touri- tourism destination is growing rapidly. We saw 691,000 people visit the Mudgee region in the four years ending 2019. In 2020 and 2021 alone, that number grew to 826,000 people. Our analysis shows 931 jobs were directly created due to visitors spending in the area in 2022 and 2021. Sorry, 2020 and 2021. With tourism and agriculture spending combined, creating 12 times the number of jobs the Bowdens mine will. The latest Mudgee region destination management plan, 2020 to 2025 specifically addresses wellness tourism, identifying it as one of five primary experience themes. Wellness tourism is a growing sector globally, integrating sustainability as much as it does human health and wellbeing.

Our region is poised to capitalize on these opportunity, and clearly it already is. But there is a clear conflict between attracting tourists interested in high quality local wine food and a wellness focus, and the risk of lead mining, including lead contamination and acid mine drainage. In its assessment report, the DPE has attempted to paint a picture of an area in decline, with already degraded water systems and little to no employment prospects. The assessment report mentions the word tourism only three times, over 115 pages. Commissioners, to exclude any meaningful mention or exploration of the role tourism plays in the region when considering the broader strategic context of the project, is misleading. Even if this project had a 10% negative impact on tourism, that would be 93 jobs lost. How about a 20% negative impact? These impacts have not been assessed.

Agriculture. In terms of agriculture, the Lawson Creek catchment that the DPE described as already degraded is in fact the lifeblood for numerous highly productive and highly profitable agricultural and food production businesses. Several Lue Action Group members alone run primary production businesses representing a benchmark earning value of over $14.6 million per year, which largely goes back into our community and our region. Lawson Creek water facilitates the production of thousands of kilograms of high quality beef, lamb, fine wool, grain, oil seeds, elite animal genetics, award winning olives and olive oil, grapes and wine for international and domestic markets, and thousands of bails of hay along irrigated flats close to Mudgee.

What kind of damage will the reality or even the perception of lead contamination do to these industries? What will happen to these producers when there's no water left in the catchment? Who will buy our wine, our olive oil, our beef, if Mudgee becomes synonymous with lead or heavy metal contamination? These impacts have not been assessed. On biodiversity and cultural heritage, as you are probably now aware, the Lue area is home to a diverse collection of native flora and fauna. In particular

the koala, regent honeyeater, spotted-tail quoll, swift parrot and boxcam woodland, which are all expected to be significantly impacted by the project.

While Bowdens commits to creating biodiversity offsets as a way to manage the impact to these animals, the reality is that the koalas and regent honeyeaters in the area today will lose their habitat. Does this outcome actually align with the principles underlying the federal EPBC Act? And how, as our experts will shortly indicate, when the true impacts to the water being used on the site have not been adequately assessed, how can the commission be satisfied that the impacts on these plants and animals are truly known or understood? Of the 52 aboriginal artifacts surveyed on the site, 25 will be destroyed by this project. Commissioners, I'm saying all of this to you, because if you were to correctly evaluate the net benefit or cost of this mine, then you need to have all of the information to hand. And as we stand here, and as the speakers following me will demonstrate, you do not.

This is a green field development. That means every single impact created by the mine will be new to those who experience them. Today, if people, the people of Lue and surrounds do not have to worry about the levels of lead in their blood. If this mine proceeds, they will. Today, primary producers do not have to worry about how lead contamination might impede their market access domestically and overseas, if this mine proceeds, they will. Today, Lawson Creek water users do not have to worry about whether or not their water is safe for stock and domestic use. If this mine proceeds, they will. Today, residents on the outskirts of Mudgee who rely on bore water do not have to worry about their bores running dry more frequently. If this mine proceeds, they will.

In concluding, commissioners, I'm sure you have observed in your time here that Lue and surrounds is not a wasteland. In fact, it's bang smack in the middle of one of New South Wales, if not Australia's most thriving regional destinations and economies. It is up to you to decide what type of legacy you want to create here. If the New South Wales Government's position around critical minerals is to come to fruition, then it's imperative that those minerals are extracted in line with best practice and with principles of intergenerational equity. You will see over the next couple of hours that we feel the commission does not have sufficient information to approve this project. We're of the view that to do so would be a failure of due process, lowering the standard required to assess the impacts of the project, and pushing the determinative issues to the post approval stage. That is unacceptable and the project should be refused. Thank you.

Dr. James Smith:

Thank you, Susannah.

Dr. James Smith:

Uh, thank you, no questions. Uh, thank you. Could we, if we could please invite the next speaker, uh, Shireen Baguley?

Shireen Baguley:

I don't know, can everybody hear me? Silence. Is there a presentation that can go up? I, yeah, thank you. So, good afternoon, commissioners.

Speak up? Okay sorry. My name is Shireen Baguley and I'm a civil engineer with 30 years experience in hydrology, water management and impact assessment. I'm a certified lead environmental auditor, approved by the Department of Planning to conduct compliance audits on state significant developments. I live in this region, on the n- to the northwe- east of Rylstone. And I've also recently been appointed to the Macquarie Cudgegong Environmental Water Advisory Group. In my presentation

with, to you today, I'd like to sh- share my concerns regarding the Bowdens project water is- mana- management issues. Next slide, please.

The key issues that I will touch on are the project SEARs have not been met. The issues with water, the water balance model, unacceptable surface water impacts, regulatory irregularities, water quality issues that remain unaddressed, and issues around unassessed groundwater dependent ecosystems. I'll touch on these- these in more detail, but taking all the above matters into consideration, from a surface water management perspective, the impacts of the proposed project are considered to be significant, and it is my opinion that it's not yet ready to be approved. The concerns I raise here today, as you've heard, will be linking with other speakers that will presenting. Next slide, please.

So, turning first to the SEARs, the following requirements have not yet been addressed. The project's water demand is not clearly identified. The full impacts of the water supply requirements have not been assessed. There is not an adequate and secure water supply available. The water balance model has had, not had its sensitivity analysis done, and I do not believe it is fit for purpose. There is no water quality modeling. The water quality impacts are not fully assessed. A cursory water quality mana- monitoring program has been developed and there's no response management plan. Three of these points were actually raised by Earth- raised by Earth Systems, the ones that I've shown bolded here, who is the Department of Planning's own independent reviewer on the surface water management.

However, their concerns remain unaddressed and appear to have been li- disregarded in the assessment process. The failure to meet the SEARs means that the IPC does not have sufficient information to make its determination, I do not believe. The standard required to assess the impacts has been lowered, and issues which should've been determinative are being pushed through to post-approval compliance. There is a failure of due process which has undermined the community confidence. And without that confidence, there is no social license for this project. Next slide, please.

So, turning to the technical issues, the first is the questions around the catchment area that's been affected. It is stated that the project will capture runoff from a 550 hectare affected site catchment. And that this has been used to assess the maximum impact on the cease to flow conditions. On the right hand side here, you'll see the proposed project layout, which I'm sure you're very familiar with. And this shows the mining operations. And it can see that, you can see that they d- covered the majority of the area within the mine site boundary, which is shown in red. Next slide, please.

The area that you see here shadowed in pink is the area that Bowdens has as its contiguous land holdings, which is 2,580 hectares. What was, struck me was the proportion here, where we've got the mine site, which we are told is a, has an effective catchment of 550 hectares, and the whole of the Bowdens properties, which has a- a area of 2,580. So, next slide please. Um, we looked at that, and what found is that the area of the mine site is actually got a- an area of a- uh, approximately 1,000 hectares. So, it remains unclear if the true impacted catchment has actually been assessed, and this in turn has cast some uncertainty over the model inputs and the modeled impacts. Next slide, please.

Turning next to the water demand uncertainties. There's two inputs here, the first is potable water and the second and more importantly is the dust suppression water. On the potable water, we're told that the, um, there will be a demand of 14 mega liters per year, which will need to be met by the site's water resources. But here you can see there's a table, 5.5, um, which shows the outflows, and there's no indication there of the amount required for the potable water. So, it's not clear if that's been allowed for in the water balance model. But more complex though is the issue of dust. Next slide, please. Earth Systems has raised concerns that the average dust suppression requirements were decreased from 204 mega liters per year in the original EIS, to 131 mega liters in the 2022 pipeline amendment.

The response to this has been that this was in line with metering sorts- results from the upper hand coal mines, before and after use of a proprietary dust suppressant. Unsurprisingly, Earth Systems' response

was, "Well, where is the supporting data for that?" And they've asked repeatedly that the uncertainties in the dust re- suppression requirements be considered in a sensitivity analysis within the water balance model. However, these concerns raised remain unaddressed and appear to be dismissed in the assessment process by the Department of Planning. As such, there cannot be confidence in the estimates of the dust suppression requirements in use to assess impacts. Further, as it could be seen back up in the t- previous table, there was only 128 mega liters per year, which had been modeled for the average conditions, not 131, so there's a shortfall there. Next slide, please.

And in this table here, we can see a low runoff scenario that's been modeled, and a high runoff scenario. Now the EIS correctly notes that during dry weather periods when the evaporation is high, more water for dust suppression would be required. Table three is the low runoff scenario, and you would c- think that would cover the dry period, when more water for dust suppression will be required. However, the dust suppression requirements in this table on your left here are only 131 and are lower than the high runoff scenario. So, again, there's, uh, questions and uncertainties that remain on this. And as they stand, I would consider the low runoff scenarios results would be flawed. So, next slide.

Turning now to the water balance model itself, there is a high level of uncertainty with regards to the results, which arise both from the manners I've already raised here, and for other issues. First, the calibration and verification. The model was calibrated on a permanent water cause, the Cudgegong River upstream of Rylstone. Now, it's understood that this was done because there is a flow gauge at this site. However, there are differences between the Cudgegong at Rylstone, which is a permanent water course, and the catchments through here, which are ephemeral. In addition, it's admitted in the documentation that the calibration is from mid 2009-

Shireen Baguley:

... that the calibration is from mid 2009 to December 2017, which it's quoted, "Excludes recent very dry weather when in stream losses appear to be the highest." Further, there are two flow gauges just downstream of the mine site. And at the very least, I would have expected that, that this data should have been used to verify the parameters adopted in the model, it was not.

Secondly, the results are presented as average results. The use of average results to assess water impacts is problematic. An average is a state of mind that lets you believe that if you put your feet in an oven and your head in a freezer on average, you're very comfortable.

Audience:

(laughs)

Shireen Baguley:

When here the use of those results are almost as serious. We have no indication of what really happens in dry times or very wet times or the associated impacts. They've just not been presented.

Thirdly, is a lack of sensitivity analysis. As systems recommended persistently that the sensitivity analysis be conducted on key input variables including evaporation and dust. This has not been done and as possible, as, as such it is not possible to understand what happens if actual conditions vary from assumptions made, what the impacts are on the project's water supply and its viability and more importantly, what the potential impacts are on the downstream.

Finally, there's been no consideration of climate change in the modeling. We're told this is because the mine will only operate for a short time. However, it's clear in this region, that climatic conditions have already become more extreme. The drought, the fires and floods. S- additionally, as there is a further

results, and as has been confirmed here today, the mines are actually already considering you're out running around for longer.

Finally, even when they do, finally sharp, elements of this mine will affect water resources in perpetuity. We must understand the potential impacts of these under of change climate. Without these issues being addressed, it is my strongly held opinion that the water balance model is not yet fit to support considering this mine for approval. Next slide please.

Now the key issue, the impacts on the surface water. The impacts on the downstream water uses and changes to the cease to flow conditions have been assessed on the basis of a 177 megaliters per year, rainfall and runoff being removed from the catchment. However, the true figure is at least 856 megaliters. And the department has ignored persistent advice from assistant that the project needs to be assessed using this full level of extraction. Yet, it appears the flows removed are actually still higher than this. Next slide please.

As can be seen from Table 5.5, the clean water harvesting is presented separately to the 856 megaliters per year. So it's also been, and it's also being harvested for use in mine processing. So it must also be considered in the impacts. There was also a revision of this table late last year Table 5.5 B. Next slide please.

This gives the new average rainfall and runoff result is 924 megaliters per year and 27 megaliters per year in clean water harvesting. This a total of 856 megaliters per year being removed from the project area catchments. Also keep in mind that this was based on the catchment area of only 550 hectares. And the model calibration which is questionable. The impact of removing this amount from the catchments has not been assessed in the EIS documentation. But as the EIS doesn't do it, I have attempted to quantify the loss of, and the impact of this loss of eight, 951 megaliters per year by updating a table from the surface water assessment and extending it. Next slide please.

This is Table 8.1, and the areas in blue are those cells which I have updated to show the impact of removing 951 megaliters per year. Downstream of the promo- proposed mine there is on average, a 44% reduction in the flows from Hopkins Creek not 4.5, 4.3, not 4.5% as indicated in the EIS. There is an 11% reduction in flows in Lawson creek just downstream of the mine not 2.2% as claimed in the EIS.

The impact in dry times is even more pronounced. The EIS tells us that for 40% of the time flows in Lawson Creek are less than 4 megaliters a day and for 30% of the time they are less than 2.4 pec- megaliters a day. Now the mine will take 2.6 megaliters per day on, on this analysis, which is actually extracting 66% and 110% of these flows respectively during those dry times. Commissioners... Next page please. These losses make the likely impact of the proposed mining operations on the surface water unacceptable, it surely cannot be approved. Next slide. Thank you.

So on to some regularity, regulatory irregularities. The project as we've heard relies on a harvestable water rate of 186 megaliters to provide water for mine processing and dust suppression and intends to have this water from sediment dams and clean water dams constructed on site for this purpose. Over the sum of these dams is actually 295 megaliters which exceeds the harvestable rights by 109 megaliters. Further, a 186 megaliters is the maximum volume permissible based on the contiguous landholding of 2580 hectares, but there are actually already 59 dams across that property. Assuming an average depth of a hund- 1.5 meter for these dams conservatively, this would be 72 megaliters which has already been expanded on that harvestable right, leaving only 114 megaliters available. Next slide please.

Further, the exemptions being relied on for these require these dams to be on minor streams. This has also been violated in a number of instances. Those dams which I have shown in pink are actually not on minor streams or on third order or higher. This removes approximately 70 megaliters of the harvestable

right dams capacity being relied on for water supply. The EIS and associated documentation does not present a factual assessment and is not fit for purpose in this regard. There has also not been a demonstrated viable water supply. Next slide please.

Onto water quality, as noted in the discussions earlier, the- there has been a failure to adequately address the SEARs and this is particularly so in water quality. There is no water quality modeling. There's a cursory water quality monitoring program, there is not a response management plan and water quality impacts are not fully assessed. As systems also raise that there are uncertainties around the quality of the flow through the southern barrier, as well as through flow of the final void order and potential contamination. These issues remained unaddressed in the EIS and have appear to not been considered to be determinative issues.

But it does seem extraordinary that we're at the point of considering this mine for approval when these do, matters do remain unaddressed. To try and address the void through for our concerns, Bowdens has recently proposed increasing the surface area of the final void to increase evaporative losses. However, this does seem rather last minute and it was an unassessed, unproven concept and there's been no impact assessment of this. It would only serve to exacerbate everything that I have just raised with you today though, commissioners. Next slide please.

Uh, finally, there is an impact on groundwater dependent ecosystems. This area has a high number of springs and I believe that these are part of a widespread system of upland swamps and the upper Lawson Creek catchment. It is likely that there are a number of these are available as endangered ecological communities and this has been raised previously but dismissed by the applicant. Assessing these is a specialized area of ecology. And these Pentland Swamps are actually not yet well documented in this LGA. Work has only begun in the last few years assessing some of these and where they are located and this is still ongoing in the Cudgegong River. We've not yet had a chance to look at them further down in the Lawson Creek catchment.

