

Response to Questions from Mr and Mrs Cameron – 19 November 2019

As discussed, the planning for the Bowdens Silver Project is well advanced and I have attached for your information a copy of the Mine Site layout and showing the location of your property and residence with respect to the Mine Site boundary and Mine components. As you are aware, the PEA for the Project that you refer to was issued in November 2016 and since that time, a considerable amount of study and investigation has been undertaken culminating in the soon-to-be completed Environmental Impact Statement (EIS).

1. *Has the location of the tailings dam actually been finalised to dam site 2? Many of the following questions will arise from the assumption that it has been.*

Yes, the attached figure displays the location of the tailings storage facility to the north of your property within the Walkers Creek catchment. As you are aware, there is an east-west ridge between your property and the proposed facility.

2. *What has been proposed in relation to the rehabilitation of the area to be used for the tailings dam after the mining has finished?*

It is proposed that the upper surface of the tailings storage facility would be progressively rehabilitated through the placement of a store-and-release cover designed to minimise the infiltration of rainfall into the stored tailings. The upper surface of the cover would comprise a combination of subsoil and topsoil originally present within the tailings storage facility footprint and stockpiled during the operation of the Project. Once placed, the topsoil would be progressively vegetated with a cover crop to stabilise the surface and ultimately return to native grasses. The final landform would be shaped such that all runoff generated within the footprint of the facility would flow off site via Walkers Creek to Lawsons Creek.

3. *Please confirm that the new mine access road will be a new road from the Lue road, west of the town, and shown on the map on page 19 of the PEA. It seems to be on a different route to that on the map handed to us at our meeting in July 2019 and labelled LAND OWNERSHIP AND SURROUNDING RESIDENCES and dated 28 May 2018. Please confirm which map is correct. In any case, it shows that this new road, at its closest point, will run somewhere between 500-700 metres from our house. Please confirm the distance of the new proposed road to our house.*

The proposed relocated Maloneys Road will be positioned as shown on the attached figure. This route has been in existence for some time since its location was optimised particularly in respect to the most appropriate crossings of the closed Wallerawang-Gwabegar Railway Line and Lawsons Creek. We can confirm that your residence would be approximately 580m from the closest point of this new road.

4. *How many truck movements will there be on this road during the 18 month site establishment and construction phase, and how many during the operational phase. Please also advise what size the vehicles will be and the hours of operation. Please also confirm that this traffic noise will be at 80dB as stated in the PEA (which is significantly noisier than 1-3dB above highest baseline of 33dB).*

It is proposed to construct the relocated Maloneys Road during the first 6 months of the site establishment and construction stage. The new road would be in use during the remaining 12 months of the site establishment and construction stage. The completed road would provide the long term access to the Mine Site throughout the Project life.

During the site establishment and construction stage, daily traffic movements would typically be an average of 218 per day (109 return trips), approximately 36% being heavy vehicles (i.e.

trucks and buses). Bowdens Silver would provide buses to transport a proportion of the personnel to and from the Mine Site during both the construction and operational stages of the Project.

The bulk of the traffic during the site establishment and construction stage would travel on this section of road between 6:30am and 6:30pm. During the operational stage, traffic travelling to and from the Mine Site would be staggered with shift times varied to minimise concentration of traffic flows. Typical shift changeovers would occur around 6:30am, 8:00am, 2:00pm, 6:00pm and 10:00pm.

It is not possible to rely upon the noise levels quoted in your question as consistent noise descriptors need to be used and related to a distance.

5. *Assuming that the tailings dam will be at site 2, will it be constructed solely by using embankments or will it be dug out as well? If blasting is to be used, will we hear it and feel the vibrations? Please provide detail on the embankments such as heights and widths, and actual locations. Please also advise if the densely treed hill that we can see from our property to the north, will be cleared or changed at all to allow for the construction.*

The layout of the tailings storage facility is displayed in the attached figure. The facility would be constructed with an initial embankment up to 38m high with two further raises, each of approximately 9m in about Year 3 and Year 8 of the Project. The total footprint of the embankment would be approximately 16ha. The embankment for the TSF would be constructed using rock extracted from the main open cut pit and transported to the embankment site by truck. No blasting would be undertaken within the footprint of the facility. Clay would be extracted from within the impoundment or storage area and recompacted across the floor of the facility.

Noise would be generated from the regular delivery of the waste rock during the day-time and its crushing and placement during the three construction periods, each of which would typically be between approximately 7 and 10 months.

It is not intended to remove any vegetation on the southern side of the ridge or ridge top between the tailings storage facility and your property.

6. *How many truck movements will there be to move 60m tonnes of waste rock to from the embankment and what route will they take? Please provide this on a map.*

Waste rock for the tailings storage facility embankment would be transported within 50t capacity trucks that would travel from the open cut pit, via the Mine access road and a 1.4km section of the relocated Maloneys Road to the access road to the tailings storage facility embankment (see attached figure). Up to 133 truck loads of waste rock would be transported to the tailings storage facility embankment on a daily basis between Monday and Saturday from 7am to 6pm for the first eight years of the Project life. The trucks would not travel on the section of road closest to your residence.

7. *Will those truck movements and unloading of waste rock on the tailings dam embankments be audible from our land? Bowdens has front end loaders rated at 90dB which again, is significantly noisier than 1-3dB above highest baseline of 33dB.*

Trucks travelling to and from the tailings storage facility embankment would contribute to the overall noise heard at your residence and have been taken into account in the modelling which has determined the predicted noise levels at your residence. The earthmoving equipment used on site would be fitted with a range of noise control features to minimise the noise contribution of these activities. It is not possible to rely upon the noise levels quoted in your question as consistent noise descriptions need to be used and related to a distance.

