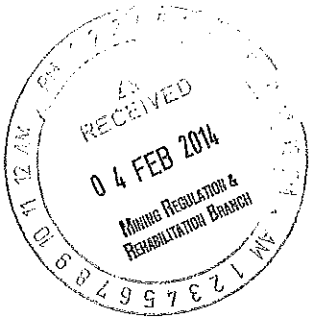


GJ & PC Seymon

[redacted]

Freeling SA 5372

3.2.14

Mark Howe

Business Support Services Officer

Mining Regulation and Rehabilitation Branch

DMITRE

GPO Box 1264

Adelaide SA 5001

File No: T02885
Doc No: F2013/000203.
EA/69331

Dear Mark

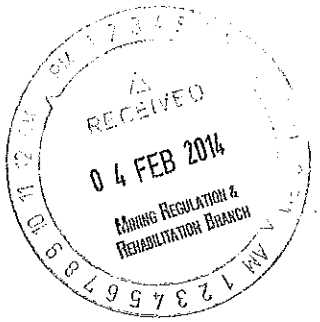
Please find attached our submission of objection to the mining lease proposal MC4322 Kara Resources Pty Ltd.

Regards

PC Seymon
for.

Graeme & Patricia Seymon

EA169331.



Mining Lease Proposal

MC4322

(INCORPORATING EML 5686)

Over Allotments 1, 2 & 5 Hundred of Nuriootpa

Between Freeling and Greenock

KARA RESOURCES PTY LTD

SUBMISSION OF OBJECTION

P&G Seymon

Trish & Graeme Seymon, [redacted] Freeling, South Australia

Contents

1. INTRODUCTION

1.1 The Nain, Daveyston, Greenock and Freeling communities are located in the Light and Laucke Wards, jurisdictions of the Light Regional Council.

1.2 These areas are predominately residential and farm properties used for cropping and grazing. The area experiences a peaceful lifestyle with rolling hills, cultivated farmlands and great scenic views.

1.3 The proposed mine will extract Dolomite for construction purposes and will be located along the Nain, Old Kapunda and Schwartz Roads in close proximity to Nain, Daveyston, Greenock and Freeling. It will be a large mine with an expected yield of 300,000 – 500,000 tonnes per year. Production on one day is likely to range from 1500 – 2000 tonne. The process method used will be blasting, dry crushing and screening with a large mobile plant. The size of the mine will be initially be 500 metres x 300 metres with a depth of 24 metres on 2 benches and then proceeding to a larger mine again with a depth of 48 metres on 4 benches.

1.4 Traffic movements from the site will amount to a few trucks per week and increase eventually to 120 -400 trucks per week on return trips.

1.5 The estimated closure date is around 2100.

1.6 The Mineral Lease Proposal, MC 4322 contains many inconsistencies and misleading statements. In parts it provides scant information and indicates a lack of knowledge of the area.

2. DOCUMENT CONCERNS (General)

2.1 Kara Resources Pty Ltd Letter

2.1.1 Kara Resources letter dated 25 October 2013 to selected residents advised that they were preparing an application for the Department of Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) for a mining lease on land at Nain Road, Greenock. The author was Mr Dick Sander, Hallet Resources, Regency Park, SA, 5942.

2.1.2 As part of the DMITRE application process, Kara Resources were engaging with local land owners to provide them an opportunity to submit written comments on the proposed lease application by 29 November 2013.

2.1.3 The letter further advised that the 'Mining Lease Proposal" (MLP) Version 3 was prepared by Landscape Profile Pty Ltd and accepted by DMITRE. A copy of this document would be available to view at Light Regional Council.

2.1.4 Concerns regarding this letter are as follows:

i. The letter appeared to advise that DMITRE had "accepted" Version 3, indicating they had approved the document. As a result, some individuals thought they were being engaged as part of the government due process of public consultation and responded believing that Kara Resources would forward their feedback to DMITRE. Others, after seeking clarification chose not to respond.

ii. Not **ALL** stakeholders were sent this letter. It appears that only residents within a two (2) km radius were provided this information. Residents from Greenock, Daveyston and Freeling were not given the opportunity to participate.

iii. More importantly, Kara Resources advised DMITRE that all Stakeholders had been advised (refer MLP Version 3 – sample letter).

iv. Individuals who submitted written responses to Kara Resources have not received a response from either Kara or Hallet Resources.

v. Kara Resources demonstrated a lack of appreciation of community consultation and engagement prior to submitting the MLP to DIMTRE.

2.2 Mining Lease Proposal (MLP) MC 4322

2.2.1 The MLP signed in the name of D Keane and dated 22 November 2013 was received by DMITRE on 26 November 2013. Kara Resources submitted the Proposal when still in the consultation phase which was due to end on 29 November 2013.

2.2.2 Kara Resources failed to provide the landowner of allotments 1 and 5 a copy of MLP Version 3. While there may be no statutory requirement under the *Mining Act 1971* for Kara Resources to provide updated document versions, it would have been good business sense to do so.

2.2.3 For the past seven (7) months three versions of the MLP have been distributed. If the engagement process was carried out effectively in the first place, Kara Resources would have been able to address all concerns prior to submitting their Proposal. One has to question why this has occurred as the MSG Group have had previous experience in dealing with these matters when establishing mining operations at Kulpara and McLaren Vale.

2.2.4 The Light Regional Council through Council Minutes has raised a number of concerns since Version 1 was released. Further updates (Versions 2 & 3) have been released yet their concerns still have not been satisfied. The Council is an important stakeholder in these matters – after all they are accountable to its residents and ratepayers.

2.2.5 **Snap Shot of Operations, Page** 6 indicates that the mine life will be between 40-50 years, however Mine Completion Section 2.4, Page 17 indicates the estimated closure date is around 2100 – a total of 86 years not 40-50 years.

2.2.6 **Local Community: Section 11, Page 10** states that Nain is 1.2 km **west** from the mines closest boundary. This is incorrect as Nain is **east** of the boundary. The MLP also fails to advise there are approximately eighteen (18) residential properties within a two (2) kilometre distance of the proposed mine boundary. The Community also is not made up of scattered local farms but is predominately residential and farm properties used for cropping, grazing and thoroughbred horse raising.

2.2.7 **Quarry Size: Section 1.5, Page 10** indicates the quarry is a small to medium pit. However, **Page 20, Sections 2.5.3 and 2.7.2** indicate it is a medium size one. Given the depth (48m), potential width and mining rate specified as 300,000 – 500,000 tonnes per annum this quarry is considered to be a large one and on par with the One Steele Dolomite Operations at Ardrossan.

2.2.8 **Quarry Isolation: Section 1.5, Page 10** indicates the quarry pit is an **isolated one** although **Local Community, Section 1.1, Page 10** provides approximate distances from the closest boundary of the proposed site i.e. Freeling (5.2 km), Greenock (3.2 km), Daveyston (2.3km) and the two (2) closest residential properties are within a kilometre distance of the mine boundary. A tally of residential properties in close proximity of the proposed mine site is currently approximately eighteen (18). The quarry pit is not considered to be located in an **isolated area**.

2.3 Consultation Results

2.3.1 Results of **Consultations, Page 23** relate to affected parties as follows:

i. **Nitschke's** are freehold landowners of allotments 1 and 5, Nain Road (between Freeling and Greenock). While the MLP advised there are "no issues", the Nitschke's have indicated they do have concerns regarding the Proposal and prefer that the mine does not go ahead. An article in the Barossa Leader of 27 November, page 3 also indicates this.

ii. **361 Old Kapunda Road.** The owners of 361 Old Kapunda Road, Nain indicate they have had no "ongoing consultation" with Kara Resources or the consultant.

iii. There are other properties also located in close proximity to the mine for example 202,193 and Lutheran Church (including Manse and cemetery) and a house located not far from 361 Old Kapunda Road which is currently a rental property.

iv. **202 Nain Road.** The MLP does not consider this property as being an "affected party". Yet the property directly overlooks the quarry pit and will see, hear and feel all activities associated with the mine. The screen mounding that is proposed to be put around the perimeter of the working area will not alleviate this situation for this owner.

v. **Stakeholders.** The Notes Section indicates consultation will initially involve up to 39 individual landowners, home owners, utilities and Departments within a 2km distances.

vi. **Close Proximity Receptors.** The Notes Section indicates there are no close proximity receptors that would be affected. This is not true as the proposed mining land is situated within 400 metres of the property located at 361 Old Kapunda Road - this land is "exempt land" as declared in Section 9 (1) (d) under the ***Mining Act 1971***. There are other properties (while not within 400 metres) that would be classed as close proximity receptors for mining activities on this site.

vii. **Remote Sites:** The MLP has referred to "remote sites" on a number of occasions i.e.