The EIS has not considered these and the impact of these, losing this has not been assessed. It is not good enough as the role of these wetlands is critically important. They are the lifeblood for a range of water users, Flora, Fauna, people. And like those swamps around Newnes that have been damaged my, by mining, once the damage is done, it cannot be undone. Next slide please.

In conclusion, my presentation has raised a number of issues which I hope you are able to consider and consider the weightiness of them. These include the surface water assessment, the water demand, the water balance model, the lack of viable water supply, water quality impacts remain unassessed and the unacceptable impacts on surface water. These concerns have been raised in submissions previously and by our systems and they have been dismissed or/and ignored. The failure of the EIS and associated documentation to meet the requirements of the SEARs means that there is not sufficient information to make an informed decision.

Key management plans have been left for department's compliance team to assess however, these issues are determinative, not post approval matters. That I am standing here today making this argument to your commissioners to me is indicative of a failure of due process. This has undermined the community confidence, has, and that without that confidence there is no social license for this project. It is my opinion that the IPC should refuse this project as it stands. Thank you for taking the time to listen to me.

Commissioner Duncan:

Thank you, Shireen. Will you, um... Will you be making a, a separate written...

Shireen Baguley:

I will.

Commissioner Duncan:
Uh, submission?

Shireen Baguley:
I will make you a, um, a much more detailed-

Commissioner Duncan:
Okay.

Shireen Baguley:
... submission which will cover all of that.

Commissioner Duncan:
And if you could provide the sides as well in the process, or with or today.

Shireen Baguley:
The slides, yes, I will.

Commissioner Duncan:
Thank you.

Shireen Baguley:
I'll attach those as the appandix.

Commissioner Duncan:
Thank you very much.

Shireen Baguley:
Thank you.

Dr. James Smith:
Okay. Thank you, Commissioner. Uh, could we call upon the next speaker Craig, uh, Flavel please to come to the podium and provide your evidence?

Craig Flavel:
Thanks very much.
Good afternoon, commissioner Sicks, Duncan and Cochrane. Dr. Smith. Thank you for the opportunity to talk today, uh, to the community and yourselves. And I... On behalf of the Lue Action Group, I'm a hydrogeologist. I'm here to talk about the Bowdens proposal. I, uh, have over 20 years experience. I've worked on projects nationally including, uh, mine water supply projects in the Braemar region. I have worked on improved monitoring practices in, for the Surat Basin for the office of groundwater impact

assessment. I've worked on projects in, for the Office of Public Works in New South Wales on the great artesian basin sustainability initiative and supervising the drilling of wells that have failed.

I've worked on major project approvals in the Otways Silanized Land that enabled the third, largest wind farm in the Southern Hemisphere to be approved on a major project status. I've also worked on a zinc mine and dealt with the aspects of contamination and acid mine drainage. So the objectives today are threefold to encourage leading practice in sustainable resources development to clearly demonstrate the link between human health and the environment, and to ensure any projects aligned with the 2022 with New South Wales strategies and principles for sustainable development. Next slide, please. Next slide, please.

So the Creek groundwater concerns that I've come across in this proposal are three-fold. There are a lot of concerns that have been taken down to three key ones and the other information is available on the DEP website, which I'll referred to the end of the presentation. An unclear definition of groundwater uses is influencing conceptualization of risk and conclusions. Conceptualization of acid mine drainage and the lack of a formal risk assessment. And I go through these each in the next slides.

So the risk to license for users. We're dealing with the groundwater where the yield is classed as highly productive under the aquifer interference policy. We're also dealing with groundwater system where the aquifer quality is li- largely and likely potable. And we're also dealing with a situation where the proponent has insufficient water supply approvals currently. So in NRAR and the water New South Wales have stated that there's no guarantee and of approval of a de watering bore field or water supplied bore field even if water supply entitlements were available.

Yep. Thank you, sorry. So we've got an unclear definition of groundwater uses both groundwater bore users and groundwater dependent ecosystems. Now, it's been stated by experts in their report that the definition of groundwater dependent ecosystems may, should be improved. Or the New South Wales states that the groundwater dependent ecosystem is an ecosystem that has any, uh, uses water from time to time does not solely depend on groundwater.

In particular, I'm referring to significant species in these groundwater dependent ecosystems. And these are listed species what I mean significant species, this may or may not be high priority species on the aquifer interference policy. The creeks and surrounding alluvial aquifers, they can support aquatic species but there's no evidence in the world presented of specific targeted investigations for these unique endemic species. There are s- some very good surveys of the springs for typical species you may find. There's no, um, investigation of the nature of the dependence of each species on groundwater, be it permanent, or temporary.

And there's some good hydrogeolo- hydrogeological information however, I've found that it's underutilized. The conceptual model, that's the numerical simulation model is based on seems to be from a literature review of the Western technical measures as referred to in the hydrogeological humidness report, the expert reviewer for DPE. There's no evidence of significant barriers across the side vertically or laterally. And as, UM, Mr. McClure said, there's almost 1500 meters of drill holes currently, and these may or may not be backfill effectively to stop, stop cross flow vertically across the site.

And I could just digress on that what we're dealing with is a fractured rock aquifer system. It's... You can s- conceptualize it like a cube of ice you take from your freezer, and you put into a warm glass of water, it fractures immediately and in uncertain patterns. That's what Iraq looks like and the flow of water through these rocks is highly uncertain. So Corcoran code 2021 state that the objective of the lyrical groundwater simulation model based on the conceptual model was not to consider contamination of local springs nor dependent ecosystem health.

So I can't study what I wasn't asked to study, which makes you question some of the statements that are made in the work presented so no water quality impacts beyond 40 meters from the mine site boundary, aquifer interference policy, and no changes to the beneficial uses of aquifers are predicted. Just doubt the word are predicted and that's an example of perhaps the unqualified or perhaps unreferenced statements that you will see throughout the information presented.

So what's 40 meters in context? Next slide, please. Uh, next slide. Sorry, I flicked ahead. Next slide. Next slide. So this looks 40 meters in context. We're dealing with a project here. This is going to be drawn down to 420 meters AHD (Australian Height Data). And final bit depths that's currently proposed now. We heard, this morning from Mr. McClure that that may be deeper. Maybe larger. We're not sure what it might be.

This is the model you see in the red polygon on the screen in front of you. This is the model domain and the numerical simulation model. It extends to the Cudgegong catchment, it extends to the Bylong catchment. And in the model, there are things called drain cells, which Jacobs clearly described as being ephemeral water sources that will drain to recharge the water supply, regionally.

There are also cells called River Cells, RIV in the mud flow simulation model, these cells are permanent exchanges with surface water and groundwater and the Lawson's Creek is modeled as a permanent interconnection between surface water and groundwater, all year round. And also, I think the modeling is the top two meters that are taken two meters below surface is where this interface between surface water and groundwater occurs in the model, also.

I'm not a modeler. Hume Middlemiss from hydrological is a modeler and he's done an excellent job on the volumes of the model and also Dr. America is excellent on volumes and model but I haven't seen anyone been asked to do a review of the continuation that came into termination attenuation of the water quality. I'll refers more to that later.

This gives you a feel for the extent of the model and the extent of the potential drawdown over the uncertain time currently at 16 years of mining with hundreds of years of post mining evaporation planned. I'm not sure what that will look like in a few years time. Next slide please.

This is a very preliminary example of, uh, rudimentary, uh, cross section independently prepared by Australian Water Environments in 2018 for the Lue Action Group. I show it because it slo- shows the de watering extent, it shows possible de watering and it also shows no squiggly lines, the current standing or static water level and surrounding wells more boreholes and also shows the potential both terrestrial and aquatic groundwater ecosystems and their locations which could be investigated to target specific endemic spaces. Next slide please.

We're seeing a lack of hydrological d- data outside the site itself especially between the site and Lue village. Uh, Corkery & Co have noticed enhanced permeability within fractured rock aquifers near major geological structures. And as you can see from the map provided by Corkery & Co March 2022, there is a fracture that extends... Is mapped to extend beneath or through the tailing storage facility. The aquifer interference policy, number 14, states there is potential for causing and enhancing hydraulic connections that aren't being clearly presented. And that AIP Table 4 says, "Potential unqualified water quality impacts on nearby licensed groundwater users." I think these both could bear with further investigation.

Also on the map, there's an example the map actually doesn't show the village. So I've sort of put some arrows to say where the village is on this slide. So you can actually understand that we've got the site and we've got the groundwater users. They're not really linked by any pathway clearly throughout the information presented. Next slide, please.

So inconsistent groundwater flow direction. Um, uh, the experts agree that... And Corkery & Co agree that the groundwater flows post abandonment are unlikely to be towards the pit. And we're also seeing significant and unexplained alterations to Layer model one and two, are made around the TSF in 2022. And this was noted by HydroGeologic in December, so two months ago. And I'll just show you what the, the implications of that. This... Next slide, please. Shows a map of the drawdown in yellow from, from zero and a map of the mounting and the Tailings Storage Facility proposed in 2021 by Corkery & Co.

It shows that depression or drawdown like a hill, on contour map in the center is lower the grain is higher. So the impact of some moderately re-layering done in 2020, um, to extend extended layers one and two... Next slide. To the west, significantly. You note that no geological information is provided to support this thickness change. You notice this as well, on the back if you look closely the locations of the bores that bones have drilled and the none of them are in this new relearning. So what justification is there to extend the model to the west and layers one and two.

I can tell you what the impact is though. Next slide. So I've put a couple of little highlights here saying the seepage from the Tailings Storage Facility now turns around, does a U turn, goes back towards the pit. So it goes from high to low most water flows from high to low. So now the Tailings Storage Facility seepage goes back towards the evaporation point was proposed by Bowden to assist a significant change to the output anD outcome from the numerical modeling. Next slide, please.

Oh, sorry, previous slide. On that, you also see some inferred special, uh, support from the southwest in that slide. Now that is either from Lawson's Creek, from water that may be in that creek. I think we just saw a slide of how wet that creek is all year round. So I guess and there's also a possibility of pressure support from the Cudgegong catchment because that is at the southwestern end Of the model boundary among domaine. And I asked the commissioners to clearly look at the boundary conditions in that model and hydrogeological support in that report.

Next slide please. So the lack of clarity around the Waste Rocking Emplacement and cyanide, um, we've got seepage flow, the TSF and WRA, we're not sure exactly how much. This morning I think it was presented 700 liters a day. Under the ANCOLD 2012 embankment. I thought ANCOLD released some guidelines in 2019 which are applicable to this, uh, holding the Tailings Storage Facility water that contained that water back from Lawson's Creek. I'm not sure if it's been updated to ANCOLD 2019. But when I haven't seen any modeling of the nature mess attenuation of contamination from that seepage as proposed, either now or in 100 years time.

The seepage collection is uncertain, so they could say, "Oh, it is collected," but think of the ice cube. Can you be certain of collecting all that seepage? Long term management and response has not been specified. It's all in the conditions of consent or currently, it's... We don't even know exactly what specifically they're going to do. I mean, we were told from Mr. McClure we're gonna shut down operations. Sorry, Mr. Corkery & Co, that we're going to, uh, shut down operations for an hour if things go wrong.

I'd like to see more specifics about exactly what's going to happen before we can consider whether this is okay. So here's just one proposed Amendment 2-45. Perhaps, an unconditional commitment rather than a if feasible commitment to applying a bituminous liner across the whole area and monitoring integrity and a specific response might help us understand how seepage will be limited. Next slide please.

So the aquifer interference diagram from DPEs website, it's a draft guide to groundwater management in New South Wales. It's 2021, 30th of July presented. It's clearly shows the dependent ecosystems, it shows the groundwater users. It shows the groundwater as best we can because we don't have our downhole glasses, but this is the best we can do. It shows the change in water level, it shows the activity, it shows the impact, we can understand what's going to happen. Next slide please.

This is what's been provided, high level. And again, I'll flick to the next slide which just shows a, a very regional look at what the domain might look like. And it's, um, certainly more significant. It shows freshwater over unknown life of this proposal that may be drained from a re- quite regional area. The model domain is large. Next slide please.

The last one is no formal risk assessment. We don't know how much take, we don't know from where. This, um, Dr. Smith between the mu- Murray Darling Basin, Sydney basin, groundwater source in the Lachlan fold belt route to a source cups the site in the middle how much of that proposed 900 meg entitlement per year is coming from Lachlan folder and how will that be monitored when it flows into the pit whether it's been a Sydney based Norther with a Lachlan fold belt, how will we know and this is going to be evaporated for long term, it's gonna evaporate concentrate. So we're gonna get more contaminants and less water for everyone.

Um, flip, next slide please. So, next slide. Does it propose... Does it demonstrate leading practice? I'm not convinced. Next slide. Is there a demonstrable link between the activity environment? I'm still not convinced and there's still no evidence for collaborative partnership in New South Wales. Um, with the commissioners, I've got three more slides. Thank you. Um, next slide, please. So to review against the bore, um, objectives of this presentation, does it align with our New South Wales strategy and principles for sustainable development? I think sustainable development is challenged by this proposal and instead what a New South Wales strategy says if we contaminate groundwater it's extremely difficult to clean up. Next slide please.

Specific layer queries, the layering, has... The modeling. And the next slide, please. Sorry, previous slide. It has high uncertainty in the modeling of fractured rock. Layering is not explained. Thickness is not provided. Geometry is not on a geology or faults that's their expert reviewer. And fault behavior is uncertain and may activate during substance induced by removal of overburden blasting or de boltring. Next slide. Estimates of operation are uncertain. Experts note the discharge of contaminated water and there's no specific details for assessment of how they're gonna to handle the leakage. Next slide please.

Those are my three concerns reiterated. And my final slide is we're unclear on the movement quality and groundwater uses so plans to monitor and control risks are also uncertain. So, I'm, I'm sympathizing with the position the commission, commissioners are in this situation and I'm happy to provide any further support. On the next few slides which you'll receive after the presentation you'll see that I've provided references to the information provided with further detail which I won't have time to present today but happy to answer any questions.

So thank you very much for your time.

Commissioner Duncan:

All right. Thank you. I don't think we have any questions at this time then. Thank you for the information. And we look forward to getting the, the slides. Thank you.

Dr. James Smith:

Excellent. Thank you Commissioner. Uh, our next speaker, uh, is, um, Mr. White. Mr. White's joining us online, I understand. Uh, Mr. White, can you hear us?

Michael White:

Uh, yes, I can.

Dr. James Smith:

Thanks.

Michael White:

Uh, commissioners, are you able to hear me okay?

Dr. James Smith:

Uh, w- we can. If you could please proceed.

Michael White:

Right. Thank you very much. Uh, good afternoon, commissioners. Um, my name is Michael White. I'm a mining engineer with more than 25 years experience in technical and operational roles both here in Australia and internationally for major mining companies in manganese, diamonds, coking coal and thermal coal. During my career I've been involved with the design commissioning and operations of two major new projects in diamonds and in coal. I've also been involved with numerous internal mining project peer reviews where we stress tested proposed mining projects before they would be progressed for board approval.

