

**Public Submission Cover Sheet
Mining Proposal and/or Management Plan**

BIRD-IN-HAND GOLD PROJECT

USE THIS FORM AS: A cover sheet to accompany a written submission

Terramin Australia Ltd and Terramin Exploration Pty Ltd (together known as ‘Terramin’) is proposing development of an underground gold mine near Woodside and the processing of ore at existing facilities located at the Angas Zinc Mine in Strathalbyn.

On 21 June 2019, Terramin submitted applications for a mining lease and a miscellaneous purposes licence. The submission of applications for the Bird in Hand Gold Project by Terramin has initiated a comprehensive technical assessment of those applications by the South Australian Government under the *Mining Act 1971* which includes a period of statutory public consultation.

Written submissions are invited from members of the public on these applications.

Making a Submission

We value the community’s input, information provided in submissions is vital to the assessment processes.

Please follow the steps below to make an effective submission.

1. Review Terramin’s application for an ML and/or MPL, available at http://energymining.sa.gov.au/bird_in_hand_gold_project_consultation

2. Decide whether or not to include personal information in your submission

South Australian Government agencies ensure the protection of personal information by adhering to the South Australian Department of the Premier and Cabinet [Information Privacy Principles Instruction](http://dpc.sa.gov.au/sites/default/files/pubimages/Circulars/PC012_Privacy_0.pdf) (http://dpc.sa.gov.au/sites/default/files/pubimages/Circulars/PC012_Privacy_0.pdf).

When you make a written submission, that submission becomes a public record. Your written submission will be provided to the applicant and will be published on the DEM website. This includes:

- the content of your submission and any attachments - including any personal information about you which you have chosen to include in those documents.

If you wish for your personal information to be withheld, **you must**:

- request that your name and contact details be withheld from publishing by ticking the relevant box in the form below; and
- **not include** personal or identifying information in your submission or attachments.

We will not accept offensive, threatening, defamatory or other inappropriate material.

3. Make a submission

To make a written submission, please use this **cover sheet** to accompany your written submission. Your submission can be provided in any written form, including a letter or email.

Alternatively, make an online submission by accessing the DEM website http://energymining.sa.gov.au/bird_in_hand_gold_project_consultation

and following the instructions.

Provide your written submission to government using any of the following methods:

By mail to:

Mining Regulation
Attn: Business Support Officer
GPO Box 320

By email to:

DEM.MiningRegRehab@sa.gov.au

On line submission:

[Make a submission online](#)

ADELAIDE SA 5001

Public submission

Section A: Contact details

Please complete the following information. Your contact details will be used by the South Australian government to acknowledge your submission. Those marked with an asterisk '*' are mandatory. **Anonymous submissions will not be accepted.**

Title	Mr		
*Name	Robert	*Surname	Baxter
Organisation	Landowner		
*Street / PO Box	332 Pfeiffer Road		
*Town / Suburb	Woodside	SA	5244
		*State	*Postcode
*Email address (mandatory for electronic submissions)	Bob@neweravineyards.com.au	Telephone	+61402766354
Submission date	16 September 2019		

Section B: Privacy

Please select **one** of the following options:

I understand that my submission, **including my personal contact details**, will be published on the DEM website and provided to the applicant.

OR

I understand that my submission will be published on the DEM website and provided to the applicant, **but** I require that the government **withholds my name and contact details**. I understand that it is **my responsibility** to ensure personal information is not included in the body of my submission, any footers or headers or any attachments.