- **Traffic, Page 26 Section 4.2** – "Fortunately this site is located in a remote area where public road use is limited".
- **Visual Amenity, Page 33, Section 4.9** – "This is a remote Location".
- **Noise, Page 34, Section 4.10** – "Fortunately, this site is in a remote area and issues will be negligible".

Describing the quarry site as a "remote area" is misleading. There are approximately eighteen (18) residences located within a two (2) km radius of the proposed mine.

3. OTHER CONCERNS

3.1 Real Estate Property Values

3.1.1 Property owners within the community may suffer an immediate financial loss due to decreased property values. Those landowners closest to the mine will be hardest hit.

3.1.2 Potential buyers looking to purchase a property at Freeling and Greenock may reconsider residing in these locations once they are aware a large mine is proposed for the area.

3.1.3 Some property developers in the areas of Freeling and Greenock may also be disadvantaged as potential buyers may choose other locations i.e. Roseworthy over Freeling and Greenock.

3.1.4 Potential property buyers may find that Banks will not loan them as much due to the banks assessment value as a result of the proposed mine site.

3.2 Character Preservation

3.2.1 The mine site falls within, and is incompatible with the Barossa Valley Character Preservation District, pursuant to the ***Character Preservation (Barossa Valley) Act 2012*** and associated amendments to the Light Regional Council Development Plan providing for the recognition, protection and enhancement of the special characteristics of the rural and agricultural nature of the area.

3.3 Primary Industry Zone

3.3.1 The mine site is located in the Primary Industry Zone of the Light Regional Council. The mining proposal is incompatible with the primary objective of the zone, as an area for farming on large scale properties predominately for cereal cropping and grazing. It is not consistent with Objective 1(j) which provides for the extraction of minerals in a manner compatible with the continuation of general farming as the primary use. Dust will cause extreme effects on crops and farming equipment.

4. MLP MANAGEMENT OF ENVIRONMENT IMPACT

Table 1: Definitions of risk factors for the mine operations.

The likelihood of occurrence is defined below:

Likelihood of occurrence	
Virtually impossible	Never occurred before and not expected to (<5% chance)
Rare	May occur but not likely (<10% chance)
Unlikely	May occur occasionally but not likely to (<25% chance)
Likely	Will occur during the life of a mine (>50% chance)
Virtually certain	Will occur for certain (>80% chance)

The severity of consequence is defined below:

Severity of consequence (ABCD or E denotes the degree of impact)	
Negligible	Possible Impacts in some form but likely to be insignificant
Minor	Limited occurrence but not significant
Major	High degree of risk or impact but could be overcome
Severe	High risk and concern with environmental damage occurring
Extreme	Disastrous impacts on the environment and loss of habitat/vegetation and long term or permanent pollution issues

Table 2: Summary of environmental effects over the site.

This table below provides a comparison between the MLP Matrix Rating and this Submissions rating.

NB: The Table indicates that a rating has been given to "Underground Water". This title does not exist in Section 4 *"Outcomes, Criteria, Control Strategies and Monitoring"* (refer pages 25 – 38).

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible	Heritage	Public Safety Soil Waste Surface Water Visual Amenity Protection Noise Dust Blasting Native Veg Underground Water	Low	Low	Low
	D	Minor	Low	Weeds & Pests	Traffic Rehab	Native Vegetation	Medium
	C	Major	Medium	Medium	Medium	Weeds & Pests Soil Waste Protection	High
	B	Severe	Medium	Medium	Medium	Heritage	Blasting Surface Water
	A	Extreme	Medium	Medium	High	High	Public Safety Traffic Visual Amenity Noise Dust Rehabilitation

- **Green represents MLP Risk Matrix rating Blue represents**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.1 Public Safety

MLP Public Safety Context:
The awareness of safety on and around the site is a priority for any business and will be upheld at all times for the protection of workers and public alike.

4.1.1 Whilst "awareness" of safety is important factor it is not the only consideration for public safety on and around this mine site. Kara Resources are also responsible for the **SAFETY** and **WELL BEING** of persons, structures, use of roadways, creeks, rivers and land outside the immediate mine site.

4.1.2 Concerns of Public Safety.

- **Blasting**
- **State of the Roads**
- **Traffic**
- **Livestock**
- **Pollutants**
- **Water Contamination**
- **Mine Site Security**
- ***Work Health and Safety Act & Regulations 2012***
- **Water quality**

4.1.3 Potential Impacts.

i. **Blasting.**
Use of Explosives, **Section 2.52, page 18** indicates their "management practice will provide a phone call to close local residences that will indicate the time frame for all blasting on the day".

- The above paragraph does not stipulate how much notice will be given to local residences prior to blasting.
- What close local residences are we referring to here?
- What action will Kara Resources take if unable to contact the landowner? Leaving a phone message is simply not acceptable.
- Some properties may be rented, how will Kara Resources manage this situation if they are unable to make phone contact with the renter?
- What action will be taken to check whether any individuals are working in the cultivated fields around the mine site?
- What are the arrangements for road closures?
- Impacts from air blast and fly rock.
- Impacts caused by vibration, noise and dust.

ii. **State of the Roads (refer also Traffic, Section 4.2).**
The roads are currently inadequate for large trucks and the volume of traffic that will be using them. They will need to be substantially upgraded to provide a safe environment for all users.

iii. **Traffic.**

- **Road Intersections.**
  The four (4) intersections that are of concern are:

  a. **Old Kapunda Road/Nain Road** – currently the Nain Road is a bush track and Old Kapunda Road consists of a gravel surface. This intersection would need to be substantially upgraded to allow safe passage of all vehicles and livestock to reduce the serious issues of visibility due to dust.

  b. **Daveyston Road/Thiele Highway** - vehicles travelling coming from Kapunda are unseen by vehicles turning right or left from the Daveyston Road due to the decline of the road to the right. Vegetation on the sides of the roads is an ongoing visual hazard and would need to be addressed.

  c. **Daveyston Road/Old Kapunda Road** – large trucks coming from the mine site and turning left from the Old Kapunda Road will be forced into the oncoming traffic lane as there is a culvert/drain immediately to the left of the intersection. This four road intersection does not have each road entering at 90 degrees and poses a major sight problem along with trees and vegetation around the intersection and the general area.

  d. **Daveyston Road/Sturt Highway** – An increased traffic flow from the proposed mine site to this T junction poses a substantial risk for double-lane highway users.

- **Traffic Volume.**
  There will be a major increase in traffic volume on the Sturt Highway, Thiele Highway, Daveyston Road, Old Kapunda, Nain Road and the rural roads in the area. As the company expands and obtains contracts further afield, traffic volumes will rise increasing the risk of accidents, injury and death to the motoring public.

