Environmental Assessment Report

Expansion of Level 1 Quarry at Mining Lease 1882P/M

Faheys Lane, Lake Mikany, Irishtown

MJ & LM House

The Board of the Environment Protection Authority
December 2012
### Environmental Assessment Report

<table>
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<tr>
<th>Proponent</th>
<th>MJ &amp; LM House</th>
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<tr>
<td>Proposal</td>
<td>Expansion of Level 1 Quarry at Mining Lease 1882P/M</td>
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<tr>
<td>Location</td>
<td>Faheys Lane, Lake Mikany, Irishtown</td>
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<tr>
<td>NELMS no.</td>
<td>8646</td>
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<td>DA number</td>
<td>DA12/97</td>
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<td>H111323</td>
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<td>Class of Assessment</td>
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### Assessment process milestones

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>14 September 2011</td>
<td>Notice of Intent submitted</td>
</tr>
<tr>
<td>18 October 2011</td>
<td>EER Guidelines issued</td>
</tr>
<tr>
<td>4 October 2012</td>
<td>Permit application submitted to Council</td>
</tr>
<tr>
<td>9 October 2012</td>
<td>Application received by Board</td>
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<tr>
<td>20 October 2012</td>
<td>Start of public consultation period</td>
</tr>
<tr>
<td>3 November 2012</td>
<td>End of public consultation period</td>
</tr>
<tr>
<td>30 November 2012</td>
<td>Supplementary information submitted to Board</td>
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### Acronyms

<table>
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<th>Description</th>
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<tr>
<td>Board</td>
<td>Board of the Environment Protection Authority</td>
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<tr>
<td>EER</td>
<td>Environmental Effects Report</td>
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<tr>
<td>DPIPWE</td>
<td>Department of Primary Industries, Parks, Water and Environment</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental impact assessment</td>
</tr>
<tr>
<td>EMPC Act</td>
<td><em>Environmental Management and Pollution Control Act 1994</em></td>
</tr>
<tr>
<td>EPBC Act</td>
<td><em>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</em></td>
</tr>
<tr>
<td>LUPA Act</td>
<td><em>Land Use Planning and Approvals Act 1993</em></td>
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<tr>
<td>SD</td>
<td>Sustainable development</td>
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Report summary

This report provides an environmental assessment of MJ & LM House’s proposed expansion of a Level 1 quarry at Mining Lease 1882P/M.

The proposal involves the increased production from less than 5,000 cubic metres per year to a limit of 20,000 cubic metres, at a quarry located at Faheys Lane, Lake Mikany, near Irishtown, on the north west coast of Tasmania. The quarry operation involves the extraction of gravel material for dairy farm lane construction; it does not involve screening, crushing or blasting.

This report has been prepared based on information provided by the proponent in the Environmental Effects Report (EER) and EER Supplement. The advice of relevant Government Agencies and the public has also been sought and considered as part of this assessment.

On 12 November 2012, the Director requested that the applicant submit supplementary information to government agencies’ (including DPIPWE) comments on the EER. The EER supplementary information was submitted by the applicant on 30 November 2012.

Background to the proposal and details of the assessment process are presented in Section 1 of this report. Section 2 describes the context of this assessment. Details of the proposal are contained in Section 3. Section 4 reviews alternative sites and management options. Section 5 summarises the public and Agency consultation process and the key issues raised in that process. Section 6 evaluates environmental issues. The report conclusions are contained in Section 7.

Appendix 1 contains a summary of issues raised in the consultation process. Appendix 2 contains environmental permit conditions for the proposal. Attachment 2 of the permit conditions contains the table of commitments from the EER.
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An application for a permit under the Land Use Planning and Approvals Act 1993 (LUPA Act) in relation to the proposal was submitted to Circular Head Council (Council) on 4 October 2012.

The proposal is defined as a ‘level 2 activity’ under Schedule 2 Subsection (5)(a) of the Environmental Management and Pollution Control Act 1994 (EMPC Act), being the extraction of any rock or gravel and producing 5,000 cubic metres or more of product per year. Section 25(1) of the EMPC Act required Council to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 9 October 2012.

The assessment has been undertaken by the Acting Director, Environment Protection Authority under delegation from the Board.

The Board required that information to support the proposal be provided in the form of an Environmental Effects Report (EER). Guidelines were issued to the proponent on 18 October 2011.

Two drafts of the EER were submitted to the EPA for comment prior to its formal submission. A final EER was submitted to Council with the permit application. The EER was released for public inspection for a 14-day period commencing on 20 October 2012. Advertisements were placed in The Advocate newspaper and on the EPA web site. The EER was also referred at this time to relevant government agencies for comment. No public submissions were received.

On 12 November 2012, the Director requested that the proponent prepare an EER Supplement to address government agency comments on the EER. The EER Supplement was submitted by the proponent on 30 November 2012.

The proposal must be considered by the EPA Board in the context of the sustainable development objectives of the Resource Management and Planning System of Tasmania (RMPS), and in the context of the objectives of the Environmental Management and Pollution Control System (EMPCS) established by the EMPC Act. The functions of the Board are to administer and enforce the provisions of the Act, and in particular to use its best endeavours to protect the environment of Tasmania, and to further the RMPS and EMPCS objectives.

The EPA Board must undertake the assessment of the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of the EMPC Act.
3 The proposal

The main characteristics of the proposal are summarised in Table 1. A detailed description of the proposal is provided in Section B of the EER.

Table 1: Summary of key proposal characteristics

<table>
<thead>
<tr>
<th>Activity</th>
<th></th>
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<tbody>
<tr>
<td>Intensification of quarry activity from an extraction of limit of 5,000 of gravel per annum to a limit of 20,000m$^3$ of gravel per annum.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Location and planning context</th>
<th></th>
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<tbody>
<tr>
<td>Location</td>
<td>Off Faheys Lane, Lake Mikany, Irishtown as shown in Figure 1</td>
</tr>
<tr>
<td>Land zoning</td>
<td>Rural (Circular Head S46 Planning Scheme, 1995)</td>
</tr>
<tr>
<td>Land tenure</td>
<td>Private freehold, owned by Leonie Maree and Michael John House (proponent)</td>
</tr>
<tr>
<td>Mining lease</td>
<td>1882P/M, current lease expires on 1 March 2014.</td>
</tr>
<tr>
<td>Lease area</td>
<td>15 hectares</td>
</tr>
<tr>
<td>Bond</td>
<td>The current security deposit held against Mining Lease 1882P/M is $5,500.</td>
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<table>
<thead>
<tr>
<th>Existing site</th>
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<tbody>
<tr>
<td>Land Use</td>
<td>Existing level 1 quarry and grazing.</td>
</tr>
<tr>
<td>Topography</td>
<td>The site is located on top of a small hill with a larger hill to the north.</td>
</tr>
<tr>
<td>Geology</td>
<td>Underlying rock is extremely weathered proterozoic dolerite; mudstone and shales; siltstone/quartz; shaley dolomite/mudstone; and volcanics.</td>
</tr>
<tr>
<td>Soils</td>
<td>No soil type information available.</td>
</tr>
<tr>
<td>Hydrology</td>
<td>The site is located within 200m of Deep and Muckeye Creeks. The stormwater catchment, that has a size of 3.56ha, drains into a settling pond. The pond discharges to Deep Creek, which is to the north of the site, shown in Figure 2. The land around the intersection of Deep and Muckeye Creeks is swampy. The site is located to the south east of Lake Mikany. Lake Mikany is a water supply for Irishtown and Smithton. There are no reported users of groundwater in the area nor are there registered bores on or near the site. The nearest registered bore is 1.2km to the north.</td>
</tr>
<tr>
<td>Fauna</td>
<td>No threatened fauna have been identified on the site. The surroundings are suitable habitat for the Tasmanian Devil (<em>Sarcophilus harrisii</em>), Tasmanian Wedge-tailed Eagle (<em>Aquila audax fleayi</em>) and Giant Freshwater Crayfish (<em>Astacopsis gouldi</em>). A Wedge-tailed Eagle nest, which shows evidence of use, is located 600m from the site, but is not in line of sight of the quarry. A White-bellied Sea-eagle (<em>Haliaeetus leucogaster</em>) nest is located 1.2km north of the site, but is not in line of sight.</td>
</tr>
</tbody>
</table>
### Flora