I've got 16 years in the coal industry in New South Wales and Queensland and for eight of those years, I was operations manager then General Manager BHP Mt Arthur. I'm an independent resources consultant based in the Hunter Valley. I've conducted a EIS review works at Lue Action Group. And I have a presentation that I would like to share with you now. If you could just confirm that this was...

Dr. James Smith:

Yes, we can see that.

Michael White:

Okay. Thank you. I'll go to slide. Okay, so, um, it's acknowledged by both proponent in the DPE. That acid mine drainage is a major project risk and more than 50% of the waste rock and the process tailings are classified as being PAF. And I'll call it PAF from here on for simplicity or NAF if that's okay. Um, the project proposes to manage this risk by encapsulating the PAF waste rock and the tailings in impermeable material. Underneath the Waste Rock have been placed using an HDPE, that's high density polyethylene liner and underneath Tailings Storage Facility using a bituminous geomembrane, we'll call it BGM and clay. And then over the top using Store and Release covers, um, utilizing a GCL or Geosynthetic Clay Liner.

I've conducted a high level mining review on the projects EIS, Lue Action Group and also provided further comments after reviewing the proponents response to submissions document. Both of my documents are included in the legs submissions to the original EIS and the amendment EIS and are on the DPE project portal. My overall feelings on the tone of response to sub- submissions was one that the proponent was telling us, "Get out of our way, we know what we're doing."

However, my original concerns regarding technical flaws in this project remained today. I'm failed there is no track record of success with this design and methodology in order for the community and government to be satisfied that such designs as contained in this project proposal are effective, safe and successful in both the short and long term, there would need to be evidence of this at similar scale elsewhere.

And to my knowledge the Proponent has not identified any other mine sites where the use of this design and technology at this scale has been successfully employed in either the short term or the long term.

This proposed project uses predictive modeling and small field trials to claim its containment designs will manage and prevent AMD impacts on the surrounding environment during the project lifespan and for generations to come. In my view, there is no certainty that will be affective. There are many factors in these proposed designs which could compromise the integrity of encapsulation both during construction and in the longer term.

I feel the design is complex, difficult to construct, to design and difficult to monitor for integrity until after Lakeside has escaped into the surrounding environment and then finding and repairing loc- locations I've felt would be also problematic. So now let's have a look at what the Department has said about AMD in their assessment. Here are some excerpts from the assessment report executive summary. "In line with best practice AMD management, Bowdens would separate the PAF material extracted during mining and encapsulated within the waste...

Michael White:

... the PAF material extracted during mining and encapsulated it within the waste rock emplacement, which has been designed to limit the ingress of water and oxygen and consequent formation of acid." And then they will also say that, "The Department engaged independent expert Earth Systems to provide advice about AMD management for this project. And based on this advice, the Department has recommended a range of strict conditions, including a further verification process to confirm volumes of PAF material, and the preparation of a detailed AMD management plan."

But now let's have a look at what the Department's own expert has said. There was a draft review in May 2022, and commissioners, I'd like to point out here is a fact, it is a fact that the Department made its own decision on employing an independent expert that obviously they, uh, referred to as being expert in the field. And this is what they've said. So, in the draft they said, "The AMD risk classification system is considered inappropriate for this Project. Inaccurate predictions of PAF and NAF material." And things have been said about that this morning.

"This affects waste rock dump design and the availability of non-acid forming materials for construction and rehab." Then, "Earth Systems has little confidence in the current AMG... AMD management strategy for waste rock and tailings. For example, the waste rock dump design is unproven and appears substantially problematic, with initial indications that the site could be establishing the need for water treatment in perpetuity." Forever. "More detailed assessment of potential AMD impacts from tailings during operations and post-closure is warranted. AMD from tailings could become a particularly significant post-closure as the tailings are progressively drained."

They went on to say, "Store-and-release covers are used widely, but almost never in recent years for the purposes of AMD control. The proposed store-and-release cover systems are not considered an appropriate strategy for PAF waste rock or PAF tailings management." This, commissioners, appears to me to be a very long way short of a glowing endorsement. There were subsequently considerable backwards and forwards between Earth Systems, Bowdens and DPE. And Earth Systems final update review was produced in November, and there was an outcomes memorandum in December.

S- some quotes from there, "No changes have been made to the proposed waste rock dump design since the EIS. Considering the limited design life of any G- GCL, long term control of air entry and AMD generation of PAF waste rock or tailings remains a key concern." And then, "Residual concerns of Earth Systems primarily relate to the need for reliably classifying and segregating waste." We talked about that. "And the need to modify the waste rock dump and tailing storage facility AMD management strategy and closure design to avoid post-closure risk of water treatment," there's that word, "in perpetuity," again.

Commissioners, please note from those comments the proponent has declined to make any design changes to the waste rock emplacement, and also note the independent expert's ongoing concerns of both waste rock emplacement and the tailing storage facility. Now let's look at Earth System's final advice. "Regarding management of long term AMD risk from the PAF waste rock dump and tailing storage facility, it remains our advice that the design of these facilities will need to be updated, nothing that GCL liners have limited design life, store-and-release covers are not suitable for AMD, and longevity of AMD generation from PAF waste rock is unknown but may continue for hundreds of years."

The independent expert has continued to have concerns with the waste rock emplacement, with the tailing storage facility, and with the store-and-release covers as well as obviously the potential acid forming classification. Commissioners, correct classification of that PAF and non-PAF and NAF is a fun-... a fundamental building blocks for mine design and that basic classification appears to be in doubt. Will that be more PAF waste rock than the current waste rock emplacement can store? We don't know.

Will it only contain waste rock assuming non-acid forming start producing acid mine drainage over time? We don't know. What we do know is that the Department's own expert has said the project's waste rock emplacement and tailing storage facility designs won't work to control acid mine drainage. The Department's own expert, independent expert, says the geosynthetic clay liner store-and-release covers are not suitable for acid mine drainage control. Now, the DPE proposes to resolve all these fatal flaws post approval through application of recommended con- conditions of consent.

I find that deeply concerning and feel that the proposed solution, the serious technical deficiencies appear to be a set of conditions that in effect say it's not allowed to leak. Now, following the final, uh, assessment of this independent review document, Bowdens wrote to the Department saying that, "Importantly it's noted that matters raised by Earth Systems do not include issues that present risks that are fundamental to the development of the project." I actually find that rather astounding.

Commissioners, surely correct classification of PAF and NAF is fundamental to the project. Surely correct understanding of the volumes created of each is fundamental to the design and development of the project. And surely having proven designs for waste dump and tailing storage that ensure long term, as in centuries, have proven AMD encapsulation are fundamental to the development of the project. Now, commissioners, I note that in the last couple of days the DPE has provided further information to you, and in there they quote a portion of Earth Systems saying that... referring to their... them saying that including specific consideration of the residual concerns noted above, no further recommendations relating to AMD are provided at this stage.

The Department appears to be suggesting that this supports that the DPE recommendation to approve. I believe what what it really says, politely perhaps, by the con-... paid consultant is that we've told you now three times this design and methodology won't work as proposed. So, the major unresolved technical issues dealing with fundamental controls of these agreed AMD risks do not belong to be solved in conditions of consent management plans. I strongly believe that valid robust and proven technical solutions and designs must belong in the EIS and undergo broad scrutiny and review there.

Because robust and proven technical solutions to AMD are not included as part of this process, then I believe the IPC must refuse this project. Now, commissioners, I'm not a water expert, but I'd just like to comment as a mining engineer on another issue, which is the uncertainties around the final void water through flow and a proposed solution by the proponent. In the assessment report and the e-... by the independent expert, their independent expert found that there was more than 50% likelihood that post-mining there would be flows... through flow of contaminated water from the final void to the surrounding environment.

Um, so then there was a proposed solution thrown up, which would be to increase the evaporative surface of the final void to ensure the groundwater levels remain below the through flow level

threshold. And the DPE water expert then acknowledged that would solve the problem. But I ask, commissioners, what other issues does this proposed solution throw up? Because it certainly has not been considered in the EIS. In order to increase that final void footprint, which, uh, according to Bowdens could be between 16 and 28 hectare increase, that would increase the size of the final void, which in the EIS currently is 53 hectares.

That's a 52% increase. Half as big again. And in order to actually create this, they say, and this was in a letter from Bowdens to the Department, that that would require to move an additional 16.3 million cubic meters of rock. That's a 50% increase. Now, the EIS total volume of material movement, and what I mean by that is all the ore and all the waste rock, currently is 32.5 cubic meters. So, to add another 16 million cubic, uh, 16 million cubic meters on top, I estimate at a conservative $3 to $4 a cubic meter to move this material, it's going to add $49 to $65 million to closure cost.

That would increase the closure cost by 224% to 265%. Um, now it's physically possible to move that material, I grant you, but is it practical? Is it economically real? I actually feel that this is another example of a hastily cobbled together, improperly assessed concept level idea put forward as if it's a mature, properly assessed... I'm just about finished if I may-

Commissioner Duncan:

Keep going. Keep going.

Michael White:

... and feasible technical solution. It is not. This project proposal does not satisfy requirements for a social license to operate. And I believe that the IPC, because of in-... this inadequate technical development should refuse this project. Thank you for your time.

Commissioner Duncan:

Michael, thank you for the presentation. Tha- thank you for that presentation, Michael, and, uh, like the previous speakers, if you could provide the, um, uh, presentation, that would be helpful.

Michael White:

Thank you, commissioner.

Commissioner Duncan:

Okay, that brings us to the end of, uh, this morning and early afternoon session. We're gonna take a short break now, but we're endeavoring to get back in half an hour. So, if, uh, if- if you're, um, wanting to get seated again by about four, uh, about 2:20, we'll- we'll start soon after. Thank you. And thank you to everybody for being here today.

Dr. James Smith:

All right. Oh, thank you everyone. Welcome back. Uh, for the transcript, um, we have, uh, Mr. Chris, uh, Pavich now to the address the commission. Thank you. If you could please proceed.

Chris Pavich:

Yes, good afternoon, uh, commissioners. And, uh, everyone else. Um, I'll hope to, uh, provide you with, uh, useful information. I'm giving my respects also to the Indigenous community and, uh, uh, their achievements, uh, since arriving to Australia over 60,000 years ago.

Where I, do I come from? Well, I grew up at Mona Vale. My father arrived from Karasahr in 1937. He finished high school at Broken Hill. He played on the waste, uh, rock emplacements, as they call it now, rather than mole heaps keeping out there. It was across the road from where he lived. Um, he had various illnesses during his life. Don't know what impact of lead there was.

However, um, grandfather who first went to Broken Hill to mine there, um, earned enough money to buy land at Mona Vale and established a garden where I grew up, a market garden, growing tomatoes and other vegetables. Uh, he built a, a farm house. That farm house was later occupied by a Dutch family. The father was a painter. He put his head in a gas oven and committed suicide. So I... I have, uh, some history there.

I studied geology, knowing the problems of agriculture, and, uh, the problems of markets and prices and weather. So that's why I'm not a farmer. I studied geology at uni, and, uh, I've worked as an engineering geologist in the UK, uh, looking at, uh, uh, areas of medieval coal mining for instance, and a number of other task over there. Also in the UK, I worked, uh, in cultural resource management on a nature park. A country park I should say. And, uh, also, um, as an engineer on an oil platform.

However, on, in Australia, majority of my career, it actually has been with, uh, ACT and New South Wales Parks where I've had a great deal of, uh, project officer and ranger experience, great deal of work in planning and managing bush fires, as well as, uh, development of visitor facilities, such as walking tracks. My geological, geomorphological knowledge has been very useful in that respect. So that's where I come from.

All right. Now, the, uh, contents. Um, next slide. Um, concern very much about the departmental Secretaries, uh, Environmental Assessment Requirements. Have they been adequately met? Uh, I'll also be discussing, uh, earthquake activity in Australia, the level of risk, uh, incidents that have happened here, and how they relate to the proposed Lue Silver Mine.

Um, one of the themes I'll carry on with is, uh, there's a great deal we don't know. You got to expect the unexpected. And that happens in mining frequently, and I'll be referring also to, uh, uh, problems with, uh, Snowy 2.0 for instance. Um, I'll also be discussing lessons from other mines, and, uh, recent problems at places like Clarence Colliery with... and, uh, the Queensland Opencut Coalmines issues, which I think, uh, provide examples of how we should be thinking about what happens at Lue.

Now, uh, you've already heard a, a lot about the Secretaries Environmental Assessments Requirements, SEARS, and I won't go into that, uh, any great extent, just that repeating the SEARS have not been met in key mine viability determining areas. Referring these key unanswered questions to the conditions of consent lowers the bar of approval. As the revised management plans will not be reviewed by the IPC. Instead, the planning secretaries who may or may not, uh, request a independent review by, uh, Department of Plannings Environment's external experts. Major amendments recently made to the project without revisiting the modeling and reassessing implications.

Number four, uh, the Department of Planning Environment IPC and the community need to learn lessons from recently failed mines and other projects to avoid similar problems here. This process of doing things by condition of consent after the mine has been approved, um, is, uh, unfair. It gives a foot in the... uh, the miner a foot in the door that may be very hard to, uh, reverse later. The IPC commissioners have not been provided with evidence needed to make a properly informed decision yet. And it's not approval ready. A failure that due process to take this pathway without first seeing the revised management plans and confirming that the SEARS have indeed been met. All right. Next slide.

People may not think that because we're not near a major subduction zone, earthquakes and so forth are not going to be really significant. Well, they are. Um, Australia is seismically active, partly due to stress and strains as the Australian plate is moving north at the rate of about six centimeters per year

over the mantle, which has an irregular surface associated with mantle plumes generated by the huge mantle convection of currents. The mantle of course is what's underneath, uh, the continental crusts, or the plates.

The underside of the plate, uh, uh, the Australia plate is also irregular. So earthquakes may happen far from the plate boundaries because of these irregularities, w-... however, where plates collide, um, uh, with each other, uh, earthquakes are generally more severe and frequent. I'll deal with that in my submission which will go to commissioners later.

Now, I mentioned in Australia we have had the earthquakes far from, uh, uh, subdu- subduction areas in the middle of the plate. The Newcastle example, uh, where it was a Richter 5.6 in 1989 claimed all those, caused all those problems. 113 people killed, 160 people hospitalized, uh, 300 buildings demolished, 1,000 people made homeless, damage bill $4 billion. The earthquake was felt in Lue and much further away from Newcastle than Lue. Next slide, please.

So the largest possible earthquake in Australia, we just don't know when or where. That's one of my points. There is just so much we don't know. And expect the unexpected. That's what happened at, uh, Newcastle, but also, um, it happened, uh, in elsewhere. W- we do get, uh, earthquakes, uh, up to Richter 7, uh, offshore, around Southeastern Australia, but, uh, in 1988, we had the Tennant Creek earthquake, which was Richter 6.9. Tennant Creek, middle of the plate, and, uh, totally unexpected. It was larger than, uh, one of the earthquakes near Los Angeles in California, which was a 6.7, where 15 billion US dollars of damage and 57 people killed.

The possibilities for earthquakes to strike areas as shown by that 6.9 Tennant Creek earthquake, uh, in 1988 must be borne in mind. Prior to that event at Tennant Creek, the a- area exhibited no seismic activity whatsoever. Next slide.

The Mudgee-Lue region has many geological faults. And if you look on the geological map, you'll see that the Mudgee area, we're in a valley bounded by faults. We experience minor... A- and, uh, then we've got the, the Walker Lane, uh, fault up at, um, uh, Lue, uh, but a number of other smaller faults, quite a number, exist in the, in the Lue area as well. Again, my, uh, um, uh, submission going to, uh, commissioners will have all this data.