- **Vehicles.**
  Excess speed, overweight and/or unroadworthy trucks pose a major problem to the road system and public safety.

iv. **Livestock.**
The increase in traffic movements will have implications for farmers moving livestock and equipment along the Nain/Old Kapunda/Daveyston Roads and in the local area. Farmers will be at risk (including their livestock) by the number of trucks attempting to leave and return to the site.

v. **Pollutants.**
The major pollutants emitted by this mine are: noise, dust, contaminated water, engine emissions and sediment. Of particular concern, is the use of a Polo Citrus Dust Suppression Systems to control and minimise both surface and processing dust (refer also **Section 1.5, page 10**). The Paper on "Biodegradable Dust Suppression" (issue date April 2013) page 2 indicates that the chemical can cause mild gastric irritation (if swallowed) and is an eye/skin irritant. These pollutants will affect the public as well as crops and livestock in the general area and beyond.

vi. **Water Contamination.**
The surface run off caused by rain flowing through the mine site will be contaminated by acidic and metalliferous run-off, silt and dust suppressants i.e. Polo Citrus Dust Suppressant (see **Section 1.5, Page 10**) and other pollutants and contaminates such as fuel and oil. The Biodegradable Dust Suppression Paper Polo Citrus (issue date April 2013) indicates at Page 4 that material must **NOT** enter drains or waterways. Water contamination will affect the public as well as our Catchment areas, crops and livestock in the general area and beyond.

vii. **Mine Site Security.**
Pit and site infrastructure will pose a hazard to unauthorised parties. The current farm fencing is inadequate to provide safety to the public.

viii. **Work Health & Safety Act & Regulations 2012.**
The MLP has not indicated their responsibilities with regard to Regulations, Division 7, 50 (monitoring airborne contaminant levels, Chapter 10 (Mining).

ix. **Water Quality.**
If water is allowed to leave the mine site due to substantial rain events, water overflows and spillage this will flow into the Walker Creek Catchment System allowing contaminated water to pollute and reduce water quality in the creek and river systems flowing through agricultural areas and towns downstream.

The MLP Risk Matrix indicates a rating for Public Safety as "Negligible" with a likelihood of consequences at Category 2 as Rare/Low. This Submission rates the effect as "Extreme" and Category 5 as Virtually Certain/High.

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pin represents an MLP/Submission agreed rating**

4.2 Traffic

MLP Traffic Context:
The prevention of accidents is important not only for the mining activity but for the safety of public road users. Fortunately this site is located in a remote area where public road is limited. There will be a medium increase in road traffic once the quarry is developed.

4.2.1 **Remote Site.** The mine site is **NOT** located in a remote area where public roads are limited. This is a high density rural community with a substantial road system connecting the many farms, hamlets and small towns.

4.2.2 **Concerns of Traffic.**

- **State of the Roads**
- **Traffic**
- **Vehicle Movements**
- **Public Health**
- **Noise**
- **Weather**

4.2.3 **Potential Impacts.** This Section needs is to be read in conjunction with **Public Safety (Section 4.1)** and **Noise (Section 4.10).**

i. **State of the Roads.**
The roads are currently inadequate for large trucks and the volume of traffic that will be using them.

Nain Road is currently not suitable to two-way traffic movements and is more of a bush track than a useable road and impassable in wet weather. Old Kapunda Road although gravel sheeted is inadequate for continuous heavy vehicle use all year and in parts not suitable for two-way traffic.

The Daveyston Road is unsuitable for continuous heavy vehicle traffic and currently has breaking road surfaces, cracks, numerous patches and sunken road approaching culverts. Load restrictions may have been placed on the two culverts located between Old Kapunda Road and the Sturt Highway. The Daveyston Road is a major feeder road between the Barossa Valley area, Freeling, Roseworthy silos and the Dublin Saleyards.

The roads will need to be substantially upgraded by way of realigning, rebuilding, sealing and renewing intersections and culverts to accommodate the proposed vehicle movements. The roads identified under this Section are the same roads commented on in the **Public Safety, Section 4.1** of this Submission.

ii. **Traffic.**

- **Road Intersections.**
  The four (4) intersections that are of concern are:

  a. **Old Kapunda Road/Nain Road** – currently the Nain Road is a bush track and Old Kapunda Road consists of a gravel surface. This intersection would need to be substantially upgraded to allow safe passage of all vehicles and livestock to reduce the serious issues of visibility due to dust.

  b. **Daveyston Road/Thiele Highway** - vehicles travelling from Kapunda are unseen by vehicles turning right or left from the Daveyston Road due to the decline of the road to the right. Vegetation on the sides of the roads is an ongoing visual hazard and would need to be addressed.

  c. **Daveyston Road/Old Kapunda Road** – large trucks coming from the mine site and turning left from the Old Kapunda Road will be forced into the oncoming traffic lane as there is a culvert/drain immediately to the left of the intersection. This four road intersection does not have each road entering at 90 degrees and poses a major sight problem along with trees and vegetation around the intersection and the general area.

  d. **Daveyston Road/Sturt Highway** – An increased traffic flow from the proposed mine site to this T junction poses a substantial risk for double-lane highway users.

There will be a major increase in traffic volume on the Sturt Highway, Thiele Highway, Daveyston Road, Old Kapunda, Nain Road and the rural roads in the area. As the company expands and obtains contracts further afield, traffic volumes will rise increasing the risk of accidents, injury and death to the motoring public.

iii. **Traffic Movements.**
As per **Public Roads, Section 29.3, Page 21,** the MLP states that traffic movement will increase to 200 trucks per week accessing the site. This will mean that 200 trucks will enter the site and 200 trucks will leave the site weekly. The production estimates of 500,000 tonnes per year indicate that many more vehicle movements would be required to facilitate the transportation of the product.

At the same time, as the movement of vehicles (estimated at 400 per week) carrying mine products, the local landowners will also be using the roads for their business enterprises and with the substantially increased traffic volume, accidents, injuries and death will be more likely to occur.

iv. **Public Health.**
Pollutants emitted by the traffic volume will be noise, dust and engine emissions. These pollutants will affect the public as well as crops and livestock in the general area and beyond.

v. **Noise.**
Due to the substantially increased traffic volume on these roads, the noise from the vehicles and their engines would be considered an unacceptable noise pollutant to this pristine rural environment. Unacceptable vehicle noise will be generated by mine vehicles reversing about the site with the extremely noisy beeping from this operation. This noise is extremely penetrating and can be heard over long distances.

vi. **Weather.**
Throughout the year, the weather changes through summer, autumn, winter and spring causing substantial heat, cold and rain which will affect the road surfaces of the proposed traffic routes. The effects of these elements of weather can cause flooding, icing, and cracking to the mine site roads and surrounding roads being used.

The MLP Risk Matrix indicates a rating for Traffic as "Minor" with a likelihood of consequences at Category 3 as "Unlikely/Medium". Without further clarification/information, this Submission rates the effect as "Extreme" and Category 5 as "Virtually Certain/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

Trish & Graeme Seymon, [redacted] Freeling, South Australia

4.3 Heritage

MLP Heritage Context:
The preservation of Aboriginal and European Heritage is important in the field of mining as relics and artifacts can be discovered. An awareness of such items is important for the heritage and culture of our previous occupation. The land is freehold.

4.3.1 The historic environment is more than just a matter of material remains. It is central to how we see ourselves and to our identity as individuals and community. It provides us with a physical record of what our country is and how it came to be. Historic landscapes or heritage buildings are a focus of our community identity and pride, in particular the Nain Church (pictured below).

4.3.2 The Heritage Listed places are to the east of the site along Nain Road. They include:

- Nain Lutheran Church (including Cemetery).
- Lutheran Manse.
- Former Zum Schmalen Weg Church.
- Former Zum Schmalen School.

4.3.3 **Concerns of Heritage:** The **MLP Heritage, Section 4.3, Page 27** only addresses Aboriginal and European heritage matters on the mining site. It does not acknowledge the Local Heritage places in close proximity to the mine site or in the general area.

4.3.4 **Potential Impacts.**

- Damage caused by blasting and dust.
- Property damage caused by blast vibration.
- Noise associated with the site mining activities.
- Increased Heritage Site maintenance due to dust and grit.
- Decreased visual amenity in particular scenic value.
- Possible theft and vandalism of these Heritage sites as a result of persons who are attracted to steel from the mine site.
- Indirect consequences as a result of road upgrades.

4.3.5 There are a number of other structures i.e. old ruins/houses around the mine site (although not Heritage listed) which may be affected not only by dust, grit and blast vibration).