The site is bounded by native forest on all sides. TasVeg Mapping shows the vegetation on the site is of no conversation significance, and includes *Acacia melanoxylon*, *Leptospermum* scrub, *Eucalyptus obliqua* (dry forest and woodland) and broadleaf scrub.

TasVeg mapping also shows there are a number of wetlands, including Saline Grassland and Freshwater Aquatic Grassland/Sedgeland, within 500m of the property, but not within 500m of the centre of the site. Freshwater Aquatic Sedgeland and *Melaleuca erifolia* Swamp Forest is located in the riparian terrace area near the junction of Deep Creek and minor creeks to the east of the site.

An *Acacia melanoxylon* Forest occurs on rises that extend along Deep Creek and is considered to be of local significance, but is outside the mining lease boundary.

### Local region

<table>
<thead>
<tr>
<th>Climate</th>
<th>Average annual rainfall is approximately 882.6mm per annum. Wind direction is predominantly westerly with north and south westeleys sub-dominant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surrounding land and uses</td>
<td>The surrounding area is used for farming, forestry and other quarry activities. There are no residences within 1km, but five within 2km. All residences are located to the south of the site’s quarrying operations. There is one residence within ~50m of the access road, which is part of the mining lease.</td>
</tr>
<tr>
<td>Species of conservation significance</td>
<td>None</td>
</tr>
</tbody>
</table>

### Proposed infrastructure

| Major equipment | Caterpillar 950 frontend loader, Superdog truck and trailer, Caterpillar D9 Dozer. |
| Other infrastructure | There are no permanent structures on the site, and none are currently planned. |

### Inputs

| Water | A water truck will be on stand-by to wet down processing and traffic areas to minimize adverse effects from dust. |
| Energy | Fuel to operate quarry machinery and trucks. |
| Other raw materials | None |

### Wastes and emissions

| Liquid | Stormwater run off from extraction, stockpile areas and tracks. |
| Atmospheric | Dust. |
| Solid | General litter. General inert wastes such as metal waste. Topsoil and overburden. |
| Noise | Caterpillar 950 frontend loader and Caterpillar D9 Dozer are major sources of noise. No blasting, screening or crushing will occur. |
| Greenhouse gases | It is estimated that the proposal will have an emission equivalent of 28.6t CO\(_2\)-e. This is an increase to current emission of less than 0.1%. |

### Commissioning and operations

| Operating hours | 0700 to 1900 hours, Monday to Friday. 0800 to 1600 hours Saturday. |
| Project timetable | The reserve material is estimated to be 400,000m\(^3\), giving a quarry life of 20 years. Peak demand period for the quarry will be between September and May. |
Figure 1. General location and mining lease boundary. (Source: Figure 3 of the EER)
Figure 2. Proposed quarry layout (Source: Figure 9 of the EER)
4 Need for proposal and alternatives

The EER states that due to the unique nature of the site’s geology, the gravel quarried from the site is a specialised material that has been found to be suitable for dairying activities in North Western Tasmania. The EER also states that no known alternative sites have the same geology. No technical or management alternatives to the proposed operation are provided in the EER.

5 Public and agency consultation

A summary of government agency/body comments is contained in Appendix 1 of this report. The proponent’s response to those issues is contained in the EER Supplement.

The EER was referred to a number of government agencies/bodies with an interest in the proposal. Responses were received from the following:

- Department of Infrastructure, Energy and Resources (DIER) – Mineral Resources Tasmania; and
- DIER – Roads and Traffic Division.

The following Divisions/Areas of the Department of Primary Industries, Parks, Water and Environment also provided submissions on the EER:

- Aboriginal Heritage Tasmania (AHT);
- Policy and Conservation Assessment Branch (PCAB);
- EPA Division (Noise Specialist);
- EPA Division (Air Specialist);
- EPA Division (Water Specialist); and
- EPA Division (Regulatory Officer).

The EER Supplement prepared by the proponent provides a response to each of the relevant environmental issues raised by government agencies/bodies.

The EER states the proponent has also undertaken its own public consultation process involving consulting neighbours, Circular Head Council, Mineral Resources Tasmania and Forestry Tasmania about possible concerns or issues in relation to the increased rate of production. It is also stated in the EER that no issues were raised by any party during this consultation.
6 Evaluation of Environmental issues

The environmental issues considered relevant to the proposal have been evaluated by the EPA Division. Details of this evaluation, along with permit conditions, are shown in the table below.

### Issue 1

**Acid rock drainage**

#### Description of potential impacts

The Geotechnical Assessment for the site (EER Appendix 7) identified the possibility of Acid rock drainage (ARD) arising from quarrying as a potential impact from the activity.

The survey states that while current exposed rock does not indicate highly acid producing sediments, the potential for sulphidic sediments to be exposed as the quarry develops is moderate to high.

The main identified risk associated with quarrying operations is ARD-affected run-off reaching Deep and Muckeye Creeks. Increased acidification of the creeks would have very detrimental effects on the potential habitat of the Giant Freshwater Crayfish and may present health risks to local communities, via an affected water supply.

#### Management measures proposed in EER

The EER stated that based on the moderate to high risk of encountering acid producing sediments, the proponent commits to a programme of geological and run-off water monitoring, and actions in response to monitoring outcomes.

Part C, Section 3.7, and Appendix 7 of the EER outlines the proposed monitoring programme and actions.

The actions proposed in the EER are:

- The liming of sediment settling pond and silt traps if the quarry runoff becomes acidic, pH<6;
- In the longer term, establish limestone channels to act as a passive treatment method; and
- In the event that actual acidity is detected, the source must be determined and isolated; with further extraction operations in the area of the source ceased.

A management commitment is also made in Part D of the EER in respect to this issue:

**Commitment 7**: To monitor the pH of the surface water leaving the site weekly. If the pH drops below 6 contact the consultant within 24 hours.

The EER also states that there is no current release of acid from the site.

#### Public and agency comment

MRT comments on the EER raised concerns about potentially acid forming (PAF) rocks in excavated material, the concern being that the identification of PAF rocks is difficult until after the acidification process has begun. Therefore, there is the possibility that PAF containing materials may be in the extracted material to be used in farm lane construction where the acidification process will continue until fully oxidised. This has potential implications to water courses and wildlife near to where the material is used.

PCAB also made comments in relation to ARD, that the main risk from ARD is the run off may affect water supply, threatened vegetation communities and threatened fauna habitat. PCAB raised the concern that these impacts are not included in the risk assessment included in the EER and that management actions are not adequately outlined.