We experience minor earth tremors along these fau-... all these faults regularly. Most are unnoticed. The Department of Geo, Geo Science, um, Australia, um, do have records, and again, uh, I'll have maps of that, uh, associated with, uh, all these local ones as well, um, in my s-... in my, uh, full submission. We experience minor earth tremors along here regularly, as they, almost all of them are less than th-... a Richter 3. However, the Newcastle ea- earthquake was 5.6. As I say, it was felt clearly here, 180, 180 kilometers from the epicenter at Newcastle.

As the Tennant Creek and Newcastle events demonstrated, we must expect the unexpected anywhere. Also, we must remember that, um, not only, uh, do we expect the unexpected, we must, uh, we do rely a certain amount on models. How reliable are most models? They keep on being refined and refined and refined, and still never get there in terms of being, uh, accurate representations of what actually may happen.

So, however, um, the Bowdens Silver EIS does not disgulf... discuss texting... Uh, d-... Sorry, I'll say again. The Bowdens Silver EIS does not discuss faulting in its text, however, the EIS mine site geology map goes show a fault to the edge of the Tailings Storage Facility. Next slide.

And you will see that, um, if you look at that map, you'll see the Tailings Storage Facility at the northwest part. It's got that purple surround with the long purple, uh, line, which is the, the bund holding the Tailings Storage Facility. Well, uh, you'll see then the, the dashed line coming up from the,

uh, southeast heading up to the northwest is shown on that map as finishing, uh, near the edge of the Tailings Storage Facility. Next slide.

However, the geology map from the Groundwater consultant shows that same fault continuing underneath the Tailings Storage Facility and further north. Thank you. And, uh, there quite clearly, you can see that, um, the Tailings Storage Facility is underlain by a mapped fault, uh, inferred in places, but there it is. Remember, Tennant Creek, no activity had been recorded. What happened at Tennant Creek? An earthquake bigger than that one in California that killed, uh, a large number of people and caused billions of dollars worth of damage. We just don't know what the implications may be. Next slide.

Old fault lines do reactivate, and that's been proven, and again, I have a paper which will be with the, uh, commissioners, um, uh, by the end of next week. Reactivation of old fault lines occurs within the Lue region and around the world. Fault movement at Bow- Bowdens may allow release of toxic residues from the Tailings Storage Facility, which would have very severe consequences downstream.

I'll point out I used to work for the Snowy Mountains Authority, uh, in the ni-... 1971, and, uh, some of my good friends there, well, one of them particularly was an engineering inspector. He worked in the, uh, Snowy Eucumbene Tunnel. A large numb-... Uh, it was literally a death a mile there. What was happening? Tunneling into faults. Faults everywhere, as we've already heard, heard contain fracture zones in varying width, with easy ingress of groundwater into those fracture zones. And that leads to instability and, uh, that lead to, uh, the deaths as people, a- as the Snowy Mountains Authority people tunneled into some of these faults, doing that tunnel, and the collapse happened, massive amounts of water came in, there was flooding and rock fall associated, which is actually what killed those people.

So I'll repeat. Fracture lines, deeply weathered because of all that groundwater going down, causing more chemical and physical weathering. Uh, and they're hi-... uh, because they're highly fractured, that leads to very wet areas with large throughflows of water.

The Snowy 2.0 is a classic example of what can go wrong. Right now, their biggest, longest tunnel, which was supposed to be finished at the end of this year, I think it was, the machine has gone 200 meters only for about one year because it's... Uh, I've got the maps showing the faults. mid to the, uh, west of the major Tantangara fault, the machine tunneled into that, collapse happened because of the vast amount of water coming down and there it stuck. So I know that may not seem to have much relevance to, uh, Lue, but there is because we just don't know when or if, uh, these sorts of situations may occur. Underneath the Tailings Storage Facility, that's critical. I've already covered some of that's, uh, that, this. Uh, next slide.

And, uh, I've covered... Oh, well, yeah. Again, I'll just, uh, point out. Failure of the, uh, proposed, uh, um, Tailings transfer to liner may lead to easy fault line in throw... Uh, throughflow of water with pollutants to Lawson Creek. We must be assured of 500 years of integrity of this liner, but we can't be sure of it. 500 years integrity of that liner to only allow a certain amount. Gulgong draw its town water supply from the Cudgegong River downstream of Lawson Creek. Those people are the ones that need to worried most about, uh, the pro-... possibility of their being, uh, significant, uh, issues associated with what comes down. Part of the problem is, uh, the nonfilterable residues from the compounds and elements, which will be in the, um, uh, Tailings Storage Facility. Uh, next slide.

And, uh, uh, those nonfilterable residues will keep on going down and be taken up. So what I'm s- s- saying is why is planning and effective management at Bowdens Silver project infrastructure is critical for Gulgong residents and for every other resident of the Lue district and Midwestern region.

Lessons from other mines. All right. I'll point out the Clarence Colliery, um, the coal fines from the dam spilled into the Wollangambe River in July 2015 from their waste rock and placement facility. It caused pollution downstream, along with other, uh, pollutants. We have pollution going 22 kilometers

downstream from that facility at Clarence Colliery in the world c-... the Blue Mountains World Heritage area and where, uh, it's a very, very popular recreation resource for people from around the world doing the canyon there and the Wollangambe Creek. There's also significant, uh, biodiversity issues associated with that. The company was advised by a geotechnical engineer that work needed to be st-... done to stabilize the dam. What happened? Nothing. My point is miners must follow professional advice and have a strong regulatory oversight. Next slide.

Central Queensland. Um, the problem there of, uh, uh, unexpected weather events lead to, um, huge volumes of water pouring into the pits and leaking into underground areas, uh, there. They thought they had it all worked out. Did they? No, they didn't. Storage facilities and pumps, storage facilities and dams became so full operators were forced to pump excess water into pits. Access to equipment, storage facilities, monitoring sites was cut. So my point is climate change, with increased severity and frequency of extreme weather, must be addressed in planning and managing developments, including Lue Mine. Any questions?

Speaker 15:

You finished? Thank you very much. Any questions? Okay. Thank you very much, and thanks for supplying the extra information.

Dr. James Smith:

Mm. Tha- thank you, Commissioner. Uh, can we check to see whether we have, uh, Mark Taylor online? He's our next speaker.

Mark Taylor:

Mark Taylor here.

Dr. James Smith:

Ah, excellent. Thank you, Dr. Taylor. I can confirm that we can both see and hear you, and you have the commission present. If you could please provide your submission. Thank you.

Mark Taylor:

Yes. Uh, terrific. Thank you very much for the... Thank you for your time. Um, just a correction there, I think on the title I'm appearing as myself as you... if you like. Um, not in the sense for the Lue Action Group, per se, although I will say I have done work in the past for the Lue Action Group. So my role is, uh, honorary professor at Macquarie University. I was a professor there for 20 years, and since July 2021-

Mark Taylor:

... years, and since July 2021, I've taken up an appointment as Victoria's Chief Environmental Scientist, but importantly, relevantly, um, for the panel, I'm appearing as an honorary professor at Macquarie University. I just mentioned I've done some previous work, um, at Lue for Rylstone Olives. I did a baseline report on soils and dusts in the ambient environment and also made comments on the EIS document, provided assessment, uh, on some of the material in there, particularly pertaining to dust. I would hope you have those and if you don't have those, they can be provided to you f- later as they provide useful context and comment.

Okay. I don't have any slides. I apologize. I didn't have time for slides. So I will just go through my comments for you, and I can provide the text later again, as required. So you may or may not have heard already that pollution is a major cause of death. It causes about nine million deaths a year or about 16 percent of all global deaths. It is a real insidious problem. This development, as it stands and from my reading of the EIS, clearly presents a risk to communities due to increased dust and the lead concentrations that will increase in that dust and in the broader ambient environment.

Moreover, there are strong- there is strong evidence that short term exposures to dust, not the annual average years or the monthly average that are often used to assess pollution are equally problematic to human health. Which is in contrast to standards and guidelines which rely on an averaging process. Because what goes up comes down.

Ambient environment and the half-life of lead is poorly established but a piece of research, uh, recent research, about 2004, uh, from France states it's about 700 years of half-life. So basically, it doesn't go away. Pollution will be dispersed from the site under suitable prevailing, uh, winds across the community and adjacent agricultural producing sites. And we know this because of the pollution halo seen at other lead processing sites right across the world, including those in- in Australia, Broken Hill, Mount Isa and Port Pirie.

Albeit this site is different to those in many contexts, it'd be the same sort of issue. There'll be, uh, dust. It'll be dusty environment subject to tra- uh, transfer under certain wind conditions. And we know that pollution is widely dispersed as well. We can find Australian lead pollution from Broken Hill as far away as Antarctica. So it's a misnomer to think that there will be no offsite impacts.

As noted, uh, lead contamination in soils and dust simply does not go away. It accumulates and its legacy will pose a risk of harm. An example of this is the study that we just recently completed looking at, uh, Sydney chickens, which are about soil lead levels as low as 117 milligrams per kilogram, nearly one third of the National Environment Protection measure for soil, which is set at 300 milligrams per kilogram, would result in egg concentrations of about 100 micrograms per kilogram or 100 pounds per billion, which is a defacto safety level for eggs to be consumed by humans.

The point being is what goes up comes down, it stays down, and will present a risk of harm, uh, to certain biota and people under different conditions. And I'll go to some detail. I'll explain that. Safe to say and it's accurate to say that no mine can demonstrate no offsite impacts. The assessment provided in the EIS uses thresholds and baseline values that arrive at inconsistent or out of date and that's outlined in my EIS assessment. And this undermines the confidence that offsite impacts will be managed properly or will be within acceptable limits, should such limits even exist.

Elevated blood lead levels around, uh, lead mines and process in facilities are always present. Indeed, after an operation has ceased, blood lead levels will remain elevated relative, uh, to background populations and this is due to the legacy that is left from the emissions, which become depositions and those depositions leave their legacy.

An example of this is at the former smelter at Boller and Newcastle, which has resulted in significant environmental contamination in the community surrounding the former lead smelter. Though a New South Wales blood lead survey carried out in 2015 showed all the children's blood leads, I think it was about 70 children, with below the National Health and Medical Research Council, uh, levels of concern at five micrograms per deciliter, a significant proportion of the sample was between three to five micrograms per deciliter, which is elevated relative to the natural normal background level we found in children today, unexposed environments of less than one microgram per deciliter, which is the same as we find in Australia and the United States.

Thus, the challenge that I've identified in the proponents, the EIS document, is that dust will be the major issue and it will be the management of that dust. Other experts here will have or will introduce evidence that the available water resources to suppress the dust will not be sufficient to contain that dust 24 hours a day, seven days a week, or 365 days of the year.

So why is this critical? Well, in all of the studies I have undertaken, i.e., Broken Hill, Port Pirie, Mount Isa or even overseas, I pulled to the urban lead con- the urban contamination studies that I've undertaken from the former use of lead paint and petrol shows explicitly that lead dust is the key concern. By way of example-

Well, so, by way of example, is the evidence of human response to lead dust from petrol. So approximately, 75 percent of the lead used in petrol is emitted from vehicle exhausts into the adjoining environment. As a result, during that time, blood leads in children, the most vulnerable portion of the population due to their age and hand-to-mouth behaviors, rose.

As lead concentrations in petrol were reduce, so the blood lead levels fell in children. And we can see this through a near perfect one to one relationship between the emissions and blood lead. Even though soils in cities continue to remain contaminated and this is what is the cause of lead exposure in chickens who are actually eating the soil whi- while they're foraging. Blood leads fell in children because lead dust- lead dust levels dropped and homes and hands were no longer being coated with the toxic metal.

Therefore, in lead processing towns, lead- where lead dust remains prevalent, it permeates homes and results in exposure. This is why lead dust is of critical concern in this proposal and the proponents have not, in my view, show that there will be no adverse offsite impacts.

In terms of human responses, environmental systems will absorb and re-mobilize trace elements. For example, in other studies we have done, we have shown unequivocally that bees and other biota such as birds will, um, re-mobilize lead-rich dust into their bodies and pass it into the food chain. In essence, this demonstrates unequivocally that pollution will get offsite and will be re-mobilized once again back into the environment and food system in local regions, and that will negatively affect food quality and agricultural value.

If nothing else, it will co- correct significant doubt in the minds of purchasers that they're producing natural, clean, unaffected, non-contaminated product. That remains a very significant and real co-concern for the community.

And the trace contaminants are harmful to both insects and birds. Even trace levels of, um, elevated levels of manganese and lead are known to cause significant neurological disruption in bees' foraging efficiency and productivity. Such effects may be considered sentinel marks of harm to other environmental and human systems.

Therefore, having looked at all the information and visited multiple lead processing sites and visited Lue before, my assessment is that dust will be the ke- will be the key for exposure and this site will be dusty. Every mine site, uh, in hot, dry locations in Australia shows this and negating offsite impacts has never been achieved anywhere. At least to the best of my knowledge and I would like to hear that being contended.

So the only acceptable offsite impacts have been achieved according to the EIS. But with respect to lead, there is no safe or even acceptable additional limits, especially where people are involved. And that's because the effects of lead exposure do not remit with life. And I- I don't really wish to go into the long effects of lead. So that should be somebody else's concern but it's well established it causes harm and that harm does not remit throughout the lifetime of somebody and no safe level can be adopted.

So finally, what I will say, two things. Um, I'll just get to the end so I don't take up too much time. There are some unaddressed matters. Can the operations guarantee that there will be no offsite impacts and

adverse outcomes? That's, uh, something for the panel to concern- to- to consider along with these other items. That there's no safe or acceptable level established for human exposure, let alone biota.

There are thresholds of acceptability but these should not be confused with levels of safety. My question is will there be a baseline study? An ongoing assessment of homes that are exposed to ensure mine practices are effective and protective? And what thresholds will they use? It's unclear in the EIS document. And indeed, the dust levels that they use are not up to date and they should be using the most recent ones that I detailed in the- my EIS assessment.

Can the operation guarantee that locally produced food, including wine, olives and its oil will remain free of contamination? And finally- thank you very much for the second bell. This proposal has not quantified the short or longterm costs of distress and worry, mental health and wellbeing on the impacted communities. And I would- I'd think that should be included in any assessment and consideration of whether this proposal goes forward or not. Thank you very much-

Commissioner Duncan:

Thank- thank-

Mark Taylor:

... for your time and consideration.

Commissioner Duncan:

Thank you, Mark. We do have a question for you if you can hold on. You still with us?

Mark Taylor:

I'm still here.

Commissioner Duncan:

Okay.

Commissioner Sykes:

Um, thanks very much, Mark. Um, Claire Sykes here. I just, um, was- it was very interesting hearing your, um, you know, your research on lead dust and impacts. Um, oh, I'm interested to understand from you. You did, um, mention that the research that you have conducted and the impacts, um, have been based on processing sites, um, including-

Mark Taylor:

Yes.

Commissioner Sykes:

... smelters. I just wondered if you could clarify, do you have a feel for the differential between, um, or results that could occur between a mine versus a smelting site, which I imagine, the composition of the dust, um, and characterization of the dust could have differing factors. And I just wondered if you had a feel for smelter versus mine.