The MLP Risk Matrix indicates a rating for Heritage as "Negligible" with a likelihood of consequences at Category 1 as "Virtually Impossible/Low". This Submission rates the effect as "Severe" and Category 4 as "Likely/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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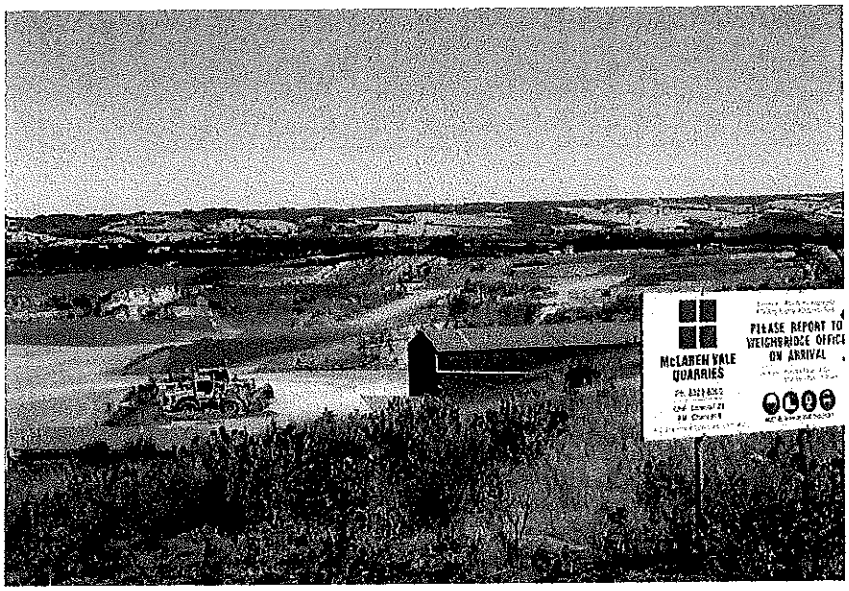
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.4 Weeds and Pests

The MLP Weeds and Pests Context:
The prevention of spread or introduction of declared weeds pests or plant pathogens into the operations area is important to maintain the current level of condition of the land. The weeds likely to exist on the land are those which are generally brought in by stock and machinery.

4.4.1 The area surrounding the mine site is prime cropping country, one of the best in South Australia. Crops grown are hay, wheat, barley, canola, legumes and peas. To achieve a good return on their crops, farmers need to ensure they are completely free from noxious weeds and seeds. Refer ***Fodders Trading Standards 5 2012/13.***

4.4.2 The following photograph is of the weed infested entrance site at the McLaren Vale mine clearly showing a substantial weed problem over a period of time that has not been remedied to eliminate these weeds.



4.4.3 Causes of Weeds and Pests.

- No viable noxious weed and pest control programs
- Noxious weeds growing around the mine site
- Spread of noxious weeds from the mine site
- Noxious weeds being transferred by mine equipment and truck movement
- Rabbits breeding on the mine site
- Foxes using the mine site as a habitat

4.4.4 Concerns of Weeds and Pests.

- **Weed Propagation**
- **Weed transfer**
- **Rabbits/Foxes**
- **Use of Pesticides/Herbicides**

4.4.5 Potential Impacts.

i. **Weed Propagation.**
If weeds are allowed to grow rampantly on the mine site and adjacent areas controlled by the mining operator these weeds would infest the neighbouring cultivated areas reducing the productivity of the farming community.

ii. **Weed Transfer.**
If weeds are bought in by mining equipment and vehicles from other areas, exotic weeds not related to the area will bring further pressure on the farming community to eradicate these noxious weeds.

iii. **Rabbits/Foxes.**
These pests are known to the area and cause farming land destruction if not controlled.

iv. **Use of Pesticides/Herbicides.**
The use of these chemicals about the mine site may have an effect on public health and crops adjacent to the mine site. Run-off from the site containing these chemicals could damage the environment.

The MLP Risk Matrix indicates a rating for Weeds and Pests as "Minor" with a likelihood of consequences at Category 1 as "Rare/Low. This submission rates the effect as "Major" and Category 4 as "Likely/Medium".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.5 Soil

MLP Soil Context:
Topsoil is a critical factor in re-vegetation and its value lies in its structural properties, micro-organisms and seed store. It is therefore important to retain any topsoil/sub layers on site for rehabilitation. Without correct retention and storage of soils there is a risk of rehabilitation being ineffective.

4.5.1. Kara Resources in their Context above has acknowledged the importance of topsoil in revegetation and rehabilitation. They propose to strip the top soil of the working areas and it appears that the top soils and overburden will be used together to form bund walls as described in their Site Map, Page 14. They further state that the top soils will be retained for rehabilitation of the site at a later date.

4.5.2 Concerns of Soil.

- **Dust**
- **Weather**
- **Erosion**
- **Sterilization of Soil**
- **Inspections**
- **Weeds and Pests**
- **Rehabilitation Process**

4.5.3 Potential Impacts.

i. **Dust.**
As the soils will be used in the bunding of the site, dust generated from the bunding will be a concern unless preventative measures are undertaken. Dust from the mine has the potential to increase the alkalinity of the soil to a pH of 9. It can also increase the magnesium levels in the soil. This will decrease productivity of the soil in the rehabilitation stage.

ii. **Weather.**
There will be considerable damage to soil structures as a result of sun, wind and rain over a long period. This would reduce the soils capability to regenerate vegetation if and when it is used in future rehabilitation.

iii. **Erosion.**
Without effective measures in place to stop erosion, the top soils can leave the site by wind and water thus contaminating the site, areas around the mine site and the creek and Catchment Systems. Erosion would cause the bund walls to be reduced resulting in increased noise, decreased visual amenity and reduction of top soil for eventual rehabilitation.

iv. **Sterilization of Soil.**
When the top soils and overburden are placed in the bund walls together, this will cause the soil to reduce its growth potential due to differences in soil quality.

v. **Inspections.**
There is no reference to inspections relating to the topsoil bunds where weather events (wind and rain) will affect their stability and indicate whether any soil has been removed from the stockpile.

vi. **Weeds and Pest.**
The topsoil bunds are ideal locations for weeds and pests to proliferate without control measures.

vii. **Rehabilitation Process.**
The rehabilitation process will require considerably more topsoil than has been taken out at the original clearing of the site for Stage 1.

The MLP Risk Matrix indicates a rating for Soil as "Negligible" with a likelihood of consequences at Category 2 as "Rare/Low. This Submission rates the effect as "Major" and Category 4 as "Likely/Medium".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.6 Waste Disposal

MLP Waste Disposal Context:
Waste (domestic or industrial) is a by-product of human activity in a natural environment and is unavoidable in some cases if there is no recycling component. The only waste component on site will be overburden from quarrying operations; this will be returned to reform the site under rehabilitation (this is not considered domestic or industrial).

4.6.1 Kara Resources indicates at page 20, wastes are overburden, processing wastes, industrial and domestic wastes within the Context of this Proposal. Section 2.8.3 indicates there will be minimal industrial or domestic wastes produced on the site. The Context above indicates that the only waste component on the site will be overburden from quarrying operations.

4.6.2 **Concerns of Wastes.** The four (4) wastes that are of concern are:

- **Overburden**
- **Processing Wastes**
- **Industrial Wastes**
- **Domestic Wastes**

4.6.3 **Potential Impacts.**

i. **Overburden.**
As stated, approximately 10,000 tonnes plus will be used in bund walls and overburden stockpiles within the mine site. Unless these bund walls and stockpiles are maintained wind, rain, weeds and pests will cause an environmental impact on the mine site, surrounding areas, creeks and Catchment Systems.

ii. **Processing Wastes.**
Kara Resources indicates on **page 20** that there will be no wastes except rock and soil overburden.

iii. **Industrial Wastes.**
Industrial waste on this site is likely to be from fuel and oil spillage whilst servicing mining and crushing equipment, generator and from fuel storage areas. There are no actions provided in the MLP to counteract this environmental concern.

iv. **Domestic Wastes.**

Approximately 400 truck movements are indicated per week at the mine site and this would be a major impact on the rubbish and toilet waste generated by these drivers coupled with other contractors and proposed workers on site. **Accommodation, Section 2.9.2, Page 21** indicates there will be a mobile toilet (Environ-cycle) in place to service employees. Domestic Waste disposal is minimal in the extreme considering the number of persons involved with the mine site. This is of concern as the surrounding rural roads and areas in proximity to the mines may be used as a receptacle for environmental waste including packaging, drink containers and toilet wastes.