The Department of Health and Human Services provided advice during the early stages of the proposal. The advice provide was that given the distance between the site and the communities’ water storage reservoir, the potential issue of catchment water contamination is consider as being low.
Proponent response (EER Supplement)

To address the Agency comments the EER Supplement has amended the table of commitments to include the commitments made in Appendix 7. The amended commitment table now includes Commitment 7(b):

To execute the commitments made in Appendix 7 to the management of ARD, which been listed above.

The EER Supplement states that the proponent has experience in identifying PAF material; stating that it is readily identifiable by it being very difficult to handle due to the material being “slushy” in character. The EER Supplement also states that the proponent has knowledge of where PAF material is located on site and will not extract in its vicinity.

The EER amended commitments also made further commitments in relation to PAF materials:

- **Commitment 7(c):** Stop mining if PAF rocks are inadvertently exposed (and implement treatment plan as per Commitment 7(b)).
- **Commitment 7(d):** PAF rocks will not be used as farm road base; will not be removed from the site.

Evaluation

The EER Supplement addresses the agencies’ comments by including further information regarding the proponent’s practical knowledge of PAF material; commitments to managing encountered PAF material; and committing to the monitoring programme outlined in Appendix 7.

While the above demonstrates an understanding of the potential risks associated with ARD and PAF material and the need to manage these risks; it fails to sufficiently demonstrate the following:

- The possible extent and location of PAF material on the site.
- How PAF material will be avoided.
- How the proponent will ensure that PAF material will not leave the site.
- How PAF material that is encountered during operations will be managed, if there is the need to stockpile the material.

Conclusion

The proponent should be required to address the abovementioned failings prior to intensifying the quarry operations. Condition OP1 requires the development and submission of a PAF Material Management Plan, which requires the greater consideration of the issues associated with PAF material and ARD. The PAF Material Management Plan will provide a greater understanding of the PAF material on the site, ARD risks for the site and help to minimise the risks.

Monitoring of the water discharged from the site should also be required to be undertaken by the proponent. The monitoring parameters must be able to indicate the influence of ARD on water discharging from the site. Condition M2 enforces the commitment to undertake a monitoring programme.

A pH limit range should also be set for the site (Condition E4); along with requiring investigative monitoring should the limits be exceeded. The investigation monitoring condition (Condition M3) enforces the proponent’s commitment to act when pH limits are exceeded.

The proponent should also be required to comply with Commitment 7(a)-7(d) (covered by standard condition G5).
### Issue 2
**Atmospheric emissions – dust**

**Description of potential impacts**

Extractive operations, loading material on to stockpiles and vehicles, and vehicle movements may generate airborne dust particles. Dust may create nuisance for the nearby residence, particularly from traffic, and be a health hazard to quarry workers.

There is also the potential for materials to be spilled or blown from loads being transported from site and cause environmental nuisance.

The EER states that there are no residences within 1km of the quarry operations. However, a site inspection, carried out 15 October 2012, showed that there is one residence within ~50 metres of the gravel access road to the quarry operations.

**Management measures proposed in EER**

The EER states that extractive operations will be in a semi-continuous operation with the aim to minimise the risk of persistent dust from excavation or haulage.

It is also stated in the EER that the current Level 1 Activity for the site, DA2008/00034, requires trucks leaving the site to utilise effective dust control methods.

The EER commits to having a water truck on standby on occasions that dust is likely to be a problem; to dampen down processing and traffic areas with the aim to minimise adverse effects from dust (Commitment 4).

**Public and agency comment**

None

**Evaluation**

The EPA Division Air Section advise that air issues associated with the proposal are relatively minor and have been adequately addressed in the EER.

**Conclusion**

To minimise the risk of materials blowing or spilling from loaded trucks and to enforce the control of dust emissions from the site, the proponent should be required to comply with standard permit conditions A1, A2 and A3, and with Commitment 4 (covered by standard condition G5).

### Issue 3
**Decommissioning and rehabilitation**

**Description of potential impacts**

Quarrying activities can contribute water pollution and be a source of dust on a long term basis if appropriate rehabilitation is not undertaken during, and at the end, of the quarry’s operational life.

**Management measures proposed in EER**

The EER states that the site will be progressively revegetated and undergo progressive rehabilitation, in reference to the *Quarry Code of Practice*.

The *House Quarry Revegetation Plan* (Appendix 1 of the EER) states that planting tube stocks or plugs, of plants native to the Circular Head region, will be used to revegetate the quarry; adding that this method would result in faster colonisation than direct seeding.

The *Mining Plan* (Appendix 12 of the EER) states that approximately 1.4ha of the mining lease has already been disturbed by quarry activities, and the area of disturbance will increase by approximately 1.8 ha, with 0.4ha being rehabilitated. The *Mining Plan* also states that overburden material and topsoil will be stockpiled on site to be later used in the rehabilitation of the site.

The proponent commits to using stockpiled topsoil material to rehabilitate the site (Commitment C8) and performing progressive re-vegetation and re-introduction of topsoil to the site (Commitment C19).
## Public and agency comment

MRT commented that the use of tube stock, over direct seeding and seed slash will not necessarily result in faster recolonisation. MRT also suggested the use of jute matting to hold topsoil and mulch in place for steep faces/batters that require revegetation.

## Evaluation

The stated plans to progressively revegetate and rehabilitate the site using retained top soil and overburden material are adequate to reduce the potential for water pollution, dust generation and erosion.

## Conclusion

The proponent should be required to comply with standard permit conditions:

- DC1 to enforce the requirement to provide notification of cessation;
- DC2 to enforce the stockpiling of topsoil to be used in the remediation of the site;
- DC3 to enforce the progressive remediation of the site to reduce the risk to water pollution, dust generation and erosion;
- DC4 to enforce the to rehabilitate the site to suitable standard after operations have ceased; and
- DC5 to enforce that the site is appropriately managed during any temporary suspension of operations.

Also, the proponent should be required to comply with Commitments C8 and C19 (covered by standard condition G5).

### Issue 4

**Stormwater management**

**Description of potential impacts**

Water coming off the quarry face, quarry working area, and stockpiles is likely to contain sediments and may contaminate nearby waterways.

The water issues related to ARD are detailed above in Issue 1 of this report.

**Management measures proposed in EER**

The EER states that all stormwater from the activity is currently directed into a sediment settling pond prior to discharge to Deep Creek. Calculations have been undertaken for the EER to demonstrate that the pond’s current size, 2000m$^3$, is of sufficient capacity to manage a 1 in 20 year rain event for the catchment area for the proposed future open cut area of 1.8ha. To ensure that the pond is of sufficient size to manage the expansion, the proponent commits to monitoring the capacity and retention time of the pond (Commitment 3).

It is also stated in the EER that captured water is directed to the sediment settling pond via drainage lines, which contain silt traps.

The proponent commits to undertaking maintenance of settling ponds and silt traps to ensure they remain functional (Commitment 5).

The EER states that a buffer zone of 100m will be established for Deep Creek to prevent filling or excavation.

**Public and agency comment**

The EPA Division Water Specialist recommended the inclusion of monitoring for Total Suspended Solid (TSS) at the discharge point of the settling pond, and a limit for TSS to minimise the risk of sediment entering nearby creeks and Lake Mikany.