Mark Taylor:

Yeah. So look, actually, Mount Isa is a mine and smelter, Port Pirie is a smelter, an Broken Hill was a smelter over 100 years ago and now it's just a mine. So you- I think you could ignore the smelter component. What you can see in each of those locations is that concentra- um, the concentrations in dust and soil are highest closest to the mine and blood leads are higher closer to the mine and fall off with distance.

We showed, uh, very clearly at Broken Hill where we undertook the largest, i.e., about 25,000 children and along this five years blood lead study ever undertaken in Australia, we showed very clearly that lead dust is a key component of children's exposure. Clearly, the soil in contaminated the soil obviously provides an additional round of exposure.

But in- in essence, to really directly answer your question, it doesn't make much material difference, the lead that we have looked at in Mount Isa and- and Broken Hill is almost equal bioavailable and you can do all the acid digest studies you like. Just look at the kids. Right? In both locations, the kids' blood lead is more elevated in air that's closer to the facility, where the emissions and...

Great. And folds a swap. Uh, yeah. I wouldn't get too muddled up about whether it's a smelter or not because those- the smelters produce dust. Often, they're very dirty. And you can look at that when you go to Port Pirie. And you can see around the smelter of Port Pirie, it's black and it's- it's the dust which is generating the exposure root at Port Pirie, as it is at Mount Isa. It's the dust, not so much really, uh, the smelter emissions, which do contribute to it but it's very clear that it's the dust in the environment, which may also come from smelters but will also come from unconsolidated contaminated material in and around the mine. Does that help answer your question?

Commissioner Sykes:

Yes. Thank you very much.

Mark Taylor:

Thank you. I can provide the papers if you want-

Commissioner Duncan:

Yeah. Thank you, Mark. And, uh, appreciate you again providing some more information.

Mark Taylor:

More than enough to...

Commissioner Duncan:

Another question?

Dr. James Smith:

Yes. Uh, thank you, Professor. Uh, James Smith, um, council assisting. Um, Professor, the Department's recommended some conditions of consent. Um, in particular, they've established air quality criteria. Uh, they've provided a- a PM 2.5 and also a deposited dust criteria. Uh, um, in your work, is it necessary to go down to an actual lead criteria? Or is particular matter and deposited dust sufficient for the purposes of-

Mark Taylor:

No. It's lead. Lead's the element of concern. I would really strongly recommend that the- the- the guidelines or the conditions focus on having a lead standard and having trigger values. At Mount Isa, for example, they apply a trigger value for lead and cadmium and zinc and- and arsenic, uh, which is- which are co-contam- some of those are co-contaminants and some of them are some of the elements that are mined at that site, and they use those to ascertain-

I don't know how strict they are at using those trigger values but they set trigger values. And- and the trigger values that they use are mirrored in the GA, uh, so the German TA of air guidance. You know, we've read quite... So that's what I would recommend. PM 2.5 may be sourced from other things in the area, such as agricultural soil, which is uncontaminated. So it won't give an accurate picture.

My view is if- if the concern is lead, measure and analyze lead. And indeed, there is equipment, such as HORIBA equipment that provides near real-time assessment, uh, of lead in air that could be used to give comfort and, uh, to the community and to allow the operations to take very s- very quick interventions under, uh, adverse conditions.

Dr. James Smith:

Uh, thank you, Professor. No, that's, uh, the- the second follow up question is the conditions also propose the preparation of a air quality management plan, uh, with a number of criterion. Um, submissions are still open, as I understand it, for another seven days. Have you had a chance to critique the condition and in terms of what it requires whether it's acceptable in your view?

Mark Taylor:

No. I'm terribly sorry.

Dr. James Smith:

Oh.

Mark Taylor:

Got very limited at my current role and that time to look at it. If you want me to look at it, uh, later and make comment and share that, I'd be- I'll try and find some time to do that.

Dr. James Smith:

That's cer- certainly a matter for you, Professor, but I'm just making the inquiry. All right.

Mark Taylor:

Yeah. Thank- thank you for asking.

Dr. James Smith:

Great. Um, thank you, Professor. Well, we'll call our next speaker, uh, who is also online.

Mark Taylor:

Thank you.

Dr. James Smith:

Um, do we have Alison, um, Ziller? There we go. Uh, could- could I just ask you to check your audio? Uh, no. You- you may be on mute.

Alison Ziller:

Can you hear me now?

Dr. James Smith:

Perfect. I can confirm that the commission can both hear and see you. If you could please proceed. Thank you.

Alison Ziller:

Okay. Thank you. Uh, good afternoon, commissioners. Um, I've been asked by the Lue Action Group to provide an independent expert report regarding likely social impacts of this proposed mine. Uh, and I want to raise four issues with you.

Um, the first issue is a confusion of terms and I'm concerned that Bowdens and the Department appear to be relying on a proposition that the level of exposure to lead will be negligible and almost negligible in terms of likely health impacts and the definition of negligible is something so small as to be insignificant or not worth considering.

So almost negligible seems to be something almost small enough to be not worth considering but the World Health Organization, and I think your previous, uh, speaker, says lead is a toxic metal and there is no level of exposure to lead that is known to be without harmful effects. So that is, when it comes to lead, there is no level of exposure that is not worth considering.

And this seems particularly appic- applicable to a proposal to create a risk of exposure to lead for a period of 23 years, if not longer. So treating negligible more or less as if it were the same as none seems to be being used to reduce the social impacts of exposure to a discussion about peoples' anxieties. And while anxiety is a reasonable response to this proposal, negligible levels of exposure are not in terms of the World Health Organization's fact sheet of safe level.

Uh, the second issue is the impact of exceedances. Uh, in its assessment report, the Department relies on the levels of risk measured as averages and there are three things to note about this reliance. The first is that the averages are achieved by modeling and the models are predictive and they're based on assumptions and the accuracy of the assumptions will only be known when they can be compared with empirical results. And, therefore, a model may be partly or significantly inaccurate. And this is not just a technical or an academic issue because air is- air is in modeling of lead, uh, exposure can affect lives.

The second issue is that averages conceal variations and magnitude of variance. And the third issue is that the Department anticipates variance by providing for it extensively in the recommended conditions which detail at B26, C5 and C6, that exceedances are anticipated.

So Bowdens' EIS notes that there could be adverse impacts on aquatic life due to accidental release of silver lead concentrate and changes in groundwater but the Department doesn't address these risks to human health. It says rather that these risks can be managed. While at the same time, they explicitly allow for exceedances. There are social impacts arising from the fact that exceedances are both anticipated and permitted.

The project is expected to last for some 23 years or 8,395 days. If there are exceedances on, say, one percent of the days the project operates, this will mean they occur on 84 days. At the rate of two percent, this is 168 days. And if the project is extended, say, for another five years, then the local

residents might experience exceedances at the rate of one percent on 102 days, or at two percent on 204 days.

And exceedances may be due to accidents, mistakes, equipment failure, unforeseen events such as bush fires and dust storms or inaccurate weather forecasting. The assessment report relies on modeling to anticipate exceedances and to say they are within the range of acceptable impact criteria but not to address their social impacts.

As it stands, the proposal is that every day for 23 years, or potentially longer, people in the locality of Lue, that is within three kilometers of the mine's site, will reasonably wonder if today will be a day of exceedance or if that happened yesterday but they don't know about it yet. Every day, they will know that exceedances are possible but not whether they have happened or how large the exposure was.

There are 98 residences within three kilometers of the mine and 70 in and around Lue. But only 13 are owned by Bowdens with another three which could be re- acquired. This leaves 82 residences in the situation I have described. These residents do not have an offer of voluntary acquisition and would face difficulty securing a reasonable price should they decide to sell if the modeling proved incorrect.

They face risks from cumulative exposure to lead for which there is no level that is known to be without harmful effects. They would appear to have no recourse if the recommended particular matter and deposited dust criteria become more stringent during the life of the project.

The third issue concerned longterm risks. Bowdens' EIS is only concerned with health risks during the life of the project. However, risks to health from exposure to lead disturbed by the project may occur due to dusk escaping from the low grade or stockpile, seepage from the tailing storage facility or exten- and, or extensions to the open cut pit to ensure the final void remains a groundwater sink.

These risks will persist after the mine is exhausted, the site has been sold or abandoned and mining has- activity has ceased. The assessment report recommends Bowdens updates its groundwater model every three years and provides a closure strategy for the final void but doesn't say whether or how these responsibilities will pass to a new owner or, indeed, how responsible and management of the void and stockpiles will be achieved for the next 70 years or in perpetuity.

It appears to me that the royalty income to government has been calculated without accounting for the costs of longterm risks to residents' health and costs to the health system arising cumulatively from accidents and exceedances.

When the silver has been mined, it will be gone but the risks of lead in the mined environment will remain. It appears the Department may not have considered the future cost to government of liability for the foreseeable adverse impacts of a lead mine in this locality.

The fourth issue is inadequate mitigation of social impacts. The assessment reports lists social impacts as residual and they are described as perceived and as stress and anxiety. The measures to assess these residual impacts are said to be strict and precautionary and to reflect current best practice for regulating mining projects and they are listed as a community investment program, a planning agreement to provide three million dollars across the life of the project to the Council, a local employment and procurement program, a good neighbor program and a social impacts management plan, which we call a SIMP.

Uh, the SIMP- excuse me. The SIMP is a suite of documents, uh, and in- includes a requirement for blood level- blood lead level monitoring and tracking over time. This list of mitigations gives physical exposure risks to lead dust the same priority as local procurement and workforce accommodation. It also treats exposure to lead as something to be discovered after it has happened and to be tracked.

In the case of an exceedance, a resident must be provided with a New South Wales fact sheet. That's a pamphlet. And it appears it is up to individual landowners to initiate an in- in- an independent review. In my view, this is- this inappropriately places responsibility for the consequences of exceedances on individual landowners.

Further, there is no action proposed to recompense property owners within three kilometers of the mine for financial loss due to the presence of the mine, its noise and other impacts as well as the cumulative consequences of exceedances.

The proposed three million spread across 23 years is a trivial amount. If meted out on a per annum basis, the Council would need to save it for several years in order to do something worthwhile with it. There is no indication that this would happen nor anything to ensure that the money didn't simply go to meeting existing commitments. There is nothing in the list to ensure the Lue, rather than the large local government area, is the primary beneficiary of these small amounts of money despite Lue being the primary adverse impacted area.

There's a reliance on public relations in lieu of tangible and effective mitigations delivered by the proponent. The consultative committee is advisory only. There are no penalties for none or inadequate compliance with the SIMP. There's no standard against which to assess failure to comply with the SIMP and no independent agency to do so.

In summary, considering best practice for regulating social impacts of mining projects- or sorry. Current best practice was considered by the Land and Environment Court in 2019. In the Rocky Hill decision, the court considered that strict and precautionary measures of social impact should be tangible, deliverable and durably effective.

It is evident that the recommended conditions for mitigating social impacts of this mine do not meet these criteria. The principal strategy for mitigating exposure to lead appears to be discovery after it has happened. While tangible and deliverable, discovery after the event is not a durably effective mitigation for a substance whose harmful effects cannot be remedied, reversed or removed.

The strategy will not address the lived experience of the residents. In my opinion, the proposed social conditions are short-term and lack substance. That is, detail and enforceability. Weak and ineffectual requirements in the SIMP may be current industrial- current industry practice but this doesn't mean they have a value other than to gloss over the fact that the proposed mine risks being at the longterm social expense of the locality of Lue, a social cost which is not proposed to be mitigated.

In my opinion, the process of- in the process of recommending approval, the assessment report treats actual practice as best practice and describes weak and unenforceable conditions of consent as strict and precautionary. This in itself suggests to me that a net- that a case for the net social benefit for this mine cannot be made. Thank you.

Commissioner Duncan:

Thank you, Alison. We- we have no- no questions at this stage. Will you be submitting anything further?

Alison Ziller:

I- I'll sub- submit a written submission.

Commissioner Duncan:

Thank you. Thank you for your time, Alison.

Alison Ziller:

Okay.

Dr. James Smith:

Uh, thank you, Commissioner. Uh, can we please call, uh, Dr. uh, Barry Noller to the podium, uh, to provide his evidence, please?

Dr Barry Noller:

Um, so, uh, yes. Tha- thank you. Uh, dear commissioners, I am, uh, an expert on contamination of metals and metalloids and other substances used and arising from mining practices, utilizing skills in environmental chemistry, toxicology and application of, uh, risk assessment processes to human health and environment, including ecological issues.

So I have over 40 years experience in assessing contamination matters and have given advice to the Lue Action Group here since 2012. Based on my examination on the EIS documents for Bowdens' project, including the HHRA, the Health- Human Health Risk Assessment, I have proposed the key areas to discuss today consi- considering the limited time to do this.

So next slide. The HHRA has been conducted and independently reviewed. A key feature of the reviewing process is that most detail raised about issues have not survived the review processes. What has emerged is the key reliance on modeling to estimate environmental impacts and health effects in relation to air quality, including heavy metals and noise and specific impacts on the health of the local community.

The air modeling in HHRA in appendixes six and seven plan to show no risk from lead to the community before or during mining activities based on blending of ore and waste rock to estimate dispersed lead penetrations in air and therefore, there is no reason for them to test ore and concentration levels for effects of lead on the population.

With these details, the conclusion stated a number of times- has stated a number of times is that there is no problem with the Bowdens project. Dr. Roger Drew, in his review, identifies the comprehensive monitoring program is required so that exposure pathways can be demonstrated in practice. With modeling, there is no validation of the data by other experimental means or external review.

The LAG and community believe that the- the, uh IPC approval cannot be granted without all SEARs having been met, uh, having been addressed. Monitoring risks to human health by refusing to measure baseline and ongoing blood lead levels in the community is a key item noting that human health, including a human health risk assessment, address how the project development and environmental impacts in relation to air quality and monitoring and management measures to reduce risk to human health.

The example of KDO's po- poor performance in rela- is- is a rather relevant example of how operating projects can get out of control. KDO is a much bigger project than Bowdens' but emphasizes that there needs to be ongoing review of a mine's operation to steer the monitoring and not have it locked in concrete before project commencement.

Monitoring and management measures need to be in place to reduce risk to human health with sufficient, reliable monitoring in place as the project moves through its different phases, stages of development. This is the principle role of monitoring, rather than s- solely relying on modeling and intended to validate the modeling as in independent measuring activity.

Next slide. Techniques to- to measure dust deposition need to be proposed and confirmed to become part of mine site monitoring of lead dispersion in dust included with other air monitoring in the mine management plan if mining commences at this project. The important detail is to ensure that

measurements are performed for lead dust dispersion assessment and that lead deposition is not, uh, ba- uh, is- is not based solely on modeling calculations.

Dr. Roger Drew raised earlier about the input data being used for lead deposition in dust, giving an est- underestimate or lead exposure to adults and children at Lue from ingestion. The conclusion of lead exposure is primarily based on calculated exposures being less than health based guidelines. However, issues were raised in the- in Dr. Drew's report regarding the selectivity of using data for PM 10, for dust deposition, and p-

Dr Barry Noller:

PM 10 for dust deposition and PM 2.5, um, exposure, for exposure to metals. Some of the pathways, uh, and substances of, uh, exposure to, um, TSP, Total Suspended Particulates, from PM 10 is also relevant. Dust size based on PM 10 is finer than the collected, that collected with TSP from mine sites. Exposure, including lead, has been potentially underestimated when PM 10 alone is used.