The MLP Risk Matrix indicates a rating for Waste Disposal as "Negligible" with a likelihood of consequences at Category 2 as "Rare/Low. This Submission rates the effect as "Major" and Category 4 as "Likely/Medium".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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4.7 Surface Water (Stormwater)

MLP Surface Water (Storm water) Context:
The main route by which contaminated water can escape an operation is in surface water from rainfall events as either dissolved or suspended matter. This site has no water activities and all rainfall entering the site will dissipate into the porous surface of the land or be captured within the quarry operations area.

4.7.1 Kara Resources in the context above indicates there are no water activities entering the site (see also Hydrology Page 12). However, the MLP Site Maps, Page 14 and 46 indicates a creek flowing west from the high point 390 crossing Schwarz Road and onto Mineral Claim 4322 just north of the proposed Stage 1. It then flows across Nain Road into the Walker Creek Catchment System. Also a second creek flows across Schwarz Road and then bisects the area north of the Mineral Claim 4322 and then across the Old Kapunda Road into the Walker Creek Catchment System. Further creeks emanate from the high point 390 flowing south west into the Walker Creek Catchment System then into the North Para River.

The North Para River Catchment is one of the key drainage basins in the northern Mount Lofty Ranges. It plays a very important role in the economy of South Australia as it provides water used by viticulture in the Barossa Valley and for livestock production, cereal cropping and recreation.

4.7.2 Causes of Surface Water (Stormwater).

- **Rain.**
  The majority of the rainfall in this area occurs from April to November and between December and March severe rain storms have been experienced. Up to 116 mm a day of rain has been recorded in the subject area.
- **Creek Flow.**
  The creeks as indicated above normally flow in the winter months from rain events in the Catchment Area to the east of the mine site.

4.7.3 Concerns of Surface Water (Stormwater).

- **Water run-off from the Mine Site**
- **Contamination of Water**
- **Public Health**

4.7.4 Potential Impacts.

i. **Water Run-off from the Mine Site.**
The MLP, page 21 including Map on page 14 indicates that in Stage 1 there will be only two (2) silt traps (between 10,000 and 20,000 litre capacity) on the mine site that will be used to capture surface run off. Due to flooding caused by rain events, these silt traps appear to be inadequate to capture all surface run off and on overflowing will allow pollutants and contaminates to flow into the Walker Creek Catchment area as well as cultivated fields located around the mine site.

ii. **Contamination of Water.**

The surface run off caused by rain flowing through the mine site will be contaminated by acidic and metalliferous run-off, silt and dust suppressants i.e. Polo Citrus Dust Suppressant (see Section 1.5, Page 10) and other pollutants and contaminates such as fuel and oil. The Biodegradable Dust Suppression Paper Polo Citrus (issue date April 2013) indicates at Page 4 that material must **NOT** enter drains or waterways.

iii. **Public Health.**

As indicated above, the MLP indicates that a Polo Citrus Suppressant System will be utilised to control and minimise both surface and processing dust omissions on the site. The Biodegradable Dust Suppression Paper (issue date April 2013) on Polo Citrus indicates at Page 2 that this product may pose a health risk of mild gastric irritation (if swallowed) and an eye and skin irritant.

If this dust suppressant is used on public roads to reduce the dust this will be a health hazard to residents living within the area, mine employees, visitors, livestock and tourists.

The MLP Risk Matrix indicates a rating for Surface Water (Storm water) as "negligible" with a likelihood of consequences at Category 2 as "Rare/low. This Submission rates the effect as "Extreme" and Category 5 as "Virtually certain/high."

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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4.8 Protection of Third Party Property

MLP Protection of Third Party Property Context:
The prevention and spread of fire will be important in this rural landscape. The likelihood of a fire being initiated at the quarry is low as most of the activities are restricted to cleared and open cut mine areas.

4.8.1 As the mine is located adjacent to "cultivated land" where highly inflammable crops are growing, it is very likely that a fire may be started by mining operations on-site.

4.8.2 **Causes of Fire**

- Uncontrolled sparks, heat and flame
- Lightning striking mining equipment
- Unsuppressed exhausts from mechanical engines on-site
- Unsuppressed exhausts on mine trucks on rural roads
- Dropped cigarettes on mine site and rural roads
- Fuel explosions
- Sparking due to dry crushing
- Instantaneous combustion of waste materials

4.8.3 **Concerns of Fire.**

- **Wild Fires**
- **Lack of Substantial Fire-fighting Equipment**
- **Total Fire Ban Days**
- **Economic/Financial**
- **Public Health**

4.8.4 **Potential Impacts.**

i. **Wild Fires.**
These can start from any of the above and are devastating to the general public, housing, surrounding cropping/grazing land, farming livestock, fauna, flora, residences, heritage sites and the general environment.

ii. **Lack of Substantial Fire-fighting Equipment.**
Due to a fire being started by any of the above causes there is a serious lack of substantial fire-fighting equipment at the mine site which could result in a serious wild fire emanating from the mine and decimating the surrounding country side.

iii. **Total Fire Ban Days.**
The MLP makes no mention on whether the mine will operate on total fire ban days, because of the temperature, humidity, dryness, wind direction and velocity.

iv. **Economic/Financial.**
As a result of fire, the landowners affected by it would suffer economic and financial loss as burnt crops and livestock are expensive to replace and in some cases they may not recover from this loss.

v. **Public Health.**
Persons affected by fire where there are severe losses, suffer from emotional, mental and physical stress which could last for a life time.

The MLP Risk Matrix indicates a rating for Protection of Third Party Property as "Negligible" with a likelihood of consequences at Category 2 as "Rare/Low". This Submission rates the effect as "Major" and Category 5 as "Likely/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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4.9 Visual Amenity

The MLP Visual Amenity Context:
The reduction of visual impacts from operations is paramount to a successful term of tenure. As the area is used for farming there is no **public amenity** that would be affected by the operation. Eventually the excavation will be hidden within the hill and not be visible. Stockpiles will be low profile with overburden in mounds around the open area and perimeter near by the operations.

4.9.1 Families and individuals have moved to this area to enjoy a relaxed, quiet and stress free lifestyle provided by a country atmosphere, rolling hills, cultivated fields and views of the Barossa and to Adelaide and beyond.

4.9.2 **Remote Location.**
The site is **NOT** in a remote area (see **Context, Page 3**) as there are eighteen (18) occupied residences within a 2 km radius of the proposed mine site. The townships of Greenock, Daveyston and Freeling with an approximate population of 2,503 are located within 5.2 km. There are also a large number of occupied farms, houses and businesses within that 5.2 km radius.

4.9.3 **Concerns of Visual Amenity.**

- **Loss of scenic and landscape value**
- **Public Amenity**
- **Dust**
- **Real Estate Property Values**

4.9.4 **Potential Impacts:**

i. **Nearest Residents.**
The ***Visual Analysis Report on Nearest Residents*** (refer **MLP page 22**) does not include 202 Nain Road (occupied dwelling), 193 Nain Road (occupied dwelling) and the Nain Lutheran Church - all within 1.2 kms of the proposed mine. These properties will overlook the mining operations and have uninterrupted views of the mining activities by sight and sound. However, the **MLP Context, Page 33** states there is "No negative visual impacts on the landscape from mining operations.

No amount of visual screening by bund walls will alleviate visual impact of the mining operations for those residences located at 193 and 202 Nain Road as well as the Lutheran Church, located on the high side of Nain Hill overlooking the mine. Further residences as stated in the Report on Page 33 will also have visual sight of mine activities.

The mining operation whilst it remains on the surface are will be seen by farm residents, persons driving on the Thiele Highway and residents of eastern Freeling. Their properties will also lose scenic and landscape value.

ii. **Public Amenity.**

The MLP, Page 10 indicates that no public amenity will be affected or impacted upon by this operation. The location of mine is situated on the Nain Road about 1.2 kms downhill from the Nain Lutheran Church, a "public amenity. Therefore, this historic, heritage listed building will lose scenic and landscape value.

iii. **Dust.**

The dust generated by the mine will affect the visual and landscape amenity of residences nearby and in the surrounding area as the dust will be seen as it is carried in all directions from the mine by the wind.

iv. **Real Estate Property Values.**

Properties located nearest to the mine will certainly see their property values drop as a result of the mine being in the area.