**Evaluation**

The commitments to manage stormwater on site by the provision of silt traps and to ensure sufficient capacity of the site’s settling pond are appropriate.
Conclusion

The proponent should be required to comply with standard permit conditions E1, E2, E3 and E4 to enforce the management of stormwater.

Condition M2 is required to ensure discharged water quality is monitored and condition M3 to ensure action is taken to in the event of elevated TSS. Condition G8 includes provisions to ensure monitoring data is reported.

The proponent must also comply with Commitments 14, 15, 16 (covered by standard condition G5).

Issue 5

Flora and fauna habitat and threatened species

Description of potential impacts

A flora and fauna survey was undertaken (Appendix 6 of the EER) and no evidence of threatened fauna was identified on site; however the habitat in which the site is located is suitable for threatened species, classified under the Tasmanian Threatened Species Conservation Act 1995 (TSCA) and/or the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, including the Tasmanian Devil, Tasmanian Wedge-tailed Eagle and Giant Freshwater Crayfish.

The EER states that there is Wedge-tailed Eagle nest that has shown signs of use, located 600m from the site, near Lake Mikany.

It is also stated in the EER that the identified vegetation communities on the site are not listed as being threatened under the Nature Conservation Act 2002; however the nearby wetlands are listed as vulnerable communities.

Management measures proposed in EER

The proponent has committed to:

- having an exclusion area and buffer zone along the minor creeks and Deep Creek which extend through the eastern and south-eastern and northern portion of the land established and maintained (Commitment 1);
- implement an eagle management plan (Appendix 10 of the EER) that aims to minimise impact to and contact with eagles and maintain suitable habitat to support the viability of current and any new nests (Commitment 2); and
- use material not considered to have acid forming potential to provide an earth embankment between the quarry and Lake Mikany to limit the noise impact on the identified eagle nest (Commitment 11(c)).

Public and agency comment

PCAB commented that there was a record of Epilobium pallidiflorum (showy willowherb), which is listed as rare under the TSCA, to the north east of the site; but as the species is recorded well outside of the proposed quarry area, no further action is required for its management.

PCAB also commented that as there is no line of sight to the identified Tasmanian Wedge-tailed Eagle nest, and as there will be no blasting, crushing or screening undertaken on site, the recommendations outlined in the eagle management plan, to ensure there are no impacts on this species, are supported.

Evaluation

The proponent’s commitments and management plan are adequate to ensure minimal disturbance to the habitat of threatened species and vegetation communities.

Conclusion

Condition FF1 is required to ensure compliance with the House Faheys Lane Quarry Lake Mikany – Eagles Nest Survey and Management Plan, and Commitments 1, 2 and 11(c) (covered by standard condition G5) should be implemented.
### Issue 6

**Hazardous substances**

**Description of potential impacts**

Accidental spills of hazardous substances, fuels and other hydrocarbons may pollute waterways, create contaminated areas, and generate health hazards.

To minimise the potential impacts refuelling of machinery on site must take place in bunded areas and spill kits should be readily available in case of a spill during refuelling of onsite machinery. Any hazardous substances stored on site for the purposes of maintaining and operating quarry machinery must be stored in bunded areas designed to store the substances.

**Management measures proposed in EER**

It is stated in the EER that no fuels or other hazardous materials are to be stored on site. Diesel fuel will be brought to site on a utility mounted 200L bunded container.

The proponent commits to maintaining spill kits on site (*Commitment C6*) to capture spills from plant equipment. The EER also states that operators are trained in the use of the spill kits.

**Public and agency comment**

None

**Evaluation**

The management methods and commitment made in the EER are sufficient in minimising the risk of impact from hazardous materials used on the site.

**Conclusion**

The proponent should be required to comply with the standard permit condition regarding the storage and handling of hazardous substance (Condition *H1*) and the provision of spill kits (Condition *H2*), and with *Commitment C6* (covered by standard condition *G5*). Refer also to *LO3* of the permit regarding dangerous substances legislation with which the proponent must comply.

### Issue 7

**Noise**

**Description of potential impacts**

Potential sources of noise from the proposal are the mobile equipment and trucks entering and leaving the site. These sources of noise have the potential to cause environmental nuisance by unreasonably interfering with nearby residences’ enjoyment of the environment and by causing disturbance to fauna.

**Management measures proposed in EER**

The EER states that no blasting, crushing or screening will take place, and that operations on site will include the extraction of materials, the establishment of stockpiles, loading of trucks and the transport of material from site.

The EER makes a series of commitments in relation to noise:

- Trucks will only use exhaust brakes along Faheys Lans to lower the noise pollution (*Commitment C11*).
- Operating hours will be between 0700 to 1900 hours, Monday to Friday and 0800 to 1600 on Saturdays (*Commitment C12*).
- The quarry be developed in accordance with the prescribed mining and operations plan in order to contain and deflect excess noise from operations to within the amphitheatre to be formed by the quarry face (*Commitment C13*).

**Public and agency comment**

The EPA Division Noise Specialist commented that the determination of noise levels from machinery in the EER shows a lack of understanding of the technical aspects of noise; and recommended that a re-evaluation of the noise aspects for the proposal be carried out.
Evaluation

The EPA Division Noise Specialist advised that the EER Supplement’s re-evaluation of noise aspects of the proposal and the provision of further technical data better demonstrates the potential noise emissions from the proposal.

The EER Supplement also provided the following revised commitments relating to noise:
- trucks will not use exhaust breaks and Faheys Lane and a speed limit (40km/h) will be imposed on trucks using the road to access the site (Commitment C11(a)).
- Plant equipment will be maintained to limit elevated noise emissions (Commitment C11(b)).
- use material not considered to have acid forming potential to provide an earth embankment between the quarry and Lake Mikany to limit the noise impact on the identified eagle nest (Commitment C11(c)).

With the nearest residence being over 1km from the quarry’s excavation and truck loading operations, limiting operating hours in line with the Quarry Code of Practice is considered sufficient to control noise from the site’s operations.

Conclusion

To control environmental nuisance, caused by noise, the proponent should be required to comply with the standard noise condition N1 to control noise emission by limiting operating hours, and be required to comply with Commitments C11, C12 and C13 (covered by standard condition G5).

Issue 8

Weed and Pathogen Management

Description of potential impacts

Quarries can be the focus for dispersal of weeds and pathogens such as Phytophthora cinnamomi (PC) due to high levels of disturbance of the land, and frequent movement of vehicles in and out of the site assisting in their spread.

Management measures proposed in EER

The EER states that the understorey to be cleared for the proposed expansion is infested with declared weeds under the Weed Management Act 1999, the weeds being Gorse (Ulex europaeus), Spear Thistle (Cirsium vulgare), Blackberry (Rubus fruticosus), and Crack Willow (Salix fragilis).

The proponent has committed to implementing a Weed Management Plan (Appendix 2 of the EER) to minimise the risk of further colonisation of weeds; to allow optimum conditions for the eventual re-vegetation of the site; to reduce the spread of weeds to neighbouring properties and to where the excavated material will be used. The plan aims to achieve this by:
- Isolating areas of weed infestation until treatment has been undertaken.
- Conducting annual review of weeds and conduct treatment, on the site, site access road and of rehabilitation areas.
- Providing training, supervision and resources for the undertaking of successful weed treatment; including both physical and chemical methods.

The presence of PC has not been identified on the site. However, locations that receive deliveries, such as farms and cowshed areas, do present a risk of introducing PC to the site.

