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Dear Sir

RE: REX MINERALS HILLSIDE COPPER MINE
PROPOSED MINING LEASE
PUBLIC COMMENT ON BEHALF OF R H DAVEY

- Registered Conveyancers
JUDITH PHILLIPS
MICHELLE COLMER
KRISTY TOHL

We act for the executors of the estate of Mr Rupert Harold Davey, and Mr Brenton Davey and his family, the owners and/or operators of the land comprised in [redacted] and [redacted] ("the Davey Land") immediately adjacent to the proposed Hillside copper mine site ("the proposed mine") operated by Rex Minerals Ltd ("Rex Minerals"). The Davey Land is the subject of the mining lease proposal and management plan submitted by Rex Minerals ("the proposal").

Our clients also own land immediately to the south of the proposed mine, namely [redacted] ("Harold's Block"). Both parcels of land are farmed by a farming partnership owned by the estate of Rupert Harold Davey, his widow Christine Davey, and their son Brenton Davey ("the farm partnership").

Brenton Davey and his wife are also the owners of land near Pine Point which is farmed by a partnership operated by Brenton and his wife, but which also utilises plant and equipment used to farm the Davey Land and Harold's Block.

Our clients have considered the proposal and make the following submissions in response.

My Direct Line

Telephone

Facsimile

## 1. Existing Environment

The proposed mine would be located in an area dominated by agricultural land, together with a nearby township called Pine Point.

Four generations of the Davey family have farmed the Davey Land and Harold's Block since the 19<sup>th</sup> century.

As stated the Davey Land is immediately adjacent to the proposed mine, and within the proposed mining lease area delineated in Figure 1.1-2 in the proposal.

The Davey Land and Harold's Block are currently used for agriculture, primarily cereal cropping, as well as grazing of cattle as part of the rotation process of the cultivated land.

The Davey Land is fertile arable land, and in fact some of the most valuable farm land in Australia because of its consistent ability to provide high yield and high quality crops. The Yorke Peninsula farmland, as a result is extremely tightly held, often for many generations. The land is farmed by our clients as their sole means of income as it has been for generations.

Most importantly, our clients Brenton Davey and his family, as well as his mother Christine (who was recently widowed), reside in houses on the Davey Land and Harold's Block.

In relation to the Davey Land we note that in a letter from Rex Minerals dated 15 April 2013, the company advised that portion of the Davey Land will be subject to regular blasting and Rex Minerals will require portion of it to be made into a buffer zone for safety reasons as a precaution against "fly rock" that may be ejected from the immediate pit area. We will comment in more detail as to the substantial impact of this buffer zone on our clients' ability to farm, if the proposed mine is approved.

The Davey Land falls within section 9 of the *Mining Act 1971* (SA), which exempts certain types of land (in this instance, cultivated land) from mining operations unless the benefit of the exemption is waived by the landowner.<sup>1</sup> Our clients note with interest that Rex Minerals has indicated that an agreement is expected to be reached with our clients in July 2015 to waive the benefit of the exemption so as to accommodate the blast zone during operation.<sup>2</sup> For the sake of clarity, our clients have no intention of waiving the benefit of the exemption in respect of the Davey Land.

The Davey family has resided on the Davey Land for 4 generations and Brenton's children wish to continue to farm there when he retires from farming.

As stated, Brenton Davey's widowed mother lives on Harold's Block, and Brenton and his wife and their children live in a homestead on Davey's Block. The children have all been educated at the local schools. Two of his children are still at the local school. Their extended families and friends also live in the region.

Accordingly, the proposed mine, if it proceeds, will have a huge impact on our clients' use and enjoyment of their land.

<sup>1</sup> As to waiver, see s 9AA of the *Mining Act 1971* (SA).

<sup>2</sup> See page v of the Proposal.

## **2. Environmental and Socio-Economic Impacts**

As a result of owning and residing on land adjacent to the proposed mine site, our clients will be subject to severe physical/environmental impacts (namely from dust, odour, noise and blasting, and the resultant physical effects) and socio-economic impacts (including decrease in land value and productivity) from the proposed mine.

### **2.1 Physical/Environment Impacts**

The mine process plant will operate continuously, 24 hours a day, 7 days a week, 365 days of the year, including public holidays.<sup>3</sup> Furthermore, it is proposed that open pit blasting will occur on the mine site every second day and that underground blasting will occur twice a day.<sup>4</sup>

Activities on this kind so close to residential land would not be tolerated in the urban environment. An example is the Adelaide Airport where a curfew is in place to prevent airplanes from flying into and out of the airport at night time, to allow residents to have uninterrupted sleep. The level of noise intrusion by airplanes would be far less than that caused by a mine operating all year round, 24 hours a day.