- The property located at 232 Nain Road (approx. 1 km away from the SE boundary) although not located high on the Nain Hill will see their land devalue.
- The properties at 202 and 193 Nain Road and the Nain Lutheran Church will be affected. In particular, 202 Nain Road as this property has uninterrupted views toward the mine site from most external areas of the property and from their dining/lounge room and patio area. Currently they have excellent views overlooking the cultivated fields toward the Spencer Gulf. If the mine is approved, their scenic value will be greatly diminished resulting in their property being devalued.

The MLP Risk Matrix indicates a rating for Visual Amenity as "Negligible" with a likelihood of consequences at Category 2 as "Rare/Low". This Submission rates the effect as "Extreme" and Category 5 as "Virtually Certain/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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4.10 Noise

MLP Noise Context:
Noise and operational activities are important to manage to minimise public and neighbourhood impacts. Fortunately this site is in a **remote area** and issues will be negligible. The activities will be no greater than that which emanates from surrounding farming and road traffic activities.

4.10.1 Noise in our environment tends to increase as our world advances thus becoming a significant environmental issue.

4.10.2 **Remote Area.** The area in question is not located in a "remote area".

4.10.3 **Concerns of Noise.**

- **Dry Crushing and Screening**
- **Blasting**
- **Blast hole drilling**
- **On Site vehicle/equipment**
- **Off-site Transport**
- **Road Upgrade/maintenance**
- **Intruder Alarm System**
- **Noise Outputs**
- **Individuals with special needs**
- **Public Health**

4.10.4 **Potential Impacts.** The following noise impacts that will expected from Stage 1 of the mine operations are:

i. **Dry Crushing and Screening Plants.**
The dry crushing of rock at the mine site from 0630 to 1730 hours, six (6) days per week will cause considerable noise which will be heard in the surrounding areas and projected with the wind direction. At the beginning of mining operations, the crushing and screening plants will be located at ground level which will not reduce the continuous noise and Kara Resources have not indicated when the crushing and screening operations will be placed into the pit. This noise will also be enhanced by the amphitheatre effect of the location, bund walls and surrounding hills. The MLP fails to indicate the continuous noise outputs of the dry crusher and screening plants and the acceptable noise level at the nearest residence to the mine.

ii. **Blasting.**
As stated in the MLP, blasting may occur once or twice a month or as required. With the amount of rock to be crushed, it indicates that blasting will occur more frequently to meet client demands. With up-to-date blasting methods the sound should be reduced to the local area but this noise will still be radiated due to the amphitheatre effect and wind.

iii. **Blast Hole Drilling.**
The MLP indicates that the daily output of the crushing plant would be in the vicinity of 2,000 tonnes and this would indicate that more blasting would be necessary to fill this objective. Therefore more blast hole drilling will be required to have areas prepared for blasting. The MLP further indicates that the noise level of the drill rig will be <110Db. This would indicate that the drilling would be a daily occurrence and further increase the noise levels from the site affecting close by residences and businesses where the noise levels should be evaluated.

iv. **On-Site Vehicles/Equipment.**
The noise generated by dump trucks, loaders, mine vehicles and Gen-set/compressor will also add to the increase in noise levels generated at the mine site. Unacceptable vehicle noise will be generated by mine vehicles reversing about the site with the extremely noisy beeping from this operation. This noise is extremely penetrating and can be heard over long distances.

v. **Off-Site Transport/Road Upgrades/Road Maintenance.**
Due to the substantial increased traffic volume of trucks carrying mine product and road maintenance equipment, the noise from these vehicles and their engines would be considered an unacceptable noise pollutant to this pristine rural environment.

vi. **Intruder Alarm System.**
If an intruder alarm system is installed, the alarm will cause a continual and unnecessary noise

vii. **Noise Outputs.**
The MLP indicates that noise outputs will be within EPA noise levels of <110Db at the site. Noise requirements under the EPA 424/13 referring to Industrial and other non-domestic noise state that under Land use Category "Rural Living" noise levels for where a person lives or works do not exceed 47 Db and for residential not exceeding 52 Db.

viii. **Individuals with Special Needs.** There are a number of families living in the area that have siblings with Autism. Although incredibly variable, noise can be a challenge to both the individual and family in general. Below are two challenges that face them:

- Unusual responses to sensory input including intense interest in or intense aversions to sounds and movement.
- Unusual or challenging behaviours in response to their confusion and stress.

These families, as a result of the mine opening will have to move for the sake of their siblings. This is a huge impact for these people as they moved to this area for the peaceful and quiet lifestyle.

ix. **Public Health:** The high noise levels produced by the mine and associated activity will have an impact on individuals work, leisure and sleep. This health issue of noise may cause further health problems for persons in the long term.

MLP Risk Matrix indicates a rating for Noise as "Negligible" with a likelihood of consequences at Category 2 as "Rare/Low". This Submission rates the effect as "Extreme" and Category 5 as "Virtually Certain/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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4.11 Dust

MLP Dust Context:
Dust leaving the site can be an issue for close proximity receptors; fortunately there are none. Dust generations from quarrying processes are localised. Activity that produces a high degree of dust will not occur on high wind days. This operation will not pose any increased risk to air quality. The site is situated inside a large exposed paddock. The dust created from quarrying is negligible compared to regional dust generated by farmland and public use of roads. The site is a tiny dot on the landscape with respect to regional dust generation.

4.11.1 The MLP indicates above that dust leaving site can be an issue. They indicate there are no close proximity receptors which will be affected by dust but there are approximately eighteen (18) occupied residences within two (2) km of the proposed mine who will be affected by dust.

4.11.2 There is very little dust generated by "no-till" farming and public use of roads in the area.

4.11.3 The mine site will located at ground level in a "cultivated field" where the mining operation, crushing, screening, drilling, vehicle movement and blasting will cause substantial dust to be generated into the air.

4.11.4 **Concerns of Dust.**

- **Dry Crushing and Screening Plants**
- **Blasting**
- **Blast Hole Drilling**
- **On-Site Vehicles/Equipment**
- **Off-Site Transport/Road Upgrades/Road Maintenance**
- **Topsoil/Overburden/Mine Product**
- **Wind**
- **Crop Quality**
- **Farm Equipment**
- **Livestock**
- **Loss of Visual Amenity**
- **Public Health**
- **Dust Suppressants**
- **Water**

4.11.5 Potential Impacts.

i. **Dry Crushing and Screening Plants.**
The dry crushing of rock at the mine site from 0630 to 1730 hours, six (6) days per week will cause considerable dust which will be affect the surrounding areas and move with the prevailing wind direction and local gully winds. At the beginning of mining operations, the crushing and screening plants will be located at ground level where the dust will be able to leave the site without any impediments.

ii. **Blasting.**
As stated in the MLP, blasting may occur once or twice a month or as required. With the amount of rock to be crushed, it indicates that blasting will occur more frequently to meet client demands. With up-to-date blasting methods the dust should be reduced to the local area but in dust will be generated and this will be spread outside the mine site by the prevailing and gully winds.

iii. **Blast Hole Drilling.**
The MLP indicates that the daily output of the crushing plant would be in the vicinity of 2,000 tonnes and this would indicate that more blasting would be necessary to fill this objective. Therefore more blast hole drilling will be required to have areas prepared for blasting. Blast hole drilling also produces dust and this will spread outside the mine site by the prevailing and gully winds.

iv. **On-Site Vehicles/Equipment.**
The dust generated by dump trucks, loaders and mine vehicles will also add to the increase in dust levels generated at the mine site. This dust will also be spread outside the mine site by prevailing and gully winds.

v. **Off-Site Transport/Road Upgrades/Road Maintenance.**
Due to the substantial increased traffic volume of trucks carrying mine product and road maintenance equipment, dust will be generated from these vehicles on the access roads to the mine. This dust will also be spread to cropping and grazing lands by prevailing and gully winds.

vi. **Top Soil/Overburden/Mine Product.**
The top soil, overburden and mine product located about the mine area is vulnerable to prevailing and gully winds removing these by way of dust. This wind borne dust can be blown in any direction creating problems across the area.

vii. **Wind.**
During the year, the wind direction is associated with the different weather systems that prevail at that time. During the winter months the prevailing winds are predominately south-westerly and during the summer months the winds change from north-west to south east. The wind strength can be more than 100 kph on occasions and would increase the amount of dust blown about the area.

viii. **Crop Quality.**
The area in question is prime cropping country, one of the best in South Australia. Crops grown are hay, wheat, barley, canola, legumes and peas. To achieve a good return on crops, farmers must abide by the requirement outlined in the Fodder Standards 2012/13 in particular the requirement that the crop shall be "substantially free" from dust. Dust from the mine would decrease the value of the crop and the farmer would suffer an economic loss.

ix. **Farm Equipment.**
Dust and grit contamination in crops will cause a substantial increase in wear and tear of the cutting blades and plant/equipment. Dust from the mine would incur further costs in the production of crops.

x. **Livestock.**
Airborne dust being blown across grazing property within the area and landing on livestock, particularly sheep would greatly devalue the wool at shearing because of level of dust in the fleece.