The proponent has committed to implementing a PC Management Plan (Appendix 3 of the EER) to minimise the risk of introducing the pathogen to the site. The plan aims to achieve this by:
- Using materials sourced on site and not use external materials for the operation or remediation of the site.
- Ensuring equipment accessing the site is washed off-site, following the Tasmanian Wash Down Guidelines for Weed and Disease Control (2004). If equipment has been used in, or accessed, an area of known affected by PC, the equipment will be cleaned using Phytoclean™.
- Restricting unauthorised access to the site by maintaining fencing of the site and to keep the gate locked when the proponent is not in attendance.
The proponent also commits to storing overburden material in a designated location in the southern part of the site. This material will be used in the rehabilitation of the site. No materials will be brought into the site for the purposes of rehabilitation to reduce the risk of weeds and pathogens.

### Public and agency comment

PCAB commented that while the Weed Management Plan is basic, it is supported. PCAB recommended that the proponent includes a commitment to survey and manage weeds and diseases, and to adhere to the *Tasmanian Washdown Guidelines for Weed and Disease Control: Machinery Vehicle & Equipment, Edition 1.*

### Evaluation

Maintenance of good drainage on site and ensuring that weed and pathogen spores do not wash into the quarry from surrounding areas during times of heavy rainfall is recommended. This may be achieved through the construction of perimeter drainage to the existing settling pond.

Management of weeds on the property should continue, with advice sought from DPIWFE’s Weed Management Section if conventional methods of eradication are proving ineffective.

The proponent should ensure machinery use in the quarry is clean, in accordance with the *Tasmanian Washdown Guidelines for Weed and Disease Control.* The proponent advises in the EER that equipment will be washed down off-site at a dedicated wash-down bay at a nearby workshop.

### Conclusion

To ensure the management of weeds and to minimise the risk of PC the proponent should be required to comply with standard conditions OP2 and OP3, and with Commitments C17 and C18 (covered by standard condition G5).

## Issue 9

### Waste Management

**Description of potential impacts**

Generation of miscellaneous solids wastes related to the operation of the quarry.

**Management measures proposed in EER**

It is stated in the EER that waste will be managed in accordance of the principles of the hierarchy of waste management.

The proponent makes a number of commitments in relation to waste management:

- All scrap metal or other recyclable materials will be stored on site until sufficient quantities are available to warrant collection by scrap metal merchants (Commitment C9).
- All putrescible waste from site will be removed for proper disposal. (Commitment C10).

**Public and agency comment**

None

**Evaluation**

The proponent’s commitments are considered to be appropriate. The waste management hierarchy should be adhered to.

Waste fuels, lubricants, waste oil, oily rags etc should be stored in appropriate containers in bunded area. Waste fluids, such as oils, released by machinery during operation and maintenance must not be spilled on the ground.

**Conclusion**

To enforce the handling of controlled wastes from the site the proponent should be required to comply with standard permit condition WM1, and to enforce the management of general waste it is recommended that the proponent be required to comply with Commitment C6 (covered by standard condition G5).

OI1 in Information Schedule provides information regarding the hierarchy of waste management.
<table>
<thead>
<tr>
<th>Issue 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal heritage</td>
</tr>
</tbody>
</table>

**Description of potential impacts**

An Aboriginal cultural heritage survey was completed for the land around Lake Mikany. The assessment concluded that no Aboriginal heritage was identified.

**Management measures proposed in EER**

None

**Public and agency comment**

AHT confirmed that an Aboriginal heritage survey was completed, and that no evidence of Aboriginal heritage was located. AHT advised that no further investigations or permits are required.

**Evaluation**

The quarry is unlikely to impact on Aboriginal heritage.

**Conclusion**

Any relics discovered should be managed in accordance with the *Aboriginal Relics Act 1975* (refer Information Schedule LO4).

---

### 7 Conclusions

This assessment has been based upon the information provided by the proponent in the permit application, EER and EER Supplement.

This assessment has incorporated specialist advice provided by Divisions of DPIW and Divisions of DIER in relation to a number of key issues.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal; and
2. the assessment of the proposal has been undertaken in accordance with the Environmental Impact Assessment Principles;

It is concluded that the proposal is capable of being managed in an environmentally acceptable manner such that it is unlikely that the RMPS and EMPCS objectives would be compromised, provided that the Permit Conditions – Environmental No. 8646 appended to this report are imposed and duly complied with, including commitments made by the proponent in the EER and EER Supplement.
Report approval

Environmental Assessment Report and conclusions, including permit conditions, accepted:

John Mollison
Acting Director, Environment Protection Authority
Under delegation from the Board of the Environment Protection Authority
Date:
8 References


Department of Primary Industries, Water and Environment (Tas) and Department of Infrastructure, Energy and Resources (Tas) (1999). Quarry Code of Practice.

9 Summary of appendices

Appendix 1 Summary of issues raised by agency comments
Appendix 2 Permit Conditions - Environmental, includes EER Commitments at Attachment 2
## Appendix 1

### Summary of issues raised by public and agency submissions

<table>
<thead>
<tr>
<th>Issue</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acidic and Metalliferous Drainage (ARD)</td>
<td>The risk evaluation of ARD has not been included in the risk table. The risk of encountering potentially acid forming (PAF) rock could impact on community water supply, potential habitats and the viability of the activity. Commitments made in Appendix 7 – Geotechnical Assessment, have not been included as commitments in the main body of the EER. ARD arising from quarrying has been recognised by the geological survey as a potential impact. The main risk from ARD is that run off may affect water supply, threatened vegetation communities and threatened fauna habitat. It is recommended that these impacts are including in the risk assessment and that management actions are adequately outlined. The presence of Black River Dolomite implies potential for karstic development. While this not a highly karstic formation, any karst features encountered should be protected from further disturbance pending assessment by a karst expert. Identifying potentially acid forming (PAF) rocks is difficult until after the acidification process has begun (red staining). Therefore, there is the possibility that PAF containing materials may be in the extracted material to be used in road/cow lane construction where the acidification process will continue until fully oxidised.</td>
</tr>
<tr>
<td>Noise</td>
<td>The statement “Trucks will only use exhaust brakes along Faheys Lane to lower the noise pollution.” is not correct. The determination of noise levels from machinery in the EER shows a lack of understanding of the technical aspects of noise.</td>
</tr>
</tbody>
</table>
Appendix 2 Permit Conditions - Environmental
PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 8646

Issued under the Environmental Management and Pollution Control Act 1994

Applicant: House, M J & L M
ABN 16 424 924 757
RA513 BACKLINE RD
FOREST TAS 7330

Activity: The operation of an extractive pit (ACTIVITY TYPE: Extractive Pits)
LAKE MIKANY GRAVEL EXTRACTION, OFF FAHEYS LANE
IRISHTOWN TAS 7330

The above activity has been assessed as a level 2 activity under the Environmental Management and Pollution Control Act 1994 under delegation from the Board of the Environment Protection Authority.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the Land Use Planning and Approvals Act 1993 with respect to the above activity.

Municipality: CIRCULAR HEAD
Permit Application Reference: DA12/97
EPA file reference: 112334

Date conditions approved: 1 J JAN 2013

Signed: DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY
DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in Schedule 1 of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in Schedule 2 of this Permit Part B.

INFORMATION

Attention is drawn to Schedule 3, which contains important additional information.
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Attachments
Attachment 1: The Land (modified: 10/01/2013 12:34)........................................ 1 page
Attachment 2: Management Commitments (modified: 10/01/2013 12:34).............. 3 pages
Schedule 1: Definitions

In this Permit Part B:-

Aboriginal Relic has the meaning described in section 2(3) of the Aboriginal Relics Act 1975.