In New South Wales, TSP is defined as being greater than or equal to 50 microns diameter. While Queensland defines TSP as being less then of equal to 100, uh, microns. TSP as the surrogate of dust deposition is chosen because it is readily available, a readily available measurement, um, in measurement data, and avoids having to perform dust fallout measurements. TSP does not include particles from 50 microns up to 100 microns, or up to less than 250 microns.

Just, uh, the next slide please, which um, shows the, um, size, um, range of particles that relate to the different exposure, um, processes. So, um, TSP does not, um, include, yeah, particles for 50 microns up to 100 microns, um, and to less than 250 microns. Which is the size cutoff for dust ingestion by children. Thus, using TSP data for fallout is an approximation. In the bio accessibility measurement which is gastrointestinal tract simulation, lead in soil also uses a size cutoff of less than 250 microns.

And if we look at the next slide, here, what is shown are examples of particle size distribution of a whole range of, uh, dusts, uh, from, uh, Mt. Isa. Both, uh, in the, um, the town or the city itself and from the mine site. And the important thing here is about measuring particle size distribution is pr-, it's, it's, um, uh, able to show the plot of, um... Particle size is able to show, uh, the existence of particles which are, for example, at 50 microns if you count along from 10 to 100. To the 50, and going up to a size range of 250 microns. This is quantitative, uh, measurement of that size fraction which is not included in the, um, in the TSP measured less than 50 micron fraction. And because this dust also, uh, is a component of deposition, uh, it's, it's, um, it's dust that is potentially available for children to, um, to be exposed to by, um, by, um, uh, ingestion.

So, um... So, uh, this emphasizes the importance of knowing the particle size distribution of dusts produced by the, the mining operation itself. During, uh, dry episodes ... it's happened here during the drought of 2017 to 2019, uh, more, there is more potential to have dust generated for dry surface materials. If there is an accompanying reduction in stored water for dust suppression then... um, this may, uh, result in, uh, well, uh, dry surface dust with non-availability. Sufficient stored water for dust suppression may result in increased dust dispersion, increasing lead. Evidence for this is given in the presentation by Sh-Shireen Baguley in her report to the LAG.

Uh, next slide. I'm aware that, um, New South Wales EPA uses an outdated guideline for assessing building contamination from lead, and does not have a current floor contamination method for lead that meets of blood lead level of 5 micrograms per deciliter. As does the US EPA, the lead floor standard, which is intended to confirm, um, a, a, um, uh, a 5 microgram, um, deciliter, um, blood lead level in children if exposed by ingestion to dust on floors.

Whether the letter standard can be applied to monitoring floor surface lead in homes and the school at Lue, um, is, um, uh, is yet to be seen, uh, but it's not stipulated at this point in time by New South Wales EPA. In addition, New South Wales Health has the measurement of, uh, blood lead as the gold standard for that exposure. However, New South Wales Health does not advise blood lead monitoring as routine monitoring tool for assessing lead exposure in child or adult, unless a medical doctor advises that an exposed individual has been diagnosed with effects from exposure. These shortcomings with New South Wales government agencies need to be brought to the attention of the inquiry as they connect with the kind of lead exposure monitoring that may be allowed in New South Wales.

It is therefore important to get all residents, and particularly children, tested for blood lead, uh, as a base line. The HHRA claims from, uh, air modeling, and HHRA, that, that um, there's no risk from lead to the community before or during mining activities. I am summarizing these details as they keep on saying there is no problem. It remains important to get all residents, and particularly children, tested for blood lead.

Uh, next slide. I've also included, uh, here crystalline silica in air, uh, which, um, is a, um, uh, has a different size range from, um, from lead, uh, in, um, in dust. One of the important contaminants in air from, um, uh, this mining project, and uh, and many others is crystalline, uh, silica. This is because, uh, uh... This is to be measured in the 2.5 micron fraction, and um, if it's to follow international best practice. Because PM 2.5 matter in ultra fine particles, uh, can be, uh, dispersed far more widely, uh, than, um, uh, the dust fallout we just talked about. It, um, it's dispersion can go way beyond the, um, uh, uh, the mines, uh project, the Lue, um, um, um, area boundary, and even to, to Mudgee.

So on, on the um, uh, going back to Figure One, P, PM 2.5 is identified as fine particles, which can penetrate the deep lung. So, um, there, there, um, uh, there... So that, uh, that feature distinguishes it from so lead, um, and dust as fallout. So in, um, uh, in the community, Victorian EPA, applies a guideline of 3 micrograms per cubic meter as the guideline based on Californian EPA office for, uh, crystalline silica in the air in the PM 2.5 fraction. And this follows international best practice.

Do I have any more time?

Commissioner Duncan:

Another minute.

Dr Barry Noller:

Okay. So just go to the next slide. The next one after that. Sorry, I can hardly read the detail over there. But uh... Oh, it's here. I beg your pardon. Um, yes, so, the consequences of acid mine drainage. Acid mine drainage, um, p-prediction and control requires the highest level of testing for acid generation properties before reliable monitoring can be un-undertaken.

Representative sampling for AMD testing rather than average is imperative in order to predict reliable, re-reliably if acid mine drainage will occur. Any shortcoming to the scope of the monitoring program risks creating acid drainage in the future. In addition, any attempt to delay to resolving adequate sampling issues before the project commences is asking for trouble arising from inade-inadequate capability to predict acid generation.

Surface water coupled with any acid generation is likely to severely impact tributary creeks, such as Lawsons creek. And the risk of AMD getting into Lawsons Creek and the downstream, Cudgegong river, uh, it may, the, uh, and this may lead to damage to isolated aquatic ecosystems beyond the point of restoration. Discharge strategies need to be, uh, developed in the future, uh, but should not allow,

should not be allowed when surface run-off is in contact with the PAF, potentially acid forming, waste drop. Water discharge needs to meet the newest EPA, the New South Wales EPA requirements.

Um, and, and um, so the um, the, the relevant, um, situation is that the SEARS uh, in, in, in this case with acid mine drainage are not being met with respect to AMD in identifying key mine viability determining areas. Right.

And um, do I have any time for conclusions?

Commissioner Duncan:

You want to wrap up? It, quickly a conclusion, yup.

Dr Barry Noller:

Yeah. Um, so the, the, uh, the principle of monitoring is to validate modeling as an independent measurement measuring activity rather than place reliance on modeling alone. Dust monitoring methods need sufficient data to enable management, um, uh, measures to be put in place to assess lead exposure at Lue. Deficiencies in lead contamination monitoring of the community blood lead level of 5 micrograms per deciliter need to be overcome, and to include testing for blood lead.

Monitoring dispersion respiratory silica as an annual average to the community is required to, uh, uh, to meet a suitable guideline, such as that used in Victoria. And the IPC commissioners, yourselves, have not been able to provide, uh, not been provided with sufficient evidence to make fully informed, uh, decisions. Um, and the project should not, is not yet, uh, approval ready. So I'll leave the other two details. Thank you.

Commissioner Duncan:

Thank you, Doctor. We, um, if you could provide that information, as well. Thank you.

Dr Barry Noller:

Yes, I'm going to, uh, I'm submitting my, um, my written, uh,

Commissioner Duncan:

By, by the end of the next week. Thank you very much. Thank you for your time today.

Dr Barry Noller:

Okay.

Dr. James Smith:

Right. Uh, thank you commissioner. The next speaker is Tom Combes. If you could please come to the podium to provide your evidence.

Tom Combes:

Good afternoon, Commissioners. Can everyone hear me all right? Thank you.

Um, I really do appreciate the commission coming here to Mudgee. Um, I'm delighted that you're here. This has been a very, very long road. Uh, I am the last speaker for the Lue Action Group. I am the President for the Lue Action Group. Before I go on, I, I would also like to pass my respects to Wiradjuri

people. Uh, in fact, all first nations people. Past, present, and emerging, I call them my friends. Uh, I hope they do the same for me.

As I said, it's been a long, long road. I've been on this 12 years. And I got involved originally as a supporter of, of the mine. And a friend of mine asked me to just give it a bit of a look, have, have a look at some of the information and try and get yourself across what it all really means. And from that point on, I was, I became more and more opposed. I was on the CCC, I was an impartial member of the, uh, CCC. Eventually, I declared myself, uh, non-impartial anymore, and I was strongly opposed.

And if we go to my first slide, please. Uh, next one. Lue Action Group got formed in 2011, and we really just wanted to find the truth. That's all we anted. As more and more red flags were thrown up, more and more truth needed to be sought. And I think there is nothing in it for the Lue Action Group. We won't gain anything. If it be, if is approved, if it is not approved, Lue Action Group doesn't receive anything. The proponent, they stand to make quite a lot of money. The government stands to make quite a lot of money. Lue Action Group, nothing. Nothing at all. We are your true peer review, is the way I see it. And thus, we raised our money through voluntary raffles, cake stalls, ringing people to try and get some experts to put an impartial view over that information that was sitting in front of you. And that's where we are today. That's why I'm standing up here.

Um, I'll just say that Mr. McClure noted that we were trying to spread fear amongst the community that he had a silver mine and not a lead mine. Unfortunately, I, I'm not worried about how much money Mr. McClure will make. The reality is that only 0.5 of a, of a percent of what they will produce there is silver. The reality is that 42% of what they will produce is lead. What, not in a monetary value, in a quantity. And that's what concerns us.

Can I go to my, um, next slide. It runs me to a balance. And that's really what we're looking at. What is the balance, I guess. I, I, I don't like having these kind of things. But I guess when it comes down to a decision, we have to put it on a scale. And on one side we see jobs, and we see government royalties, and we see sponsorship to organizations, and you're going to hear from some of those people I think later on in the week. But if I could just have a quick mention about jobs. The Phillips curve, which you may be aware of, after New Zealand economist William Phillips who first formulated it in 1958. It maintains that as more people find work, pressure builds on wages, which then leads to higher wages, and ultimately entrenches inflation. It's very real, at the moment. That's what we're having difficulty with or well the reserve bank is having difficulty with it right now.

It might note, you might note that if you go on to seek Mudgee region right now, there are 220 jobs vacant. I spoke to a counselor, um, last week, 50 jobs vacant just on Midwestern regional counsel. Across the Ulan coalfields, 300 jobs available right now. That moves us to that balance shape.

We also ha-, heard from Nick Warren saying, um, earlier, and I was talking to him about water, that Tony McClure was quite happy to reduce production if they ran out of water. Nick said to me, he gave me an example of a mine that was closed for three months because it didn't have any water. What does that tell you about job security? So that side of that balance is starting to weigh a little heavier over on the advan-, on the disadvantage side. And all of the experts that Bowdens silver had, um, the... I beg your pardon. That the Lue Action Group have found, and all of the information they've given, is all very clear. That scale does not look very good to me. I hope it doesn't look very good to you.

Can we go to the next slide, please. And that is probably the main reason to reject the proposal. It it just not compatible with the current local land uses: agriculture, tourism, lifestyle. Remembering that mining is inherently destructive and inherently offensive. It just does not fit in with those things.

Can we got to the next slide. Great picture of, uh, some shearers at the Lue Wool Shed a couple of years ago. Uh, good bunch of people. Agriculture has been thriving and operating sustainably for 200 years in

that valley. We were talking about sustainable mining earlier, or someone mentioned sustainable mining, all mines come to an end. They're not sustainable. Agriculture is sustainable if it's run well. The original pioneers like Nicholas Paget Bayly and Vincent Dowling, very famous early agricultural people, came to this valley, came to the Lawson Creek Valley, because it's highly productive. And it is still some of the most tightly held land in this region. My family's run a continuous business there for a 100 years. Next door, a 140 years. Employing people, contributing to the community.

And the farmers have worked there, how to operate there. They know how to do it in difficult times. And it didn't come out of modeling, I hate to say. It came out of practice, real experience. And how are we going to operate if we run out of water? We won't. We'll go down. And without a clean environment, we will go out of business.

I've got to ask that question, why is a mine job so much more important than an agricultural job. I, I've been on this a long time, I can't work that out. And why would you risk a farm, or a farm job for a mine job? I, I don't know the answer to those questions, maybe someone else might be able to answer them for me.

Can we have the next slide please. These two photos are quite extraordinary. They are two, they are a year apart. One is 2019, one is 2020. And we've learned how to operate in that. We've been told already today that, "Oh, we'll just slow down production. We might, might even just close it for a while." Um, we don't. We power through, and we know how to do it. And we preserve our environment, and we preserve our business, and we hold onto our employees. We can handle it. And that's 200 years of farming in that valley.

Can we go to the next slide? Of course, the other factor there I was talking about was tourism. And what are the impacts there for Mudgee? We've heard from our ex-, our, our experts. And, and if we destroy it, how, how do we fix it? There are just too many complex problems here. And why would you place any risk on top of destination Australia, which is Mudgee, right now. Why would you do that? And I'll say that again, why is a mine job so much more important than a tourist job?

Can we have the next slide? That top photo is a cracker. We've already heard from the lady on, uh, on the right there, today. But standing there is, uh, her father-in-law, who sadly had a stroke last year. And in his arms, uh, little, uh, little Sid, and, uh, Val. Four generations living, working in that valley. The picture below, you'll see how close that village of Lue is to that mine site. How those black dots are all the houses. And what impacts can mines have to those people? And that comes through visible mine infrastructure. We know there's not a lot of it, but it's there. Noise, dust, threats to the water, traffic.

Um, I spoke to a real estate agent a few weeks ago, and it's a really interesting point. When he's selling property, one of the first questions is, uh, you know, are there any mines proposed in the area. And if the answer's yes, the people move on. What, what does that tell you about the poor people that are still there? What, they don't have that chance. They can't walk away, move on. They're stuck with it. And that map showing those village, that village, what, what happens to them? What, what happens to the infrastructure there? We've already spent a lot of money, public money, building the school, building the hall. There's going to be a new RFS shed in, in, or an extension to the RFS shed this year. Hopefully, we get it completed. And it was created as a place where people can live in 1880. And they've been living there very comfortably. Not next to a mine. They've been living next to an agricultural and tourist-based business. You change that, you change the demographic. And that is what I am so frightened about.

And how do you compensate them? How, how would you compensate a family like that there that's been there four generations? Just throw them some money, and say, "Let's move on." I, I don't think that's appropriate. So I say, again, why is a mine so much more important than someone's home. It's a bit like the movie "The Castle," isn't it? It's so true in Australian society these days.

Can we have the next slide, please? So putting Bowdens in there just puts all those others at risk. And that is just an acceptable outcome.

Next slide please. I'll just run through these quickly. There's a photo there, I'm not sure if you can see that very clearly. This is about being real. That photo is coming off a, uh, drilling rig that was over near the proposed tailings dam a few years ago. We went past it yesterday. Uh, I think we stopped just near there. And you can notice how the dust is going straight up and into a cloud. And then it's dispersing. But I get concerned when I go and have a look at the monitoring stations, and they're all about that high off the ground. They're not measuring down there.

Can we go to the next slide? Here's a similar thing. We've seen this picture before. I took this photo, it's just down below the proposed the mine site. Have I got a second or two to wrap up? That was taken in 2019. And Bowdens is saying we're going to reduce the stream flow. I, I'd really like to see how you're going to reduce that stream flow?

Can we roll on to the next one, and that's the last one. There are a number of components of that, of this project that's just, um, quite disturbing. I don't think that they've got the water right. In fact, I'm sure they haven't got the water right. And the reason they haven't got the water right is because the monitoring and the devolping, development of the models has been taken without any real data, anything real. We live there. It's not real.