A landowner in close proximity to the proposed mine site breeds bloodstock horses which require high quality hay. Therefore, paddock grass and feed hay is required to be free from dust for good fodder for the horse. Dusty and mouldy hay may even do the horse harm, and its overall poor quality might bring on a case of hay-induced colic.

xi. **Loss of Visual Amenity.**
The dust generated by the mine will affect the visual and landscape amenity of residences nearby and in the surrounding area as the dust will be seen as it is carried in all directions from the mine by the wind.

xii. **Public Health.**
The high dust levels produced by the mine and associated activity could have an impact on the health of nearby residents (i.e. breathing, eye and skin conditions). Extended contact with dust could cause health problems in later life.

xiii. **Dust Suppressants.**
One of the major pollutants emitted by this mine is dust. Of particular concern, is the use of a Polo Citrus Dust Suppression Systems to control and minimise both surface and processing dust (refer also **Section 1.5, page 10**). The Paper on "Biodegradable Dust Suppression" (issue date April 2013) page 2 indicates that the chemical can cause mild gastric irritation (if swallowed) and is an eye/skin irritant.

xiv. **Water.**

To use dust suppressants at the mine site and roadways, water will be required to enable the suppressant to operate correctly and effectively.

The MLP, Page 22 states that it will only be sourced if necessary indicating that water would not be used to reduce the dust by the mine and associated roads. This is confirmed by the MLP, Page 19 which states that there will only be water storage of 22,000 litres and a water truck on site as required. If water were to be used to assist dust suppressants it would need substantially more water than they presently intend to use.

SA water piped to the area for use by residents and farm activities is considered to be residential water and is of low pressure. At times there has been no stock water in troughs for livestock within the area. Should the mining operation take SA water this could have serious implications for the surrounding communities.

MLP Risk Matrix indicates a rating for Dust as "Negligible" with a likelihood of consequences at Category 2 as "Rare/low". This Submission rates the effect as "Extreme" and Category 5 as "Virtually certain/high".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

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- **Pink represents an MLP/Submission agreed rating**

4.12 Blasting Vibration

MLP Blasting Vibration Context:
Blasting is required and is distant from any receptor. Blasting will not pose a risk to the public infrastructure or residences. Blasting will be conducted as per Section 2.5.2 Use of Explosives.

4.12.1 Kara Resources have indicated that blasting will occur on week days around noon with one (1) to two (2) blasts per month.

4.12.2 They indicate that blasting is distant from any receptor.

This is not true as there are approximately eighteen (18) occupied residences within a 2 km radius of the proposed mine site. The townships of Nain, Greenock, Daveyston and Freeling with an approximate population of 2,503 are located within 5.2 km. There are also a large number of occupied farms, houses and businesses within that 5.2 km radius.

4.12.3 **Causes of Blasting Vibration.**

- Blasting Concussion Airwaves
- Ground Vibration

4.12.4 **Concerns of Blasting Vibration.**

- **Heritage Listed Sites**
- **Livestock/Pets/Fauna**
- **House Foundations**
- **Disturbances**
- **Individuals with Special needs**

4.12.5 **Potential Impacts.**

i. **Heritage Listed Sites.**
The four (4) listed heritage sites located in close proximity to the mine site may be affected by blasting vibration/concussion waves which can damage structure foundations, walls and associated building works. These buildings have stood for many years and are listed as Heritage Sites with all the covenants to maintain their status.

ii. **Livestock/Pets/Fauna.**
Blasting vibration will be felt by livestock, pets and fauna and cause them to scatter and injure themselves by running into solid objects i.e. fences, cars etc.

iii. **House Foundations.**
There are houses and structures within the area of the mine site where their foundations, walls associated building works may be disturbed or damaged as a result of blasting vibration.

iv. **Disturbances.**
Vibration has the ability to travel great distances particularly in this open rural setting because of the soil types and rock structures. Therefore, residents in Nain, Greenock, Daveyston and Freeling communities and surrounding areas may feel the effects of concussion and vibration.

v. **Individuals with Special Needs.**
There are a number of families living in the area that have siblings with Autism. Although incredibly variable, blasting vibration can be a challenge to both the individual and family in general. Below are two challenges that face them:

- Unusual responses to sensory input including intense interest in or intense aversions to sounds and movement.
- Unusual or challenging behaviours in response to their confusion and stress.

These families, as a result of the mine opening will have to move for the sake of their siblings. This is a huge impact for these people as they moved to this area for the peaceful and quiet lifestyle.

The MLP Risk Matrix indicates a rating for Blasting Vibration as "Negligible" with a likelihood of consequences at Category 2 as "Rare/low". This Submission rates the effect as "Severe" and Category 5 as "Virtually Certain/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.13 Native Vegetation

MLP Native Vegetation Context:
Retention and preservation of native vegetation is paramount for a healthy environment and to provide habitat. This site has been cleared for farming and has been used for grazing for many years. Native vegetation along the roadways/access points will be avoided. The preservation of roadside vegetation (although just olives) is a benefit in screening the operations. No clearance application is required under the Vegetation Act 1991. The two aging gum trees located on EML5686 will be considered for removal if and when required (stage 2 only). Mining will not reach this point for some time.

4.13.1 Native vegetation is crucial for the health of our environment supporting agricultural productivity as well as the biodiversity that is central to our nation's cultural identity.

4.13.2 Native vegetation:

- Controls erosion through protecting soils and creek banks
- Reduces land degradation and salinity
- Helps to improve air, water and soil quality and availability
- Provides habitat for our fauna

4.13.3 Light Regional Council advises there is Category four (4) remnant vegetation existing along Nain Road including: Eucalyptus Leucoxylon, Acacia Paradoxa, Vittidinia spp., Themeda Triandra, Stipa spp., Danthonia spp., with verges overgrown with feral olives.

4.13.4 The MLP does not address roadside vegetation which will be required as a result of the roads having to be upgraded.

4.13.5 **Concerns of Native Vegetation.**

- **Road Upgrades**
- **Erosion**
- **Air Quality**
- **Water Quality**
- **Fauna**

4.13.6 **Potential Impacts.**

i. **Road Upgrades.**
Roadway native vegetation would need to be removed as part of the road upgrades along Nain and Old Kapunda Roads. Further native vegetation removal may also be required along the proposed heavy vehicle route due to line of sight issues. If this is the case, and vegetation is on private land Kara Resources would require a Native Vegetation Council Assessment.

ii. **Erosion.**
Any removal of native vegetation along the roadside has the potential to cause erosion and affect soil quality which in turn will effect of quality of productive farmland. This will need to be addressed.

iii. **Air Quality.**
Due to the dust being generated by mine operations, dust will be dispersed throughout the area causing a lowering of air quality which will affect the native vegetation.

iv. **Water Quality.**
As the area around the mine is part of the Walker Creek Catchment area any polluted run-off into the streams and flats could destroy the native vegetation.

v. **Fauna.**
The removal of native vegetation takes away native fauna habitats in the region. This would need to be addressed by planting other species of trees and vegetation.

The MLP Risk Matrix indicates a rating for Native Vegetation as "Negligible" with a likelihood of consequences at Category 2 as "Rare/low". This Submission rates the effect as "Minor" and Category 5 as "Likely/Medium".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

4.14 Rehabilitation

MLP Rehabilitation Context:
The rehabilitation and returning the site back to a land use which is comparable and compatible with former landscape conditions is paramount. The land must be environmentally sustainable and similar to the prior regimes of activity; that is farming. This mining operation will lower the existing hill to a flatter area for cropping and grazing. The design of the new landscape is illustrated in the survey plans.