Section C: Submission

Issue	Reference and page number (if known)	Comment
Noise example	MP 7.1.3, p. 53	Example
Introduction – Economic Benefit		<p>Economic Benefit</p> <p>Terramin have grossly overstated the economic benefit to the Region (the Adelaide Hills and Woodside communities)</p> <p>Terramin state: <i>The Project will generate a total positive impact on Gross State Product of an estimated \$222 million over 8 years (excluding the Gross Operating Surplus of the mining operation itself).</i> <input type="checkbox"/> <i>This includes \$185 million of estimated wages and salaries paid to households.....</i> <i>60% of the economic benefit will occur in the Adelaide Hills Council area, around Woodside</i></p> <p>This information is misleading and false. If we consider labour and materials the following is the likely scenario.</p> <p>Labour</p> <p>The employment profile required for the development and operation of the mine will be the following:</p> <ol style="list-style-type: none"> 1) A Registered Manager/Mine manager 2) Experienced Geologists 3) Short Term Planning/Scheduling Engineers 4) Medium Term and Long-Term Planning Engineers 5) Geotechnical Engineers 6) Drill and Blast Engineers 7) Skilled Jumbo Operators 8) Skilled Diamond Drill Operators 9) Skilled Longhole Drill Operators 10) Qualified Charge up Operators 11) Skilled RC Drill Operators 12) Human Resource experts 13) Safety Professionals 14) Skilled and experienced Mining Superintendents and Supervisors 15) Heavy Vehicle, Drill, Truck, Loader and Grader Maintenance personnel 16) Unskilled operators <p>The personnel covered in 1-15 (the highly paid and value-add positions) are unlikely to be sourced locally as these are specialist skills and are not available in the Woodside area. If they are sourced from South Australia they will be cannibalized</p>

Issue	Reference and page number (if known)	Comment
		<p>from existing mine sites. The majority of the skilled workers will be sourced from interstate leaving the local employment options (Adelaide Hills and Woodside - as stated by Terramin) being limited to the unskilled positions, such as, administrative (2-3 persons), truck drivers (8-10 individuals), Underground Service Crew (6-8 individuals) and temporary labour (6-8 personnel).</p> <p>For the development stages of the mine, Terramin will utilise contractors; the employment of which will provide minimal benefit to the Woodside community.</p> <p>From an economic benefit perspective, the Terramin proposal has overstated the positive impact of its operation on both the local economy (Adelaide Hills and Woodside) and the South Australian economy in terms of wages and salaries.</p> <p>Material supplies.</p> <p>In terms of the provision of materials, consumables and operating supplies, it would be expected that these will be primarily sourced from specialist mining suppliers (drill bits, rock bolts, grouting, etc.) and again, it is expected that the majority of the spend will occur outside of the Woodside area.</p> <p>Contracted Consultants and Subject-Matter Experts</p> <p>To-date the economic benefit of the Terramin Project has largely profited a number of consulting organisations and not the Adelaide Hills and Woodside community. It would be anticipated that this will continue throughout the Life of Mine. These organisations and individuals will not be locally sourced and again, the Adelaide Hills and especially the Woodside community will not be beneficiaries.</p>
Estimated Vehicle Movements	MP3.5.2.4	<p>Vehicular Traffic</p> <p>Terramin have incorrectly applied their own figures when calculating the vehicular movements along Pfeiffer Road and have been duplicitous with the use of information regarding the increase in Heavy Vehicle movements.</p> <p>Terramin states: <i>'In total, the mine site is expected to generate approximately 74 vehicle trips per day on Pfeiffer Road and the surrounding road network'</i></p> <p>Yet in section 3.5.2.4 Terramin also states <i>'Other vehicle movements have been estimated through combined advice from Terramin regarding estimated mine</i></p>

Issue	Reference and page number (if known)	Comment
		<p><i>employee numbers and from experience with traffic movements at other mine sites:</i></p> <ul style="list-style-type: none"> • <i>Other trucks (e.g. supply trucks) – 4 trips per day.</i> • <i>Company light vehicles – 10 trips per day.</i> • <i>Visitors – 6 trips per day.</i> • <i>Dayshift – 52</i> • <i>Nightshift – 15</i> • <i>Weekend shifts - 15</i> <p>Experience with other Underground mining operations across Australia indicates that the Terramin figure of 4 Other trucks (e.g. supply trucks) per day is a gross underestimate and misleading. An operating mine site has to be serviced with the following:</p> <ol style="list-style-type: none"> 1) Fuel. Based upon Terramin's own figures there will be a diesel usage of 2.272 million litres per year. If this is transported in 20,000 litre tankers this is equivalent to 113 return trips per year 2) Mechanical equipment supplies. This includes lubricants, oils, greases (transported in 200 litre drums) 3) Equipment supplies. This includes rotatable spares, maintenance stock items (daily services items, weekly services items and breakdown materials), replacement mechanical parts. 4) Mining supplies. This will include items such as rock bolts, cables, drill bits, hydraulic hosing, grouting, polypropylene piping of various sizes, PVC piping of various sizes, tools, air vent bags, pumps, electrical cabling, pump hoses, ventilation fans, explosives, detonators, cement for paste fill (approximately 100,000 LCM of CRF volume to be prepared which will contain 5.3% of cement (Terramin's figures, table 3:14 and 3:15) which is equivalent to 5,300 loose cubic metres of cement required over the LOM). Most of these items are used on a daily basis and as the decline progresses many of these items will be required to support the new areas. 5) Office equipment, supplies and services 6) Refreshments for staffing personnel <p>The delivery of these requirements to the mine will require at least double the number of Heavy Vehicles and Commercial vehicles as stated by Terramin; their figure of 4 trips per day will be at least 8.</p>