Activity means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates, and includes more than one such activity

Authorized Officer means an authorized officer under section 20 of EMPCA

Controlled Waste has the meaning described in Section 3(1) of EMPCA.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a person authorised in writing by the Director to exercise a power or function on the Director's behalf.

Eagle Management Plan means the plan titled House Fahey's Lane Quarry Lake Mikany - Eagles nest survey and Management Plan, which forms Appendix 10 of the EER.

EER means the document titled Environmental Effects Report for MJ & LM House Fahey's Lane Quarry Lake Mikany - Fahey's Lane, Lake Mikany, Irishtown, dated September 2012 and MJ & ML House Fahey's Lane Quarry Lake Mikany - Fahey's Lane, Lake Mikany, Irishtown Supplement dated November 2012; both documents by Environmental Service and Design Pty Ltd.


Environmental Harm and Material Environmental Harm and Serious Environmental Harm each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance and Pollutant each have the meanings ascribed to them in Section 3 of EMPCA.

Environmentally Hazardous Material means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils and chemicals.

NAG pH means the pH of the post-reaction solution resulting from a Net Acid Generating (NAG) Test.

NAPP means net acid producing potential, being the estimated maximum potential acidity (assuming oxidation of all Sulphide) of a material less its acid neutralising capacity as determined via a geochemical static test procedure and expressed in kg H₂SO₄/tonne.

PAF means potentially acid forming, defined as material with a NAG pH of less than 4.5 and a Net Acid Producing Potential (NAPP) of greater than or equal to 0kg of H₂SO₄/tonne and also includes UC material.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.
Quarry Code Of Practice means the document of this title published by the Department of Primary Industries, Water and Environment and the Department of Infrastructure, Energy and Resources in June 1999, and includes any subsequent versions of this document.

Stormwater means water traversing the surface of the land as a result of rainfall.


The Land means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

1. Mining Lease 1882P/M, or subsequent variations to the lease, as approved by the Minister for Mines, situated at Faheys Land, Lake Mikany in the state of Tasmania; and
2. as further delineated in Attachment 1 of this permit.

Waste has the meaning ascribed to it in Section 3 of EMPCA

Weed means a declared weed as defined in the Weed Management Act 1999.
Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits
   1 The activity must not exceed the following limits:
      1.1 20,000 cubic metres per year of product produced. (Annual fees are derived from this figure.)

General

G1 Access to and awareness of conditions and associated documents
   A copy of these conditions and any associated documents referred to in these conditions must
   be held in a location that is known to and accessible to the person responsible for the activity.
   The person responsible for the activity must ensure that all persons who are responsible for
   undertaking work on The Land, including contractors and sub-contractors, are familiar with
   these conditions to the extent relevant to their work.

G2 Incident response
   If an incident causing or threatening environmental nuisance, serious environmental harm or
   material environmental harm from pollution occurs in the course of the activity, then the person
   responsible for the activity must immediately take all reasonable and practicable action to
   minimise any adverse environmental effects from the incident.

G3 No changes without approval
   1 The following changes, if they may cause or increase the emission of a pollutant which
      may cause material or serious environmental harm or environmental nuisance, must
      only take place in relation to the activity if such changes have been approved in writing
      by the EPA Board following its assessment of an application for a permit under the
      Land Use Planning and Approvals Act 1993, or approved in writing by the Director:
      1.1 a change to a process used in the course of carrying out the activity; or
      1.2 the construction, installation, alteration or removal of any structure or equipment
           used in the course of carrying out the activity; or
      1.3 a change in the quantity or characteristics of materials used in the course of
           carrying out the activity.

G4 Change of responsibility
   If the person who is or was responsible for the activity ceases to be responsible for the
   activity, they must notify the Director in accordance with Section 45 of the EMPCA.

G5 Commitments
   The activity must be carried out in accordance with the commitments contained in
   Attachment 2 unless otherwise specified in these conditions or unless otherwise approved in
   writing by the Director.

G6 Complaints register
   1 A public complaints register must be maintained and made available for inspection by
      an Authorized Officer upon request. The public complaints register must, as a
      minimum, record the following detail in relation to each complaint received in which it
      is alleged that environmental harm (including an environmental nuisance) has been
      caused by the activity:

DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

10 JAN 2013
1.1 the time at which the complaint was received;
1.2 contact details for the complainant (where provided);
1.3 the subject-matter of the complaint;
1.4 any investigations undertaken with regard to the complaint; and
1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.

2 Complaint records must be maintained for a period of at least 3 years.

G7 Quarry Code of Practice
Unless otherwise required by these conditions or required in writing by the Director, the activity (or activities) undertaken on The Land must comply with the Acceptable Standards provisions of the Quarry Code of Practice.

G8 Environmental Review
1 Unless otherwise specified in writing by the Director, a publicly available Environmental Review encompassing the first twelve (12) months of operations, of the activity, from the issue of this permit must be submitted to the Director within three months of the anniversary date of the permit. Without limitation, the Environmental Review must include the following information:

1.1 a statement by the General Manager, Chief Executive Officer or equivalent for the activity acknowledging the contents of the Annual Environmental Review;
1.2 subject to the Personal Information Protection Act 2004, a list of all complaints received from the public during the reporting period concerning actual or potential environmental harm caused by the activity and a description of any actions taken as a result of those complaints;
1.3 details of environment-related procedural or process changes that have been implemented during the reporting period;
1.4 a summary of the amounts (tonnes or litres) of both solid and liquid wastes produced and treatment methods implemented during the reporting period. Initiatives or programs planned to avoid, minimise, re-use, or recycle such wastes over the next reporting period should be detailed;
1.5 details of all non-trivial environmental incidents and/or incidents of non-compliance with permit or environment protection notice conditions that occurred during the reporting period, and any mitigative or preventative actions that have resulted from such incidents;
1.6 a summary of the monitoring data and record keeping required by these conditions. This information should be presented in graphical form where possible, including comparison with the results of at least the preceding reporting period. Special causes and system changes that have impacted on the parameters monitored must be noted. Explanation of significant deviations between actual results and any predictions made in previous reports must be provided;
1.7 identification of breaches of limits specified in these conditions and significant variations from predicted results contained in any relevant DPEMP or EMP, an explanation of why each identified breach of specified limits or variation from predictions occurred and details of the actions taken in response to each identified breach of limits or variance from predictions;
1.8 a list of any issues, not discussed elsewhere in the report, that must be addressed to improve compliance with these conditions, and the actions that are proposed to address any such issues;
1.9 a summary of fulfilment of environmental commitments made for the reporting period. This summary must include indication of results of the actions implemented and explanation of any failures to achieve such commitments;

1.10 a summary of any community consultation and communication undertaken during the reporting period; and

1.11 strategic consideration of potential changes to the activity during the next 12 months that may have potential environmental impacts.

**Atmospheric**

A1 **Control of dust emissions**
Dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance.

A2 **Dust emissions from traffic areas**
Dust emissions from areas of The Land used by vehicles must be limited or controlled by dampening or by other effective measures.

A3 **Covering of vehicles**
Vehicles carrying loads containing material which may blow or spill must be equipped with effective control measures to prevent the escape of the materials from the vehicles when they leave The Land or travel on public roads. Effective control measures may include tarpaulins and load dampening.