And when we go and start to assess this process, we need to make sure the bar is up high. We've talked about how the bar, if it's low then we move through into later processes. If it's high, we've got a clean job. And I just don't think, and all of our experts from LAG are the same. As I said, nothing to lose for us, nothing to gain. I guess, there's a lot to lose, but nothing to gain. We have to make sure that bar is right up there.

I've really got to thank you. And I'll thank all the other LAG people that spoke. And um, I hope you enjoy your stay in Mudgee.

Commissioner Duncan:

Thanks, Tom.

Dr. James Smith:

Thank you, everyone. The commission is going to take a five minute adjournment. Uh, so the time is almost 4:00, so we'll be coming back at 4:05, uh, to continue with the next speaker. Thank you.

Megan Create Engage:

Three, two, one.

Dr. James Smith:

All right. Uh, thank you. Welcome, uh, back, everybody. Uh, our next speaker is, um, Abigaelle Mills. If Ms. Mills is ready to proceed.

Abigaelle Mills:

Yep. I'm ready.

Dr. James Smith:

Excellent.

Abigaelle Mills:

Okay. Good afternoon, councilors and Midwestern Regional Council community. My name is Abigaelle Mills. I live on a property called (redacted). Our family has been here for 130 years. The Lawson Creek is the living artery of our livelihood, running directly through our place for a few kilometers. I have spent my whole life living on the creek, fishing, swimming, watching platypus, redfin fish, snakes and swimming our horses. Not to mention, the creek is the lifeblood of our agricultural business. I am also in year 11 and I am preparing for prelims, but I didn't take time out of my prelims to create a speech for an issue that I saw was threatening.

Um, my deep concern with Bowdens is the overwhelming lack of planning and the cost cutting, wi- especially with the tailings dam as stated in page five to six of the New South Wales Dam Safety Committee document. There are many recorded instances of tailing d- tailings dams failures and I would like to know what Bowdens are going to do to stop us from just becoming another number and another place that is no longer inhabitable du- due to lead pollution.

So, the dam is in the middle of the Lue ... Is, is not very far away from the Lue Village. It's two kilometers away from the primary school. I have a deep concern with the young kids that are going to be exposed to really dangerous levels of toxic lead. Um, also, it's stated in the New South Wales government documentation that it takes 250 mils of water over 72 hours to make the tailings dam flood. In recent October floods, there was over 200 mils falling at the head of the Lawson Creek overnight. This caused a catastrophic flood and untold damage. If this occurs with the tailings dam in place, how are Bowdens going to pay for an environmental disaster like this? I don't think that they and I have really deep concern that we are going to lose everything.

How are Bowdens ever going to prevent the rain from falling in the future? No amount of weather mapping could predict what we just experienced. Mother nature will never adhere to our plans. The toxic tailings run off will not only just affect, affect Lawson Creek, but it will also run down to the Cudgegong River and poison the Burrendong Basin, not to mention the ongoing flow to South Australia and beyond.

The mine will provide jobs for 16 and a half years versus the, um, centuries of environmental damage that will be there forever. Bowdens Silver Mines' total lack o- ... Total disregard for the amount of livelihood you will ... Bowdens will destroy not only the Lawson Creek, the Cudgegong River and the Burrendong system is aston- i- is astonishing. Not only water, but lead particles carried by air, settling onto roofs, w- washed into tanks and the lead fallout will be phenomenal and will affect people indefinitely. The undeniable facts if this mine go ahead are it's killing the environment, it's killing the community, it's killing tourism, it's killing the people. It's just not a very well thought out, well planned out p- um, project and I just have deep concerns that it's going to go catastrophically wrong.

And also, we pride ourselves on our tourism and our agriculture and we have a footy game that is coming to us. Um, they won't be willing to do that if we do have a lead mine because nobody wants to have lead exposure, because it does not take much lead to actually be dangerous. It only, it only takes ... It only, it only takes five micrograms per deciliter to be toxic. Um, this is really scary to me because it's just ... It's not enough. It's not enough. It should not be enough for everybody else in the community.

Also, how are Bowdens going to rehab the land when they uncover the acid rock and when the potentially acid forming rock is exposed to water and air? I don't think they can. It just hasn't been done before and I would love to see where it's been done before, if it has been. Also, I don't want us to end up Lake Mount Iza. I don't want this community to die. I love it. I love being here. It has beautiful community values and I've just loved living here. And also, how will Bowdens cleanup a truck ... Do, do a truck cleanup if the slurry falls all over the road? What's going to happen? Like, they can't wash that down. We are virtually selling our souls for a few pieces of silver, and the money isn't even going back

into our community. It's going to Bowdens. It's going to g government. It's not going to have any form of financial benefit. There are heaps of job available. It's just ... I don't see it as a feasible plan and I don't see it as future-proof either.

Also, I do have deep concerns for the rocks that you also are going to stack on top of the Lawson River and the fact that the tailings dam is just going to be covered by a piece of tarp. Bowdens ac- aren't actually going to rehab the land. They're just going to leave it and all of the chemicals, it's going to leech into everything. Um, our healthcare system is already overrun. We don't need to have even more overrun by a lead mine and by all this influx of new people testing for lead and all that, 'cause I don't think that Bowdens are going to pay for it. I don't think Bowdens are going to buy any of us out who are in real threat because of the project. They're just going to buy the people out that they want to use. They don't care about us.

Also, there's going to be 50 times more lead than silver. There's going to be, like, 20,000 tons of silver. If you do the maths, there's going to be a lot of lead that's in that mine and it's just, it's, it's worrying for me because of the lead. Lead is toxic to everything and lead kills everything. There have been multiple examples of where lead has actually destroyed communities, and I don't want this beautiful community destroyed. Thank you.

Commissioner Duncan:

Thank you, Abigaelle. Abigaelle, before you leave, thank you for taking time to make that presentation. Commissioner Sykes has a question for you.

Commissioner Sykes:

Thanks very much, Abigaelle, for your submissions, and especially taking the time out, um, during your year 11 prelims and good luck, good luck with those.

Abigaelle Mills:

Thank you.

Commissioner Sykes:

Um, I just had one questions of clarification. Um, you mentioned there was a rainfall event in 2019, um, and I just missed-

Abigaelle Mills:

Uh, uh-

Commissioner Sykes:

... missed the-

Abigaelle Mills:

No, not in 2019. It was, um, last year.

Commissioner Sykes:

Last year. And, and you mentioned-

Abigaelle Mills:

Yeah. There was a massive rainfall.

Commissioner Sykes:

... an amount that fell.

Abigaelle Mills:

Yeah.

Commissioner Sykes:

Um, could you just clarify for the panel the amount that you mentioned?

Abigaelle Mills:

200 mils.

Commissioner Sykes:

200 mils. Thank you.

Commissioner Duncan:

Okay. Excellent. Thank you, Ms. Mills.

Dr. James Smith:

Uh, great. Mr. Boller, if you could please come to the podium. Thank you.

Mick Boller:

Uh, correction, my name's Boller, but, uh, that's, um, forgivable. Uh, good afternoon, commissioners. Uh, I'm sorry to hear, actually, that you weren't able to visit Piangil and Powells Road area yesterday and, uh, I'll refer to that later in my speech.

My name's Mick Boller. I live on Powells Road. I've been there since 1985. My family raised cattle, sheep and horses on 750 acres and we are direct neighbors with the proponent on our western boundary. Our two children attended Cudgegong Valley and Mudgee High School and were brilliantly taught in the state system.

I've been a teacher, a high school teacher in Western New South Wales since 1973, and this is my 50th year in education, even though I retired 12 years ago. 46 of those years have been at Mudgee High School where I've mainly worked in special education and PD health and PE. I also spent several wonderful years teaching at Lue Public School and I was p- um, privileged to be able to teach there while my daughter also taught there.

I've been involved with many sports in my teaching career and spent 10 years as New South Wales CHS Softball convenor and my community involvement since 1977 in Mudgee includes decades of softball association president and coach. I've also been secretary and president of Mudgee Pony Club and have been secretary of Bingman Landcare for 27 consecutive years. I also have a particular interest in history and have researched the backgrounds of men from Lue who served in the Boer War and World War I, and the memorial to one of those killed in action on, in October 1917, uh, at Passchendaele stands, uh, in a remote cemetery besides our property.

I'm also a point of koala sightings in the area. I need to say that, um, this project is irretrievably flawed and it must be rejected. In recommending for this project, the Department of Planning has shown reckless indifference to the evidence of harm to human health, produce, tourism and agriculture. The threats posed by the disturbance of lead and loss of ground and surf water, surface water have been ignored. Evidence provided by community funded experts have barely been acknowledged and then ignored. There's three issues that I'd to address today, they are lead, groundwater dependent ecosystems and koalas. Hopefully my first slide will u- will be up there soon.

Uh, Figure 13 and Figure 5.7 show increased risk index for lead in a hundred and tw- ... The top one is 120 houses in the Lue area, and you'll note that the right hand end has a elevated cluster. Uh, the bottom graph is a 13, uh, houses, residences, uh, owned by the proponents, uh, and you'll notice that three of them are quite elevated. But I should point out to you, the increments on the top scale are 0.01. The increments on the bottom scale are 0.05. So, those three on the bottom that don't look all that terrible are actually much higher than they appear on the, on the graph.

So, that graph, there's 120 homes on the top one and it shows that every, every home in the Lue area will have an increased e- risk of exposure to lead. The 13 residences that are owned by SVL have even higher risk indices. The proponent has failed to make residents of Powells and Piangle Roads aware that their risk indices for lead are greater than even the other Lue households. 11 of the 13 highest risk indexes are on those two roads, Piangle Road and Powells Road on the eastern side of the project. The other two just happen to be the Witter residence, which is right beside where the pit will be, and Bowdens' offices. And I would imagine that both of those will disappear.

I want to impress on you, commissioners, no community wide baseline testing has been conducted by the proponent. This is just irrefutable and a regular broad blood testing program must be stringent, non-negotiable and a condition for this project. If I could ask, uh, could you mind raising your hand if you know your blood level content. Does anybody in the room know what your level of blood is? One. We have one. So, the community in Lue, we have no idea what our baseline is and we don't know ... We won't know down the track whether it's increased or decreased or gone sideways or whatever. There is no baseline testing to test it against.

If I can just go to my second slide, please. I was pretty proud when this came up in Shireen's, uh, presentation this morning. Uh, this is a spring on my family property. Uh, you can see in the background some Angus cattle and, um, hills that look like they're on the moon somewhere. It was in 2014, a very severe drought January and the spring in the foreground is part of a, uh, groundwater dependent ecosystem on, ecosystem on our property and you can see that it's full of water and that there are lush and luxuriant grasses growing round it.

Now, um, the, the proponent has agreed that there may be some of these outside the footprint of the mine. I agree, too, because a GDE is on my property and it's no- ... There's one to the east and one to the west. This ecosystem's been critical to the survival of our farming enterprises, being our last remaining source of stock water in the 2018/19 drought. Shireen mentioned in her presentation the risk of losing these is permanent and irreversible. No one representing SVL has ever investigated this GDE, despite the fact that it lies just three kilometers from the Bowdens' offices. SVL asserts that it's rainwater fed. Now, surely if that were true, in that 2018/19 drought, it would have been as dry as a bone, and there you see it was like that. So, the surrounding GDEs must be properly assessed before dr- draw down of groundwater commences.

I'll go quickly to koalas. We know an endangered species predicted to be extinct by 2050. I have photographic evidence and GPS references for seven seperate recent koala sightings within three kilometers of the pit site. Four were on roads adjoining SVL properties. So, the four places were Maloneys Road, Piangle Cottage, my property, Guararrie, Bingman Log, Bingman Crossing, Bowdens

front gate and Cox Street in Lue, and there were a further two at Glendoss, which is about five K's away, and Haveler East, which is 10. And there were also five registered sightings of koala scats within the mine footprint.

So, to conclude, the project is in no way acceptable to many in our community and I urge you to reject this proposal for the good of, of farming in the district, villages, tourism, Lawson Creek and the Cudgegong and downstream water users. And I might add as my final point, land which has sustained human existence for 60,000 years will become unusable forever. Thank you.

Commissioner Duncan:

Thank you. No further questions. Thanks very much.

Dr. James Smith:

Thank you. Um, can we please have Michael Sweeney as our next speaker to the podium?

Michael Sweeney:

Uh, hear that okay? Uh, my name's Michael Sweeney and, uh, for the benefit of the, uh, commissioners or the panel, uh, a little bit of my credentials. I'm a retired engineer and some decades ago, I became an organic farmer. I established two organically certified vineyards and an organically certified, uh, stone fruit orchard. Some, uh, years ago, I served three terms on the local shire council and guess what, I was very quickly dubbed Sweeney the Greeny. So, I am an environmentalist. But I'm here to support the progress of the mine. My reasons being, we all use zinc and we all use lead and we all use silver. How is that?

Zinc, the roofs that we mainly, or many of us live under, Colorbond galvanized iron. They're zinc. The guardrails around the highways, zinc. This building, zinc. Lead. We'll all walk out of here in an hour or so, press the button or turn the key, hop into our car, several kilograms of lead. If we're unlucky enough to need an X-ray in the hospital, the X-ray rooms lined in lead. The X-ray radiologists wear a lead apron. So, yes, in modern day society, zinc, silver and lead are very important elements and we all use them. Hands up anyone who doesn't, and there won't be a hand go up.

So, to reject this mine, given that we all in Australia in a first world country use vast quantities of zinc, lead and silver. Oh, by the way, silver, turn the lights on. Turn the lights on and the switching in our very complex power network system has huge amount of silver and speakers earlier this morning mentioned this. And with the phasing out of coal and the increasing number of renewables, the linking up with these renewable resources, uh, wind and solar and perhaps others requires all sorts of fancy switching gear and transmission equipment. Silver, silver, silver.

So, brings me to the point, by Australian, made in Australia. To reject this particular project panel means an increased reliance on imports from countries with very low wages, very low safety standards for workers, perhaps no environmental care at all. Do we have a conscience to accept our lead, silver and zinc from these sorts of countries while we live in the luxury of no mining of lead, silver or zinc? Thank you. Over to the panel for questions.

Commissioner Duncan:

Thank you. We have no questions. Thank you.

Dr. James Smith:

Great. All right. Uh, uh, thank you. Our next speaker is, um, Peter Shelley.

Peter Shelley:

See if it works.

Commissioner Duncan:

You'll need to be close to the microphone, I think.

Peter Shelley:

That close? Is that all right? Okay. Members of the commission, ladies and gentleman, thank you for allowing me to speak today. As introduced, my name is Peter Shelley, and for the last 21 years, along with my wife, owned the Rylstone News Agency and local post office. You have heard and will hear from business groups, individuals and environmental groups, so I feel I need to give a be- brief background why I believe I speak not for all my community, but certainly the majority.

I have worked in a bakery, dairy farms, joined the Army and when I, uh, left, I did private security both domestic and overseas. I met my wife and me opened up two hairdressing salons around Penrith, and for 15 years I worked as a senior correctional officer at Long Bay and Parklea prisons. We sold up in 2002 and moved to Kandos where we bought the news agency Rylstone, and also opened up a hair salon in, um, in Kandos. In 2004, Rylstone Council and Mudgee Council were amalgamated and I was asked by members of our community to run for council. I was successful and with support from Rylstone and Kandos, I was elected and have been continually elected including this current term.