This level of activity should not be tolerated in high density country regions such as Yorke Peninsula where residents will be unable to enjoy uninterrupted sleep and rest, just as it would not be acceptable in the city.

There are serious concerns that the proposed mining activity will significantly and detrimentally impact our clients, their land, and the local community as a result of impacts on health, amenity and agricultural land use arising from dust, odour, noise and blasting activities.

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#### ***Dust and odour***

The proposal states that the dust emissions from the mine and associated activities are predominantly linked to wheel dust arising from mobile plant equipments, as well as dust from blasting and materials handling.<sup>5</sup> The developer's impact assessment predicts that outright compliance with all air quality assessment criteria cannot be demonstrated.<sup>6</sup>

The proposal notes that there is a likelihood of nuisance at surrounding properties from dust emanating from the hillside mine.<sup>7</sup> Mine dust is likely to result in a serious nuisance and loss of amenity for our clients and other neighbouring land owners due to their vicinity to the mine. The nuisance arises from increased dust deposition, resulting in a prominent and unsightly coating over surfaces and impacting tasks such as drying washing outside.<sup>8</sup>

Dust emanating from the mining operation will also decrease the air quality resulting in potentially severe health impacts on people living on neighbouring land. According to the

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<sup>3</sup> Subparagraph 6.5.4

<sup>4</sup> Subparagraph 6.5.6.2

<sup>5</sup> Page 8-31

<sup>6</sup> Subparagraph 8.3.1.4

<sup>7</sup> Subparagraph 8.3.1.5

<sup>8</sup> Department of Environment Australia, 'Dust control' (1998) at:  
<http://www.ref.gov.au/resources/Documents/LPSPD/BPEMDustControl.pdf>

Environment Protection Authority of Victoria, PM10 particle dust can have adverse effects on health, particularly for people who have existing heart and respiratory problems.<sup>9</sup> The most common symptoms experienced as a result of elevated dust are irritation to the eyes and upper airways. Elevated PM10 levels can also increase the symptoms of existing heart and lung conditions including asthma. For vulnerable persons, elevated PM10 may:

- worsen allergic reactions and asthma attacks in people with these pre-existing conditions;
- worsen breathing-related problems in people with respiratory conditions; and
- increase the symptoms of existing heart problems.

Due to the proximity of the land to the proposed mine site, there is an increased risk to our clients' health from dust emissions. This is particularly so as our clients work outdoors on a daily basis, and reside on land adjacent to the proposed mine, and are therefore subject to prolonged exposure to dust emissions. The proposal states that, in certain poor conditions, impacts on human health from particle dust are predicted to occur at areas immediately to the south of the proposed mine, which includes our clients' land.<sup>10</sup>

There is also the potential for toxicological impacts to health through the contamination of rainwater tanks through deposition of dust.<sup>11</sup> It appears inevitable that dams would also be affected. Despite this risk, the developer has determined that controls are not required to be implemented to monitor dust deposition derived from mine related activities in rainwater tanks. Likewise, no control measures are proposed to be put in place to monitor odour emissions.<sup>12</sup> By the developers own admission, without adequate monitoring and operational controls it is likely that the impact levels of particle matter from the site will be higher than National Environmental Protection Measures guidelines, resulting in negative impacts on the health of the local community.<sup>13</sup>

This level of nuisance, lack of controls and checks and the serious danger to neighbours' health is unacceptable in a modern day community with our knowledge of these health impacts. No resident, whether in a rural or residential environment, should be subject to this level of health risk because of perceived economic benefits to a State.

#### *Economic impact on cropping and cattle*

Our clients' use of the land is also threatened by the proposed mining operation. As stated above, the land is used primarily for cereal cropping, with cattle grazing on some of the land during its rotation from cereal use. The proposal notes that there is evidence that dust can inhibit light transferral to leaves and therefore slow the rate of photosynthesis and plant growth.<sup>14</sup> Given the proximity of the crops on the land to the mine site, there is a risk of dust

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<sup>9</sup> EPA (Vic), 'Dust and Your Health' (2010) at: <http://www.epa.vic.gov.au/our-work/current-issues/odour-and-air-quality/~media/Files/air/Docs/Dust-Your-health-factsheet.pdf>

<sup>10</sup> Page 8-33 and Figure 8.3-2.

<sup>11</sup> Pages 8-31 and 8-35

<sup>12</sup> Page 8-37

<sup>13</sup> Page 8-33

<sup>14</sup> Page 8-38

deposition on the leaves of crops, which could negatively impact plant growth and yield, and potentially its acceptability to buyers.