**Decommissioning And Rehabilitation**

DC1 **Notification of cessation**
Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.

DC2 **Stockpiling of surface soil**
Prior to commencement of extractive activities on any portion of The Land all surface soils must be removed and stockpiled for later use in rehabilitation of The Land. Topsoil must be kept separate from other overburden and protected from erosion or other disturbance.

DC3 **Progressive rehabilitation**
Worked out or disused sections of The Land must be rehabilitated concurrently with extractive activities on other sections of The Land. Progressive rehabilitation must be carried out in accordance with the relevant provisions of the *Quarry Code of Practice*, unless otherwise approved in writing by the Director. The maximum disturbed area of land which may remain, at any time, without rehabilitation is 1.8 hectares.

DC4 **Rehabilitation on cessation**

1 Unless otherwise approved in writing by the Director, rehabilitation upon permanent cessation of the activity must be undertaken in accordance with relevant provisions of the *Quarry Code of Practice* and in accordance with the following:

1.1 rehabilitation earthworks must be substantially completed within 12 months of cessation of the activity; and

1.2 rehabilitated areas must be monitored and maintained for a period of at least three years after rehabilitation works have been substantially completed, after which the person responsible for the activity may apply in writing to the Director for a written statement that rehabilitation has been successfully completed.
DC5 Temporary suspension of activity

1 Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.

2 During temporary suspension of the activity:
   2.1 The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance; and
   2.2 If required by the Director, the person responsible must prepare and implement a Care and Maintenance Plan to the satisfaction of the Director.

3 Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

Effluent Disposal

E1 Perimeter drains

1 Perimeter cut-off drains must be constructed at strategic locations on The Land to prevent surface run-off from entering the area used or disturbed in carrying out the activity. All reasonable measures must be implemented to ensure that sediment transported along these drains remains on The Land. Such measures may include provision of strategically located sediment fences, appropriately sized and maintained sediment settling ponds, vegetated swales, detention basins and other measures designed and operated in accordance with the principles of Water Sensitive Urban Design.

2 Drains must have sufficient capacity to contain run-off that could reasonably be expected to arise during a 1 in 20 year rainfall event. Maintenance activities must be undertaken regularly to ensure that this capacity does not diminish.

E2 Stormwater

1 Polluted stormwater that will be discharged from The Land must be collected and treated prior to discharge to the extent necessary to prevent serious or material environmental harm, or environmental nuisance.

2 Notwithstanding the above, all stormwater that is discharged from The Land must not carry pollutants such as sediment, oil and grease in quantities or concentrations that are likely to degrade the visual quality of any receiving waters outside the Land.

3 All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land. Such measures may include appropriately sized and maintained sediment settling ponds or detention basins.

4 Stormwater discharged in accordance with this condition must not be directed to sewer without the approval of the operator of the sewerage system.

E3 Maintenance of settling ponds

Sediment settling ponds must be periodically cleaned out to ensure that the pond design capacity is maintained. Sediment removed during this cleaning must be securely deposited such that sediment will not be transported off The Land by surface run-off.
E4 Discharge limits

1 The maximum concentration of specified substances, listed in Column 1 of the Table below, in water discharged from The Land from the settling pond system, must not exceed the limits specified in Column 2 of the Table below.

2 Table of Discharge Limits

<table>
<thead>
<tr>
<th>Column 1 Specified Substances</th>
<th>Column 2 Maximum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Suspended Solids (TSS)</td>
<td>30 mg/L</td>
</tr>
<tr>
<td>pH</td>
<td>6.5 - 8.5 units</td>
</tr>
</tbody>
</table>

Flora And Fauna

FF1 Eagle Management Plan

Unless otherwise specified in this permit, the activity must be undertaken in accordance with the Eagle Management Plan, as amended from time to time with written approval of the Director.

Hazardous Substances

H1 Storage and handling of hazardous materials

Unless otherwise approved in writing by the Director, environmentally hazardous material held on The Land, including chemicals, fuels and oils, must be located within impervious bunded areas or spill trays which are designed to contain at least 110% of the total volume of material.

H2 Spill kits

Spill kits appropriate for the types and volumes of materials handled on The Land must be kept in appropriate locations to assist with the containment of spilt environmentally hazardous materials.

Monitoring

M1 Dealing with samples obtained for monitoring

1 Any sample or measurement required to be obtained under these conditions must be taken and processed in accordance with the following:

1.1 Australian Standards, NATA approved methods, the American Public Health Association Standard Methods for the Analysis of Water and Waste Water or other standard(s) approved in writing by the Director;

1.2 samples must be tested in a laboratory accredited by the National Association of Testing Authorities (NATA), or a laboratory approved in writing by the Director, for the specified test;

1.3 results of measurements and analysis of samples and details of methods employed in taking measurements and samples must be retained for at least three years after the date of collection; and

1.4 noise measurements must be undertaken in accordance with the Tasmanian Noise Measurement Procedures Manual.

M2 Monitoring, record keeping and reporting

1 Unless otherwise approved in writing by the Director, monitoring must be carried out at the discharge point of the sediment settling pond, as shown in Attachment 1.
2 If no discharge is occurring from the Land at the time of monitoring a measurement must be taken from the water within the pond near to the discharge point.

3 Unless otherwise specified in writing by the Director, monitoring and the frequency of monitoring, must be undertaken in accordance with the Table below. Surface water must be sampled or tested for the parameters listed in Column 1, at the frequencies listed in Column 2, using the techniques listed in Column 3.

4 Monitoring data must record whether discharge was occurring at the time of monitoring.

5 The resultant monitoring data must be kept for a period of not less than 2 years and be available to an Officer on request.

6 Table: Surface Water Monitoring Requirements.

<table>
<thead>
<tr>
<th>Parameter (unit)</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Weekly</td>
<td>Field</td>
</tr>
<tr>
<td>EC (µS/cm)</td>
<td>Weekly</td>
<td>Field</td>
</tr>
<tr>
<td>Total Suspended Solids (TSS) (mg/L)</td>
<td>Monthly</td>
<td>Laboratory</td>
</tr>
<tr>
<td>Total Metals (Al, As, Cu, Ni, Mn, Pb and Fe) (mg/L)</td>
<td>Monthly</td>
<td>Laboratory</td>
</tr>
</tbody>
</table>

M3 Investigation monitoring

1 In the event that the discharge limit specified in condition E4 of this permit for pH is not within the stated range:

1.1 the Director must be notified within 24 hours of the person responsible becoming aware of the non-compliance; and

1.2 the person responsible for the activity must implement the management methods approved in writing by the Director.

2 In the event that the discharge limit specified in condition E4 of this permit for Total Suspended Solids is exceeded:

2.1 the Director must be notified within 24 hours of the person responsible becoming aware of the exceedance;

2.2 A report must be forwarded to the Director within 30 days of becoming aware of the exceedance. The report must include, but not necessarily be limited to, the following:

2.2.1 the reported concentration;

2.2.2 an explanation as to why the discharge limit was exceeded;

2.2.3 the results of re-sampling of the monitoring location at which the exceedance was recorded; and

2.2.4 provide strategies to limit the concentration to less than the discharge limit, or demonstrate that the reported levels would not cause or threaten environmental harm.