Issue	Reference and page number (if known)	Comment
		<p>These numbers are in addition to the 12 ore trucks that Terramin state will be hauling ore per day meaning that the total number of additional heavy vehicle and commercial vehicle individual trips per day will be in the order of 32 over and above current vehicular passage along Pfeiffer Road.</p> <p>If we total Terramin's stated figures for the number of individual vehicle journeys (Heavy Vehicle, Commercial Vehicle and Passenger Vehicle figures we get the following: Ore trucks – 12 (or 24 individual journeys per day) Other trucks – 4 (or 8 individual journeys per day) Company light vehicles – 6 (or 12 individual journeys per day) Dayshift employees – 52 (or 110 individual journeys in a 24-hour period) Nightshift employees – 15 (or 30 individual journeys in a 24-hour period)</p> <p>This is equivalent to 245 individual trips to and from the mine site each and every day (Monday to Friday) not the 74 trips stated by Terramin.</p> <p><i>'In total, the mine site is expected to generate approximately 74 vehicle trips per day on Pfeiffer Road and the surrounding road network' (Section 3.5.2.4 Terramin Proposal)</i></p> <p>Terramin have grossly underestimated vehicle movements.</p> <p>Terramin also state that: <i>'The increase in commercial vehicles generated from the mine operation on the surrounding road network is estimated to be around 18.2% on Pfeiffer Rd.'</i></p> <p>Based upon Terramin figures and their stated number of Heavy Vehicle journeys it would suggest that currently on Pfeiffer Road there are 110 Heavy Vehicle journeys being undertaken each day. A vehicle survey conducted in August 2019 over 8 days covering the period from 0600 and 1800 identified on average during this time period 5.75 heavy vehicle and commercial vehicles utilising Pfeiffer road. If we assume that the same number of Heavy Vehicles and Commercial Vehicles travelled on Pfeiffer Road between 1800 and 0600 (highly unlikely) then 11.5 vehicles on average are travelling along Pfeiffer Road per day. This means that Heavy Vehicle and Commercial traffic numbers will increase from 11.5 vehicle journeys to 43.5 Heavy Vehicle and Commercial vehicle journeys. This is a 378% increase and not the 18.2% increase as stated by Terramin. The figure of an 18.2%</p>

Issue	Reference and page number (if known)	Comment
		<p>increase in commercial vehicle numbers on Pfeiffer Road is not correct</p> <p>The factual details contained within the section on Vehicle Movements provided by Terramin do not stand up to scrutiny. This may be due to the fact that this section of their Proposal has been poorly researched or is intended to be misleading (or both). Either way it is a concern as it would suggest that the quality of the information used in this document is not of a standard that is required for a project that is going to have such a significant detrimental impact upon the local community.</p>
[]	[]	[]
Impact upon local residents	MP2.2.1	<p>Impact upon Local Community</p> <p>Terramin states in the section headed Woodside Amenities that:</p> <p>Community workshops, hosted by the CSIRO, explored the topics related to current attitudes regarding the amenity and wellbeing of the area, and why community members chose to live in the region. Reasons included:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Quiet, calm, less stress than living in Adelaide; <input type="checkbox"/> Clean air, natural environment (rolling hills), aesthetics; <input type="checkbox"/> Country town but short commute to city; <input type="checkbox"/> Minimal heavy vehicle traffic (farm traffic goes largely unnoticed or is seasonal); <input type="checkbox"/> Long-term family connections; <input type="checkbox"/> Sense of community spirit, welcoming & caring, old fashioned, safe; <input type="checkbox"/> Good mix of business, diversity of options; <input type="checkbox"/> Everything is close i.e. medical, vets, good schools, sport/recreation, work/jobs; and <input type="checkbox"/> Weekend sports and family friendly events (always something on). <p>Points 1, 2, 3 and 4 (above) will be adversely impacted by the development of the Bird in Hand mining operation as a result of:</p> <ul style="list-style-type: none"> • Significant noise pollution • Reduction in air quality • Reduction in water quality • A reduction in natural environment