Very little consideration is given in the proposal to the impact of dust deposition in relation to livestock. In particular, inadequate consideration is given to the toxicological impacts on the health of cattle from consuming feed and water contaminated by the deposition of dust. Our clients have serious concerns as to both the short-term and the long-term ramifications of dust deposition on their livestock. This is particularly so given the proximity of the proposed mine site to the Davey Land, the continual hours of operation of the proposed mine all year round, and the inability to shelter or protect livestock from dust or other impacts caused by the mining activity.

### *Noise and vibration*

Our clients are concerned with the level of noise and vibration to be generated by the proposed development. The proposed mine is anticipated to operate on a 24 hour basis, every day of the year. The proximity of the Davey Land and Harold's Block to the proposed mine site means that noise from the processing plant (which is anticipated to be at the same capacity for the duration of the mine site operation)<sup>15</sup> and associated major noise sources from mobile plant (for example generators, excavators, vibratory rollers, and bulldozers) appear certain to destroy our clients' quality of life. Rex Minerals has identified that there is a high risk that noise emissions from mobile plant could cause public nuisance yet still intends to operate the mine 24 hours a day, 365 days a year.<sup>16</sup>

There is also significant risk of vibration-induced damage to our clients' property, particularly as there are currently no statutory limits for vibration.<sup>17</sup> The developer Rex Minerals has anticipated that equipment on the site used for construction may cause perceptible vibration from time to time.<sup>18</sup> It is not detailed how frequently these perceptible vibrations events will occur. This is particularly concerning given that our clients live on the adjoining land. We also query what damage blasting will do to our clients' houses. The main dwelling on our client's property is a 100 year old original stone farm homestead which is in pristine condition. Our client's already feel the vibrations from weapons testing at the Port Wakefield proof range on the other side of the Gulf St Vincent. Whilst our clients have not suffered any damage to their property as a result of the weapons testing, they are certain to be subject to significantly higher perceptible vibrations from blasting occurring at the mine site immediately adjacent to their own property, dramatically increasing the chance of damage to the buildings on our clients' land.

The continual operation of the mine 24 hours a day means that noise and vibrations could impact at any time of the day or night, dramatically affecting the amenity of the land and our clients' ability to live in their homes.

The developer does not appear to have considered the health impact of noise and vibrations (let alone lights on all night), on the Davey family, including the need for uninterrupted sleep.

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<sup>15</sup> Page 8-48

<sup>16</sup> Page 8-57

<sup>17</sup> Page 8-45

<sup>18</sup> Page 8-53

There is clear medical evidence that people cannot function over time if they do not have uninterrupted sleep. Their health is severely impacted, and they suffer numerous health problems, including stress, depression and other serious health issues.

In fact Mr Harold Davey suffered two major strokes earlier this year before he turned 81 and has now died. We are instructed that five years ago Mr Davey was a fit and active person, but the stress of the prospective mining project had a real impact on his health.

The developer has also again failed to consider the impact of noise and vibration on the health and wellbeing of livestock.

### *Blasting*

In the event that blasting were to occur on the Davey Land without our clients' waiver (which will not be given), our clients have a number of significant concerns regarding the blasting activity proposed.

Portion of our clients' cultivated land is located within an area identified by the developer as a blast exclusion zone. The dust, noise and vibrations generated from the blasts would significantly impact the amenity of the land and have additional consequences as outlined above. There is also the risk to our clients' safety and damage to property (including stock) from fly rock by virtue of the location of their land within the proposed blast exclusion zone.

The blasting activity would also impact on our clients' operation of the land. It is proposed that our clients would be restricted in their access to the land for normal farming activities as a consequence of the blast exclusion zone.<sup>19</sup> In particular, stock will not be able to remain within the closest paddocks during times of blasting.<sup>20</sup> The proposal states that when blasting is at full production, exposure to blasting impacts will occur every other day.<sup>21</sup> Given the difficulty and time required in moving stock, this suggests that there are certain areas of the Davey Land that our clients would effectively be unable to use for grazing for the entire duration of the proposed mine project. This is unacceptable given our clients' farming practices, which involved the rotational use of the land for cropping and grazing.

Leaving aside the issue of physical risk to livestock, our clients have serious concerns as to the impact of disturbance to stock from blasting activities. We note that the conclusion from the developer is that monitoring of farm animal behaviour is not warranted.<sup>22</sup>

In addition, as this land is primarily used for cereal cropping it will not be able to be cropped as our clients will be unable to be on the land to sow and harvest their crops without firstly endangering their own safety, but secondly without the risk of significant damage to their expensive machinery. In addition, they will not be able to ensure their crop is free of rock and rubble when harvested.