8. *Will we be able to see any part of the tailings dam including its embankments from our property?*

No components of the tailings storage facility would be visible from your property.

9. *What will be the impact of the tailings dam on the Lawsons Creek that runs through our property. Even when the creek appears to stop running we have always had a deep and permanent water hole to pump water for our stock.*

The tailings storage facility would not have any impact upon flows within Lawsons Creek adjacent to your property. I can, however, advise that as a result of the open cut mining, there would be a long-term minor reduction in groundwater flows to a section of Lawsons Creek that flows through your property together with a slight reduction in flows due to the retention of some surface water within the Mine Site itself. Collectively, these reductions would ultimately result in the flow in Lawsons Creek adjacent to your property being reduced by approximately 0.5ML per day. This quantity of water amounts to approximately 2.5% of the average daily flow in the creek.

10. *How will Bowdens ensure that the potentially acid forming material that you propose to put in the tailings dam does not leach into the groundwater? What is the direction of flow of the groundwater on our land? Have groundwater hydrochemistry and water table levels been taken near our property? Please provide details.*

The base of the tailings storage facility would be constructed through the compaction of clay creating a liner with sufficient impermeability (meeting EPA standards) to limit seepage from the floor of the facility.

It is understood from regional groundwater studies, that groundwater flows beneath your property generally reflect the surface topography, i.e. the groundwater flows from areas of higher elevation to lower elevation. No groundwater quality data or water levels have been recorded on your property.

11. *Will the realigned 500kV transmission line be visible from our property?*

The extent to which the realigned 500kV powerline would be visible from your property has not been determined in detail. We would be pleased to examine this further for you.

12. *Where exactly was the noise monitored in September-August 2014? At our meeting in July 2019, you confirmed that you had never been on our property. If the noise has never been monitored from our property, how can you determine the impact.*

The impact of noise has been determined principally by comparing the noise generated by the proposed operating equipment and comparing that level of noise to the background levels. In the case of the Lue district, it is acknowledged that background noise levels are low, however, the EPA nominates minimum background levels that must be relied upon to assess impacts of Projects i.e. 35dB(A) during the day and 30dB(A) of an evening and at night. This has been undertaken for the Project and has been the basis upon which a marginal to moderate exceedance has been predicted at your residence.

13. *Have water samples and flow rates been taken from the Lawson creek on or near our property? Please provide details.*

A considerable number of surface water samples have been analysed over a number of years within Lawsons Creek, Hawkins Creek and their tributaries. The closest monitoring location to your property is referred to as BSW28 located near the Bara-Lue Road crossing of Lawsons

Creek. We have extracted the average water quality recorded from 29 samples taken at this location between 27/09/2016 and 14/11/2018 – see below. Data on flow rates within Lawsons Creek have been calculated based upon the Australian Water Balance Model as there are no measured stream flows in the Lawsons Creek Catchment.

Parameter	Unit	Trigger Value*	Mean
pH Value	pH Unit	6.5 - 8.0	8.0
Electrical Conductivity @ 25°C	µS/cm	30 - 350	980
Suspended Solids (SS)	mg/L		16
Bicarbonate Alkalinity as CaCO ₃	mg/L		254
Total Alkalinity as CaCO ₃	mg/L		256
Sulfate as SO ₄	mg/L	1 000	114
Chloride	mg/L		94
Calcium	mg/L		54
Magnesium	mg/L		40
Potassium	mg/L		5
Sodium	mg/L		90
Arsenic	mg/L	<0.013	0.002
Cadmium	mg/L	<0.0002	0.000
Cobalt	mg/L	Insufficient Data	0.002
Copper	mg/L	0.0014	0.002
Iron	mg/L	Insufficient Data	0.161
Lead	mg/L	0.0034	0.002
Manganese	mg/L	1.9	0.139
Nickel	mg/L	0.011	0.002
Zinc	mg/L	0.008	0.011
Total Nitrogen as N	mg/L	<0.250	0.674
Total Phosphorus as P	mg/L	<0.020	0.060
* Trigger values relate to aquatic ecosystem protection concentrations as listed in the ANZ Guideline (2019)			

You will note that the results listed above are invariably below the trigger levels except for zinc and total phosphorus and nitrogen (a reflection of fertilizer use in the catchment). The value for electrical conductivity (relating to salinity) is considerably higher from the trigger level.

14. *Please also advise where the baseline air quality samples were taken? Please provide details. For the same reason as in paragraph 12, how have you been able to determine the impact on our land?*

A total of 12 gauges have been used to determine the background deposited dust level from 12 locations within and surrounding the Mine Site. The closest gauge to your property is DG07 which has returned annual dust deposition rates over a period of six years of between approximately 0.6 to 1.4 grams per square metre per month. As you are aware, Bowdens Silver has also been undertaking monitoring of fine particulate dust at the air quality monitoring meteorological station within Lue and at the Mine Site. This information has been relied upon to provide the baseline data for the Air Quality Assessment of the Project.

The impact upon air quality have been determined principally by comparing the predicted air quality generated by the proposed operating equipment and comparing those levels of dust to the baseline data referred to above.

Attached: Figure – Cameron Property and Mine Site Layout