Issue	Reference and page number (if known)	Comment
		<ul style="list-style-type: none"> • Increase in atmospheric pollution from diesel fumes and dust particulate matter (diesel particulate matter is extremely injurious to health and it has been demonstrated that exposure to particulate matter is proven to be a cause of increased morbidity and mortality, such as from cardiovascular disease. Long-term exposure to diesel exhaust is also associated with an increase in the relative risk of lung cancer.) • An impact upon natural vegetation • A significant increase in heavy vehicle movement (B-Double trucks, articulated trucks and other commercial vehicles) in the order of 3-4 times current levels • A significant increase in passenger vehicle movement <p>The very reason that people value living in the Adelaide Hills, namely the rural ambience, the natural environment, horticultural landscape and the peace and tranquility, will be lost.</p> <p>Other mine sites operating across Australia in close proximity to residential areas have negotiated operating conditions that have applied to their operation. Should approval be given for this mine to operate in such close proximity to established residents then the following is required:</p> <ol style="list-style-type: none"> 1) Terramin negotiate with local residents their operating hours in order to minimise their impact upon resident's lifestyle in terms of noise and light pollution 2) Terramin negotiate with local residents the maximum levels of noise (in decibels) throughout the day and night in order to minimise their impact upon resident's lifestyle in terms of noise pollution 3) Terramin negotiate with local residents the maximum levels of dust and particulate matter that can be generated throughout the day and night in order to minimise their impact upon resident's lifestyle in terms of dust pollution. 4) Terramin negotiate with local residents the maximum levels of vibration throughout the day and night in order to minimise the impact upon resident's lifestyle in terms of vibration impact. 5) That Terramin establish and reach agreement with local residents the means by which the above-mentioned standards will be monitored, measured, reported and presented to local residents. 6) Approval for mining not be provided until Terramin have successfully negotiated the above standards. 7) That financial penalties be agreed for any contravention of the agreed standards detailed in 1- 4 above. 8) That Terramin agree with local residents the process that will be established for reporting on performance to

Issue	Reference and page number (if known)	Comment
		<p>these agreed standards and any other operating standards that have the potential to impact upon the commercial, quality of life, environmental and safety of residents and visitors to the area.</p>
<p>Council Development Plan</p>	<p>Section 2.1.3</p>	<p>Development Inconsistent with the Rural Character of the Adelaide Hills</p> <p>The Adelaide Hills Council's Development Plan states as its initial objective the following:</p> <p><i>'Objective 1: The retention of the existing rural character by ensuring the continuation of farming and horticultural activities.....'</i></p> <p>It is not until Objective 58 that the Council Plan states the following:</p> <p><i>'Objective 58: The continued availability of metallic, industrial and construction minerals by preventing development likely to inhibit their exploitation.'</i></p> <p>And this is referenced in the Adelaide Hills Development Plan in the context of:</p> <p><i>"The minerals of greatest significance are those used for building and construction. South Australia has a scarcity of natural timbers for building construction, and is therefore particularly dependent on resources of clay and shale for brick manufacture, and sand and stone for concrete and mortar aggregate. Equally important are materials such as filling sand and quarry products used in road building and general construction. Transport costs of these bulky low-value products rise rapidly as the distance increases between the workings and the point of consumption, with a consequent increase in price to the consumer."</i></p> <p>The retention of the rural character of the Adelaide Hills and the promotion of farming and horticulture feature as the pre-eminent development priorities for the Council. It is not until Objective 58 that mining is referenced. And this is a reference in the context of building and construction – there is no mention of the importance of gold mining in their Business Plan!</p>
<p>Noise Generation</p>	<p>3.4.5.3</p>	<p>Noise Generation</p> <p>OSHA sets legal limits on noise exposure in the workplace. These limits are based on a worker's time weighted average over an 8-hour day. With noise, OSHA's permissible exposure limit (PEL) is 90 dBA for all workers for an 8-hour day.</p>