When Bowdens advertised for positions six years ago, I applied for the cleaners job through to the managers position. I was offered a part-time position as a community projects coordinator, which gave me the opportunity to not only keep my business sta- ... To help my business stay open, but to direct sponsorship and grant funding from Bowdens to my community, as well as other responsibilities. I'm not here today to speak in any official capacity whatsoever as a councilor or on mi- on behalf of Midwest Regional Council. I'm not here today to speak on behalf of Bowdens Silver. I am, however, speaking as a community member who, through my roles, have gained a unique insight in the socioeconomics status and condition of our towns and the benefits that the Silver Mine Project will have, specifically in relation to the Kandos and Rylstone area.

In the last 14 years, we have seen a dramatic loss of employment and business closures. We lost a major employer at Kandos when the cement works closed in 2011. And then Charbon Colliery in 14 with the contract to Bigram going into liquidation. With a small foot population of approximately 1,800 people, both Rylstone and Kandos have suffered, more so Kandos as the geographical nature of the town does not lend itself to passing tourism traffic. Except for the community owned Bank of Alliance, all other maj- all other major banks have deserted us and have closed branches in Rylstone and Kandos. Families have moved away for employment and there is no hope for employment for a majority of our youth locally.

We have lost teachers due to, uh, dwindling numbers in our high school in Kandos, and also our primary schools in Rylstone and Kandos. We have lost supermarkets, hardware stores, computer stores, cafes, takeaway businesses, even MRNA Insurance decided they had to leave, rural suppliers, haberdashery and clothing stores. The only service that has increased in Rylstone and Kandos are visits by government agencies for assistance. We are a proud community and we love where we live. The only significant hope for us is an increased employment and services generated by the businesses that come to our area. The only business on the rise for our towns is the Bowdens Silver Project. The money that has already been granted and donated to our community have kept services afloat and they have indeed before part of our community.

Rylstone Street Feast to Rylstone and Kandos Show, the VRA, the RFS and many other benefit from Bowdens. Schools, sporting organizations and many more also benefit from direct support. There are many, many more and without Bowdens, many of the events would not take place. They support our region and their support is generous and is very, very welcome. Most businesses in Rylstone and Kandos are struggling. We're not complaining b- by any s- by any stretch of the imagination, it's just a situation we find ourselves in due to lack of employment.

The only industry that can help us in the very near future to stop businesses closing is Bowdens Silver. You'll hear from others that we don't need Bowdens, that touri- tourism is our savior. This is not true. Tourism is fantastic and it has increased over the years and though very welcome and indeed encouraged, it does not come close to a stable longterm employment generated by industry. We have watched our kids have, have to leave the area for jobs. Whole families have left. We need to bring these families back home and new families to make a new home.

I've got about two minutes, one minute to go. Is that all right?

Commissioner Duncan:

Yes.

Peter Shelley:

Increased jobs mean a better economic and sustainable future. Those in opposition to this project with genuine concerns about the environment are of course worried, and I do emphasize with them. But their concerns have been thoroughly addressed through the conditions of consent. They can either accept them or ignore them. Bowdens will provide opportunities that are presently not available to us and will keep our towns alive. Without the employment opportu- opportunities this project will provide and the continued support from Bowdens, I despair for the future of our towns. It amazes me to see environmental groups against this project. All concerns about the environmental impacts have been addressed and they still promote hysteria and alarmism, and some individuals, some individuals behavior show a distinct lack of empathy just because most have a different point of view than theirs.

Sadly, this is nothing new. But as much as they try to spend, spread disinformation and hysteria to benefit their agenda and they attempt to divide my community, they will fail. We are much stronger than that and I absolutely agree that green energy is our future and we have to transition between green energies. But whet do they think the essential ma- materials to produce these green energies come from? That comes from mines like Bowdens Silver. For electric vehicles, solar panel electrics, medical imagine, the list is practically endless. The real and tangible benefits that this project has and will bring to our community and to fight climate change far outweigh perceived and unsupported opinions to the contrary.

But I'll leave it at that and I sincerely hope that approval is given to the Bowdens Silver Project for my community. Thank you for the opportunity to speak today and for your consideration.

Commissioner Duncan:

Thank you for your time, Peter. Thank you. No questions.

Dr. James Smith:

Uh, thank you, Mr. Shelley. The next speaker and last speaker for today is, uh, Bradley Bliss.

Bradley Bliss:

Hopefully everyone can hear me. So, good afternoon, commissioners. Good afternoon, everyone. My name's Bradley Bliss. I'm CEO of Wellington Wiradjuri Aboriginal Corporation. I'd like to recognize the traditional owners of this land.

Audience:

Can't hear.

Bradley Bliss:

I'd like to page ... Yep. Is that it?

Megan Create Engage:

Yep. Just talk into-

Bradley Bliss:

Okay. As I said, my name's Brad Bliss. I'm CEO of Wellington Valley Wiradjuri Aboriginal Corporation. I'd like to recognize and p- and, uh, the traditional owners of this land and pay respect to the elders past, present and emerging.

Wellington Valley Wiradjuri Aboriginal Corporation represents multiple traditional owner families of this region for which our traditional lands cover the entirety of this project and further lands. Our elders and traditional family representatives believe that the Aboriginal cultural heritage is not just Aboriginal artifacts and sites. It's holistic environmental management. Our charters protect Aboriginal culture and heritage on country and our aim is to work with all relevant parties to achieve our objectives.

We have very serious concerns around ... In regards to this project and on various occasions have objected to it and today we continue to hold our po- our position in strongly objecting to this project on the basis that this is an area of high significance to our people and cannot condone the, the destruction of sites or artifacts, nor can we condone the environmental damage to seasonal water sources and groundwater runoff, which will cause negative environmental issues.

We as the traditional custodians of this land have serious concerns around the future negative socioeconomic impacts for Lue and the wider region. This can be seen at Walla with Peabody Energy Wilpinjong Coal where the property was systematically purchased by the mine. The school closed and the buildings now slowly demolished, and longterm generational residents have moved away not only from Walla, but from the Midwestern Regional area to resettle in places like Dubbo and Sydney, um, away from any potential mining. There are great fears that this will occur at Lue, not immediately, but progressively over the lifespan of the mine.

I've spoken to a farmer and his family who have been in Lue for several generations. They did not make a submission at any stage of the process, however, they've raised concerns around dust recently. And as you saw sitting on top of ... Uh, standing on top of Bingman Hill, that breeze coming past us and heading straight down to the actual, uh, village of Lue. That's his main concern and what that might carry.

Wellington Valley have major concerns around threatened and endangered flora and fauna species, um, that this project will impact, such as the koala population which Mick Boller has already spoken about, so I'll leave it there. There is also concerns around the water table. We understand Bowdens have used modeling and experts. However, the farmers from right there at Lue will tell you that the mine will change the surface water runoff and aquifers and this will in turn affect the water supply that they rely on not only for their stock, crops, but their own personal consumption.

This point also raises concern for the small threat in platypus colony in Lawsons Creek if the water table is affected by the proposed mine and the in-

Bradley Bliss:

... effected by the proposed mine and the- in a negative way and we have other drought- and we have another drought as bad as or worse than what we recently experienced, or if there is contamination of the water source from the acid leaching or sedimentary dam fail. Um, our- our- on a heritage standpoint, we've- we strongly object to what Bowdens have done in relation to Aboriginal Cultural Heritage Surveys. There is a process set out in the guidelines, um, which is followed strictly by the arch- archeologists based in this region, which is registration/invitation of registered Aboriginal parties to attend. A methodology document is sent out for reps to comment on with a 28-day period, a physical field assessment, draft field assessment report sent out to us as reps with a 28-day period after- after the survey's been conducted.

A final report is then produced and sent out to us, which forms part of either an EIS or an Aboriginal Cultural Heritage Management Plan. Bowdens have not done that. They've invited us, they've supplied the methodology when it comes to the actual post, and we've done the survey when it comes to the post survey. There's been no report until we got issued a draft copy of the EIS for comment, of which there were multiple people who are no longer with us because they are deceased or they have moved away and there is no notes by those people of what they saw or anything else. And there's no reports to go back on from Bowdens to refer to. So when we looked at the EIS, there was a lot of information we just didn't have.

Bowdens continue to believe that they have complied with the consultation guidelines and not agreed with the Aboriginal community concerns raised by me as a Triple-C member and I've also raised these repeatedly with the hierarchy from Bowdens. I've only got a little short section to go. We as Aboriginal people have concerns around the waste rock emplacement and the potential for acid leaching into Hawkins Creek and subsequent Lawsons Creek. We believe that the risk of acid leaching is a real and environmental threat and should be allowed to proceed. Okay. As a Triple-C member, I've spoken to a lot of people in the project. A common theme is that, yes, there is financial benefits to the project going ahead. However, all these people supporting it or wanting it to- or wanting to work there don't actually live in the area and go home away from it every day. And it's not- it's not why Tom and everyone else from Lue who sit there and see it every day.

And after 20 years when- whatever it is when this thing winds up, they're not the ones sitting there looking at it. Their property values haven't deteriorated like the locals at Lue. On behalf of Wellington Valley Wiradjuri Aboriginal Corporation and the Aboriginal stakeholders, I urge the Independent Planning Commission to take into full consideration the written submissions and what the concerned speakers and the actual residents of Lue have said during the entirety of this forum. Thank you very much.

Commissioner Duncan:

Thank you, Bradley. Quick question, when you mentioned, uh, guidelines, the heritage process guidelines, what guidelines? Could you just clarify that for- for the benefit of the panel?

Bradley Bliss:

I don't have the actual date of it and all that sort of stuff.

Commissioner Duncan:

But- but you could let us know.

Bradley Bliss:

Yeah, I can- I can send that to you.

Commissioner Duncan:

Yeah, could you do that, please?

Bradley Bliss:

Yes.

Commissioner Duncan:

Thank you, Bradley.

Dr. James Smith:

Hey, Commissioners, we, uh, have the availability of one further speaker before we close today. Uh, if I could please ask for, um, uh, Bruce Christie to come to the podium to provide your evidence. Thank you, Mr. Christie.

Bruce Christie:

I should say, but wait, there's more. So, um, thank you for the opportunity to speak to you today. My name is Bruce Christie. I- I've lived in the area for the last 42 years with my wife and family. Our grazing business is eight kilometers to the southeast of the mine site and in direct view of the mine's operations. It is also directly in line to- of the prevailing minds from the mine. As a beef cattle operation, we will be mostly impacted by the dust and the possible contamination by lead and other heavy metals. We'll also be effected by the background noise and vibration. We can at the moment hear our cattle from kilometers away. If we do hear them, we know something may be wrong and we can intervene. Uh, we will lose that with the background noise from the mine. We also use a reticulated water system sourced from our ground water for our cattle. We understand the importance of our ground water aquifers and empathize with those property owners downstream from the mine that will be effected.

Water is critical to all grazing enterprises and to have that threatened just adds another layer of complexity to management in a changing climate. We luckily will also not be threatened by the acid mine drainage taking away what little surface water that will remain to downstream users. Uh, light pollution is a concern to me as I'm very interested in the ecology of our property. Uh, we've been working towards improving ecosystems over the period of our management and light pollution is a key disrupter to many life cycles, from birds to insects. My wife and I are planning- in the planning stages of setting up a wedding venue on our property. Uh, we've taken up the opportunity from the state government that provides free business planning to assist rural industries to diversify their property to increase, um, opportunities for alternative incomes. Uh, this is to take the reliance off agriculture.

Uh, I've concerns to how this is going to go in view of a nearby mine that affects, uh, the effects of the community and the image of our area as a go to tourist destination. It seems to me that, ooh, it seems to me that a proponent's main argument for the mine is jobs, improved economic growth for the area, and the sponsorship of local groups. I've lived in the Lue District the last 42 years and I've seen this area continue to grow, either through agriculture and, more recently, tourist related industries. In 2011, when the cement works closed in Kandos, there was lots of concern that there wouldn't be enough jobs

in the area and that the economy would crash. It didn't. Uh, and in the last 12 years, we've seen the Ralston and Lue areas go from strength to strength based on tourism, agricultural industries, and tree changers, who bring money, skills, and enthusiasm to the area.

At the current time, if you're looking for a job in Mudgee, there is at least 300 jobs in the current mines. Uh, council is currently looking for at least 50 workers, uh, the Sydney Road is full of signs outside businesses looking for extra staff and the local radio, if you choose to listen to it, is also constantly advertising for positions, either entry level- level or skilled. I'd also ask, who is going to want to work in a mine what reduces by weight far more zinc and lead than silver? Uh, we're concerned with the health of risk just living near it. Uh, who would want to work there? The EIS states that if there is not enough water for dust mitigation, then the mine would halt works. So these jobs that we're risking our health and community for are not even permanent, uh, with the workers let go at any time depending on the season.

This mine will last for 16 and a half years and it will create jobs, but how many jobs will be lost because of the mine? The closure of the existing businesses that don't have the water to exist or the accommodation businesses that can't function with a 24-hour mine plugging away in the background? The mine will also generate some income for government through royalties. However, how will the government pay or compensate for the increased heath costs for the community and the mine workers in future years? The rehabilitation of the acid mine drainage that will continue for millennia, the potential failing of the Tailings Dam, and who is going to maintain this dam after the mine is closed will default of the taxpayer long after royalties have been spent. Uh, the loss of portable water for humans, wildlife, and domestic animals, who will pay for alternative water sources for the community and what could they possibly be? Piped water from the Cudgegong above Mudgee?

Uh, the ongoing contamination of district with lead dust, will the government foot the bill for baseline testing and then ongoing testing to see if there is a problem? If there is a problem, will they stop the mine's operation? Uh, the worsening traffic issues on the Lue Road that is already suffering from the amount of traffic, will the government assist a Mid-Western Regional Council for road improvements and ongoing maintenance? Um, Bowdens have also given sponsorship to some local community groups. A few $1000 has gone to the Rugby Club, Nepal, Menshed, to mention a few. That favor is now being called back in with them being asked to write positive submissions to this hearing. There's no such thing as a free lunch. So what we need is a community that is not scared of the future but one that embraces it and embraces all of the opportunities that tourism and agriculture can offer.

It's a clean future that will be safe for our children. Currently, I'm scared of the future and what that mine may bring to my family and our community. It's no way to live. If this mine goes ahead, L- Lue will go the same way as Ulan, uh, Wallah and Bylong. It will mean the end of Lue, the end of nearby agricultural industries, the end of tourism in the Lawson Valley. I ask you, is that worth 16 and a half years of jobs? Thank you.

Commissioner Duncan:

Thank you, Bruce.

Commissioner Duncan:

Well, thank- thank you, everybody. That brings us to the end of day one of this public hearing. Thank you to all that have presented today for your thoughtful presentations. A transcript of today's proceedings will be made available on our website in the next few days. Just a reminder that the Commission will accept written submissions on the- on the Bowdens Silver Project up until 5:00 p.m. on Friday the 24th of February 2023. It is particularly helpful to us if you can comment in your submissions at this stage on

the Assessment Report for the project prepared by the department and their recommended conditions. You can submit your comments, uh, using the MICA Submission Portal on our website or by email or by- by post. We'll be back tomorrow morning at 10:00 a.m. for day two of the proceedings. Thanks again for your time and company today. Enjoy your evening. And from all of us at- of the Commission, we really appreciate the effort for you all to be here today. Thank you.