It is further proposed that Rex Minerals will apply for an aviation exclusion zone directly over the proposed mine and our clients' land so that aircraft would not be allowed to fly within that

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<sup>19</sup> Table 8.3-67 and subparagraph 8.3.17.5

<sup>20</sup> Page 8-74

<sup>21</sup> Page 8-74

<sup>22</sup> Page 8-66

zone.<sup>23</sup> This is unacceptable given that it is necessary for our clients' to undertake seasonal aerial spraying.

There is also a risk that the proposed mining activities will interfere with grain transport and machinery movements on adjacent roads. Such an outcome is unacceptable given our clients' use of the land for agricultural purposes and, in particular, the need to transport grain in a timely matter.

## **2.2 Socio-Economic Impacts**

### ***Traffic***

There are further issues impacting on the health and safety of our clients as a result of the proposed redirection of traffic from York Highway to St Vincent Highway via Pine Point Road and the proposed bituminisation of Pine Point Road. Pine Point Road runs past both the Davey Land and Harold's Block. It is proposed that at peak traffic periods (during holidays for light and medium vehicles and harvest for heavy vehicles) light vehicle traffic is expected to increase 30- fold over current levels, medium vehicle traffic 2-fold, heavy traffic 23-fold, with total average traffic flow increasing 25-fold over current levels along Pine Point Road.<sup>24</sup> The noise and vibrations from the increased traffic on the diverted route, in particular heavy vehicles travelling to and from the mine 24 hours a day, is likely to result in interrupted sleep and rest for our clients, further negatively impacting on their health.

There is also real risk to our clients' safety and that of their children from the significant increased traffic along Pine Point Road. Our clients' children travel to and from school via the Ardrossan School bus, which stops outside our client's property on Pine Point Road, on the crest of a hill.<sup>25</sup> The increase in traffic and in particular the increase in speed of that traffic as a result of the bituminisation of Pine Point Road poses an unacceptable threat to the safety of our clients and their children.<sup>26</sup> There is also a real risk of damage to our clients' livestock as our clients often move their cattle across Pine Point Road to their cattle yards. The high speed and increased use of the road by heavy vehicles will result in a high risk to both vehicle drivers and livestock.

The closure of a 4.4km section of the Yorke Highway as part of the road redirection will also dramatically impact our client's ability to harvest grain. Our clients use the section of the Yorke Highway which is proposed to be closed to the access two substantial paddocks directly alongside the Yorke Highway. Our clients will be unable to access these paddocks for the purpose of transporting harvested grain if this section of the Yorke Highway is closed.

### ***Economic Impact***

The Davey Land and Harold's Block are significant in size and are economically very valuable farming land. The land is farmed by our clients as their sole means of income. Our clients are likely to suffer serious financial loss from the mining activity as a result of the aforementioned

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<sup>23</sup> Page 8-70

<sup>24</sup> Traffic and Transport Impact Assessment, page 17.

<sup>25</sup> Traffic and Transport Impact Assessment, page 11.

<sup>26</sup> The Ardrossan School bus will also be impacted by the proposed permanent closure of a section of Redding Road (between Sandy Church Road and Pine Point Road), which is currently part of the school bus route.

restrictions on agricultural land use, and from impacts on land use productivity (eg. reduced productive land, reduced yields or loss of stock).

The land is also likely to be dramatically decreased in value as a result of the proposed mine due to the loss of agricultural productivity and the change in use of the surrounding land from agricultural to industrial uses. Moreover, the extent to which the proposed mine will change land values within the region this is likely to have a long term effect on the regional economy.<sup>27</sup>

More importantly, the mine project will render the Davey Land and Harold's Block unliveable unless numerous restrictions are imposed on Rex Minerals, including limitation to mining, and related activities to between 7.00pm and 7.00am to minimise the noise and vibration, limited lighting after dark, and the investigation and construction of barriers (if possible) to reduce the escape of noise and dust from the mine site to insignificant levels to protect the health of our clients and other nearby residents.

### 3. Additional Issues

We note that the Community Consultative Group used by Rex Minerals to conduct its 'Community Perceptions Survey' appears to only contain only one landholder to represent the farming sector.<sup>28</sup> Our client is understandably concerned that the Community Perceptions Survey does not represent the views of the wider farming community.