Issue	Reference and page number (if known)	Comment
		<p>Terramin state in Table 3-20 Noise Source Power Levels – Underground Levels and Ore Production Phases that the following equipment noise levels will exceed the OSHA standard of 90 dBA:</p> <ol style="list-style-type: none"> 1) Road Trucks – 107dBA at 2 kms distance 2) Delivery Trucks – 104 at 2 kms distance 3) FEL – 100 Dba at 2 kms distance 4) Cement Mixer Truck – 101 dBA at 2 kms distance 5) Batching Plant - 102 dBA at 2 kms distance 6) Surface Drill Rig – 102 dBA at 2kms distance 7) ADT – 99dBA at 2 kms 8) IT Carrier – 97 dBA at 2 kms 9) Forklift – 97 dBA at 2 kms 10) Water truck – 95 dBA at 2 kms 11) Dump into ROM bin – 99 dBA at 2 kms <p>A number of residential properties are located within this 2 km radius and will be subjected to these noise levels, (that is in excess of 90 dBA) 24 hours a day, seven days a week, 52 weeks a year.</p> <p>Whilst it is acknowledged that some of this equipment will be operating underground, the majority of the equipment detailed above will be utilised above-ground, and for considerable periods of time throughout both day and night (Terramin state that this is a 24/7 operation).</p> <p>The mine is located in a valley and noise is funneled up and down this valley, further enhancing the noise and amplifying its travel.</p>
		<p>Water Table Impact</p> <p>The local agricultural and horticultural businesses in the immediate area of the proposed mine site are concerned with the planned modification of the underground hydrology. The quality of water and the availability of the water from the underground aquifers will be affected by the mining operation in the following ways:</p> <ul style="list-style-type: none"> • The lowering of the water table due to water extraction by the mine from the underground aquifers and the delay in achieving full recharge. With the trend that is currently being experienced with lower than normal winter rains, the real possibility exists of the underground aquifers not being able to sustain previous usage levels. Local horticultural businesses are dependent upon these aquifers and their business viability will be at risk. • The injection of chemicals into the water table to control water inflows into the mine.

Issue	Reference and page number (if known)	Comment
		<ul style="list-style-type: none"> • The leaching of chemicals and other contaminants into the surrounding water table and the impact that this will have on the quality of water utilised by the horticultural enterprises situated adjacent to the mine. • Further fragmentation of the aquifer due to blasting for the development and stoping which will affect the availability of water sourced from bores in the immediate area. <p>The Terramin venture places the economic viability of all of the horticultural and agricultural enterprises of the valley at risk as a result of the impact their operation will have on the security of underground water for farming and horticultural operations located in the immediate area.</p>
Local Property Valuations		<p>Local Property Valuations</p> <p>The Adelaide Hills is recognised for its pristine and attractive rural landscape, dramatic natural scenery and a unique and sustainable horticultural landscape. Terramin are proposing to insert into this environment an industrial facility that will be a center for the production of noise, dust, pollution, vibration, heavy and light vehicle traffic in a once off exercise to produce a product with no beneficial value for the Community or Region.</p> <p>This development is inconsistent with the image and future of the Adelaide Hills and as such will have a deleterious effect upon the valuation of all other properties in the immediate area.</p>
[]	[]	[]
[]	[]	[]
[]	[]	[]
[]	[]	[]
[]	[]	[]
[]	[]	[]
[]	[]	[]
[]	[]	[]

Issue	Reference and page number (if known)	Comment
[]	[]	[]

Section D: Any other comments

Comment
[]
[]
[]
[]
[]
[]
[]
[]
[]
[]
[]
[]
[]

Once completed, return you submission by the due date to:

By mail to:

Mining Regulation

By email to:

DEM.MiningRegRehab@sa.gov.au

Attn: Business Support Officer
GPO Box 320,
Adelaide SA 5001

Online submission:

[<insert link>](#)

Upload a pdf or word document at:

[<insert link>](#)