4.14.1 Rehabilitation relates to the processes to repair the impacts of mining at the mining site. The long-term objective for Kara Resources is to restore the pre-mining conditions as closely as possible to support the future sustainability of the cropping on the site.

4.14.2 The **MLP, Page 17** indicates that the land will be restored to the landowner in a similar condition as was in place prior to mining, a cleared paddock. The estimated closure date is around 2100. They go on to say that:

- The rehabilitation of the landscape will require basic methods. The land surface will be left in a similar landform to the surrounding landscape. Operations will return the land to cropping progressively as the area is mined out.

- The re-shaping of the land surface will be undertaken at various stages during the term of the lease. In final rehabilitation the last worked out areas will be re-contoured to blend with the surrounding natural topography and sown to pasture.

- Decommissioning will only require the removal of mobile crushing and screening plant, normal infrastructure, machinery and equipment. The quarry operators will liaise with the landowner, DMITRE, consultants to ensure that compliance is met and there is no long term environmental, social or community issues remaining.

- The **MLP, Page 14** states that the "Progressive rehabilitation of the site will commence when a large enough working area (approx. 3.5 hectares, but will depend on final benching closures) is readily available, and will follow mining in a westerly direction. The overburden and soils will be replaced in original profiles and the site returned to cropping and grazing".

4.14.3 **Concerns of Rehabilitation.**

- **Size of Mine at Closure**
- **Lack of Soil and Overburden**
- **Progressive Rehabilitation**
- **Final Levels of Mine Site**
- **Contamination of Water**
- **Topsoils, Weeds and Pests**
- **Planning for Rehabilitation**

4.14.4 Potential Impacts.

i. **Size of Mine at Closure.**
It is an unknown factor as to the size of the mine when Kara Resources decide to cease mining at this site. They could cease mining in five (5) years or go on to 2100 as stated.

The eventual size of the mine site could be in an area of approximately 80 hectares or it may have expanded following the dolomite sub-strata. The depth of the mine, at closure, could be 48 metres as stated but also could be subsequently deeper.

ii. **Lack of Soil and Overburden.**
The amount of soil and overburden required to rehabilitate the mine area is unknown as the size of the mine is also unknown.

iii. **Progressive Rehabilitation (refer Page 14).**
Progressive rehabilitation may not occur because this depends on final benching closures which may not happen due to future requirements of rock from those areas.

iv. **Final Levels of Mine Site (refer Page 17).**
As this is an unknown factor, how can Kara Resources say ".... the area will be left fairly flat or a shallow depression with the final levels graded to natural drainage flows, catchment criteria and landowner requirements", returned for cropping and grazing?

v. **Contamination of Water (refer Wastes, Page 20).**
The surface run-off around the mine and from creeks caused by rain and water run-off from areas within the mine will be directed into the crater formation of the workings. This water will be contaminated by acidic and metalliferous run-off, silt, dust suppressants and other pollutants and contaminates such as fuel and oil.

vi. **Topsoils, Weeds and Pests.**

If Kara Resources have not undertaken effective management of top soils, weeds and pests during the operations phase this is going to pose a serious problem in the Closure Phase of their Rehabilitation Program. The top soils may be infertile, with a large toxic noxious seed bank in place and pests may have infected the top soils. This will cause a serious problem for the farmer to utilise the rehabilitated land.

vii. **Planning for Rehabilitation.**
Kara Resources has not provided a full document on the Rehabilitation Plan outlining full and meaningful consultation with the landowner and local community as to the impacts of the rehabilitation phase of this mine. A major concern is that there is no evidence that Kara Resources has "Closure Criteria" to demonstrate the success of rehabilitation.

The MLP Risk Matrix indicates a rating for Rehabilitation as "Negligible" with a likelihood of consequences at Category 3 as "Low". This Submission rates the effect as "Extreme" and Category 5 as "Virtually Certain/High".

Risk matrix			Likelihood of consequences				
			1	2	3	4	5
			Virtually impossible	Rare	Unlikely	Likely	Virtually certain
Severity	E	Negligible effects	Low	Low	Low	Low	Low
	D	Minor effect	Low	Low	Medium	Medium	Medium
	C	Major effects	Medium	Medium	Medium	Medium	High
	B	Severe effects	Medium	Medium	Medium	High	High
	A	Extreme effects	Medium	Medium	High	High	High

- **Green represents MLP Risk Matrix rating**
- **Blue represents this submissions rating**
- **Pink represents an MLP/Submission agreed rating**

5. SOCIAL, ECONOMIC AND ENVIRONMENTAL BENEFITS

Social:
This business venture and investment will make a huge social contribution to the district by incorporating other small and large business growth. This long term project will help provide new opportunities for employment and growth in this rural region.

5.1 Kara Resources have not provided any justification regarding the above sweeping statements. The real concern is that it will create implications for the cultivated lands located in this States prime cropping land. It is a fact that if this mine goes ahead and does not conduct its business correctly it may ruin cropping productivity and farmers businesses in this area. Then where is the growth.

What other new opportunity for employment and growth does Kara Resources predict that will benefit the community?

Economic:
Kara Resources, the operators, will receive positive financial benefit and sustainability for their company and employees, and will also ensure that the State's and local developments are cost effective. It is important to have the resources close to new construction and building projects rather than increasing the distance travelled. With Adelaide's future growth being indicated to the north of the CBD, this site will provide this ever expanding northern area with competitive products for the next 50 years and beyond. Other local construction businesses will prosper by this resource and in turn will employ more people. The State Government and landowners will receive royalties from this new site.

5.2 It is agreed that MSG Group (including Kara Resources) will receive positive financial benefit and sustainability for their company. That is what people are in business for. However, one should not forget the fact that while Kara Resources may benefit if this proposal is approved other South Australian businesses i.e. our farming community who have working in the location for years and wish to maintain their "positive financial benefit and sustainability" also, are not jeopardised.

Environmental:
Availability of a local materials source will reduce transport costs and thus also reduce the carbon footprint of the industry. The area will be reinstated to cropping/grazing land in a form that is similar to that which occurred prior to quarrying. The original environmental benefits will remain, with improved productivity for the landowner.

5.3 Kara Resources has not demonstrated in the MLP that they going to involve any local companies/businesses in procuring materials to support their mining operation.

6. SUMMATION

6.1 This is a Mining Lease Proposal MC4322 which contains information that is inconsistent, inaccurate and misleading. Throughout the document, it projected to the reader that the mine site was in a remote/secluded location and there were no close receptors.

6.2 It involved a process of advising stakeholders of the Proposal by sending selected residents a letter on 25 October 2013 and offering them to submit written submissions to Kara Resources by the 29 November 2013.

6.3 Unbeknown to those residents, the MLP was signed off on 22 November 2013 with DMITRE receiving it on 26 November 2013. This was seven (7) days before the Kara Resources scheduled closing date for submissions which was the 29 November 2103. This action demonstrated a lack of due process and respect for the consultation phase.

6.4 Stakeholders living outside the 2 km radius were not included in the above process.

6.5 Requesting feedback through a letter is not regarded sufficient to effectively complete a Risk Matrix. Consultation with all stakeholders is required to effectively rate the Risk Matrix.

As this did not occur, the Kara Resources Risk Matrix is flawed due to:

- **Inaccurate information**
- **lack of local knowledge**
- **Issues/concerns of the local community not taken into account**
- **No impact studies were supplied to support major issues i.e. traffic movement, noise, dust, blasting and rehabilitation**

6.6 As shown by this report, the operations of this proposed mine will impact severely on the community with dust, noise etc. while Kara Resources receives positive financial benefit and sustainability. Consideration should also be given to the residents and farmers so they are not disadvantaged socially, economically and environmentally.

7. RECOMMENDATION

The recommendation of this Submission is provided below:

THAT MINING LEASE PROPOSAL MC4322

(INCORPORATING EML 5686)

IS NOT ACCEPTED AND THE MINE DOES NOT GO AHEAD.