We further note that there are a number of inconsistencies between the information contained in the body of the proposal and the information contained in the appendices. For example, the figures in the appendices in section 8, in particular appendix 8.3-C, seem to suggest that the overburden from the proposed mine will be contained west of Redding Road. This is despite the fact that the maps in the proposal clearly demonstrate that the overburden from the proposed mine will occupy a much larger area with a much greater impact, resulting in the loss of Redding Road. Our clients are understandably concerned that, as a result of these inconsistencies, the proposal as a whole does not adequately address what works and activities will be occurring at, and flowing from, the mine.

### 4. Conclusion

Our clients and their family own and live on land immediately adjacent to the proposed mine site. Our clients would therefore be subject to both physical/environmental impacts and socio-economic impacts from the proposed mine which would plainly be unacceptable in an urban environment. Of particular concern are the environmental impacts (particularly as to health) associated with dust, noise and blasting and the socio-economic impacts including decrease in land value.

The activities of the mine are likely to impact on our clients' enjoyment of the land and their health to an unacceptable degree. The fact that the mine is proposed to operate on a 24 hour basis, and that our clients both work and reside on the land, means that they and their family will be subject to prolonged exposure to dust emissions and noise, and an increased safety risk from blast explosions. The proposal to operate the mine non stop shows a complete disregard for our clients' future health.

<sup>27</sup> Subparagraph 8.2.8.4

<sup>28</sup> Appendix 7.4-A, page 7



The proposed mining lease would also impact on our clients' business operations of the land. The land is currently used by our clients for agricultural purposes, specifically cereal cropping and the grazing of cattle. The land is fertile, arable land and is farmed by our clients as their sole means of income. The impacts from the mining activity include impact on agricultural land use activity (eg disruption from blasting) and impact on land use productivity (eg. loss of productive land, reduced yields and/or loss of stock).

The cumulative effect of these impacts will be to dramatically decrease the productivity of the land and its value. According to national land use mapping, land suitable for agricultural production exists in only 4.3% of the total area of South Australia.<sup>29</sup> That represents the total figure for arable land. This particular area is, however, some of the best farming land in the country. The loss of such an important resource should be avoided.

The suggestions in the proposal as to rehabilitation are vague and inconclusive. They provide no assurances whatsoever as to the capacity to effect rehabilitation to any significant degree. It appears likely that the entire proposed mining lease area will be rendered unusable for agriculture in perpetuity.

The proposed mine will also result in the destruction of an area of natural beauty and the destruction of a major tourist asset. It is anticipated that the life of the proposed mine would be in excess of 15 years.<sup>30</sup> The final open pit (excluding any peripheral mine activities) is planned to be approximately 2.4 km long, 1 km wide and 450 m deep.<sup>31</sup> Should the proposed mine be granted approval to proceed, it is proposed that the open pit void will remain,<sup>32</sup> rendering this entire area unusable indefinitely. Furthermore, the final elevation of the Tailings Storage Facility embankment is estimated to have an overall average embankment height of 55 metres and a maximum height of 65 metres, with a catchment area of up to 378 hectares.<sup>33</sup> Whilst some closure objectives are mentioned in the proposal,<sup>34</sup> it is not clear what remedial works, if any, will be undertaken to rehabilitate the area of the tailings facility.

The most important point our clients wish to make, however, is that the proposed mine, if approved as a 24 hour operation, will make our clients' land unliveable, including Harold's Block which is resided in by Mrs Christine Davey (Mr Rupert Harold Davey's widow) and which is not covered by the Mining Lease.

The proposal must be rejected unless Rex Minerals is required to effect substantially amendments to the proposal in such a way that our clients can continue to operate their farm without real concerns as to their long term health, and subject to full compensation for their losses, including for the effects on any farm land not directly covered by the Mining Lease.

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<sup>29</sup> Barson, M (2013) "Land management practice trends in South Australia's broadacre cropping industries", Caring for our Country Sustainable Practices fact sheet 28, Department of Agriculture, Fisheries and Forestry, Canberra, page 2.

<sup>30</sup> Page 1.

<sup>31</sup> Page 1.

<sup>32</sup> Page 3.

<sup>33</sup> ATC Williams Pty Ltd "Hillside Project: Integrated Waste Management Tailings Storage Facility Pre-Feasibility Design Report", Report 111278.03R02-REV2, May 2013, pages 20-21.

<sup>34</sup> Ibid, pages 44-45.

We fail to see how that can be done however, in view of the intensity of the mining operations proposed on the mine site. The proposal should therefore be rejected due to its location in a highly developed and valuable rural area.

Yours faithfully  
MELLOR OLSSON

Per: 

TIMOTHY MELLOR  
Partner  