2.3 The above strategies, as amended from time to time with the approval of the Director, must be implemented to the satisfaction of the Director.
Noise Control

N1  Operating hours
1  Unless otherwise approved by the Director, activities associated with the extraction of rock, gravel, sand, clay or minerals, loading of product, and arrivals and departures of trucks to and from The Land, must not be undertaken outside the hours of 0700 hours to 1800 hours on weekdays and 0800 hours to 1600 hours on Saturdays.
2  Notwithstanding the above paragraph, activities must not be carried out on Sundays and public holidays that are observed Statewide (Easter Tuesday excepted).

Operations

OP1  PAF Material Management Plan
1  Unless otherwise approved in writing by the Director, a PAF Material Management Plan must be submitted for approval within 3 months of the issue of these conditions, and prior to the intensification of the activity.
2  The PAF Material Management Plan must include, but not necessarily be limited to the following:
   2.1  Identification of area(s) on The Land that contain PAF material;
   2.2  An approximation of the volume of PAF material in the identified area(s);
   2.3  An explanation of the method used to identify the area(s) of PAF material on The Land;
   2.4  Methods for avoiding and managing PAF material on The Land;
   2.5  Methods for controlling PAF material effects on water leaving The Land; and
   2.6  Controls for preventing PAF materials from leaving The Land.
3  Unless otherwise approved in writing by the Director, the person responsible must not intensify the activity's operations until the PAF Management Plan is approved by the Director.
4  Once approved, the activity must operate in accordance with the PAF Material Management Plan, as amended from time to time, with approval from the Director.

OP2  Washdown Guidelines
Prior to entering the land, machinery must be washed in accordance with the DPIWE (2004) *Tasmanian Washdown Guidelines for Weed and Disease Control, Machinery, Vehicles & Equipment*, Edition 1, or any subsequent revisions of that document.

OP3  Weed management
The Land must be kept substantially free of weeds to minimise the risk of weeds being spread through the transport of products from The Land.

Waste Management

WM1  Controlled waste transport
Transport of controlled wastes to and from The Land must be undertaken only by persons authorised to do so under EMPCA or subordinate legislation.
Schedule 3: Information

Legal Obligations

LO1 Notification of incidents under section 32 of EMPCA
1 A person responsible for an activity that is not a level 2 activity or a level 3 activity must notify the relevant Council, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as the result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause an environmental nuisance.
2 A person responsible for an activity that is a level 2 activity or a level 3 activity must notify the Director, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as the result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause an environmental nuisance.
3 A person responsible for an environmentally relevant activity must notify the Director, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as the result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause serious or material environmental harm.
4 The Director can be notified by telephoning 1800 005 171 (a 24-hour emergency telephone number).
5 Follow up reports can be emailed.
6 Any notification given by a person in compliance with this section is not admissible in evidence against the person in proceedings for an offence or for the imposition of a penalty (other than proceedings in respect of the making of a false or misleading statement).
7 A person is required to notify the relevant Council or the Director of an incident despite the fact that to do so might incriminate the person or make the person liable to a penalty.
8 Any notification referred to in subsection (1), (2) or (3) must include details of the incident, its nature, the circumstances in which it occurred and any action that has been taken to deal with it.
9 For the purposes of subsections (1), (2) and (3):
   9.1 a person is not required to notify the relevant Council of an incident if the person has reasonable grounds for believing that the incident has already come to the notice of the Council
   9.2 a person is not required to notify the Director of an incident if the person has reasonable grounds for believing that the incident has already come to the notice of the Director;

LO2 EMPCA
The activity must be conducted in accordance with the requirements of the Environmental Management and Pollution Control Act 1994 and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO3 Storage and handling of Dangerous Goods and Dangerous Substances
1 The storage, handling and transport of dangerous goods and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:

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1.1 Dangerous Goods (Road and Rail Transport) Act 2010;
1.2 Dangerous Goods (Road and Rail Transport) Regulations 2010;
1.3 Dangerous Substances (Safe Handling) Act 2005;
1.4 Dangerous Substances (Safe Handling) Regulations 2009;
1.5 Workplace Health and Safety Act 1995; and
1.6 Workplace Health and Safety Regulations 1998.

LO4 Aboriginal relics requirements
1 The Aboriginal Relics Act 1975, provides legislative protection to Aboriginal heritage sites in Tasmania regardless of site type, condition, size or land tenure. Section 14(1) of the Act states that; Except as otherwise provided in this Act, no person shall, otherwise than in accordance with the terms of a permit granted by the Minister on the recommendation of the Director:
1.1 destroy, damage, deface, conceal or otherwise interfere with a relic;
1.2 make a copy or replica of a carving or engraving that is a relic by rubbing, tracing, casting or other means that involve direct contact with the carving or engraving;
1.3 remove a relic from the place where it is found or abandoned;
1.4 sell or offer or expose for sale, exchange, or otherwise dispose of a relic or any other object that so nearly resembles a relic as to be likely to deceive or be capable of being mistaken for a relic;
1.5 take a relic, or permit a relic to be taken, out of this State; or
1.6 cause an excavation to be made or any other work to be carried out on Crown land for the purpose of searching for a relic.
2 If a relic is suspected and/or identified during works then works must cease immediately and the Tasmanian Aboriginal Land and Sea Council and the Aboriginal Heritage Tasmania be contacted for advice before work can continue. In the event that damage to an Aboriginal heritage site is unavoidable a permit under section 14 of the Aboriginal Relics Act 1975 must be applied for. The Minister may refuse an application for a permit, where the characteristics of the relics are considered to warrant their preservation.
3 Anyone finding an Aboriginal relic is required under section 10 of the Act to report that finding as soon as practicable to the Director of National Parks and Wildlife or an authorized officer under the Aboriginal Relics Act 1975. It is sufficient to report the finding of a relic to Aboriginal Heritage Tasmania to fulfill the requirements of section 10 of the Act.

Other Information

O11 Waste management hierarchy
1 Wastes should be managed in accordance with the following hierarchy of waste management:
1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;
1.2 waste should be re-used or recycled to the maximum extent that is practicable; and
1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

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[Signature]
ATTACHMENT 1
The Land
## ATTACHMENT 2
### Management Commitments

The following table is reproduced from the Section 4 of *Environmental Effects Report – Supplement – November 2012: Amended Table of Commitment.*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Commitment</th>
<th>Page number</th>
<th>Person Responsible</th>
<th>Forecast Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1. Flora</td>
<td>An exclusion area and buffer zone along the minor creeks and Deep Creek which extend through the eastern and south-eastern and the northern portion of the land will be established and maintained.</td>
<td>21</td>
<td>M. House</td>
<td>At Approval</td>
</tr>
<tr>
<td>C2. Eagle Management</td>
<td>An eagle management plan will be implemented.</td>
<td>21</td>
<td>M. House</td>
<td>Ongoing</td>
</tr>
<tr>
<td>C3. Sediment pond</td>
<td>The capacity in the pond and retention time will be monitored as the work rate intensifies and the pond size increased if necessary.</td>
<td>25</td>
<td>M. House</td>
<td>Quarterly</td>
</tr>
<tr>
<td>C4. Dust</td>
<td>When dust is likely to be a problem, a water truck will be on standby to wet down the processing and traffic areas to minimize adverse effects.</td>
<td>28</td>
<td>M. House</td>
<td>During high wind events</td>
</tr>
<tr>
<td>C5. Surface water</td>
<td>Maintenance of settling ponds will be periodically undertaken to ensure adequate function of the ponds as silt traps.</td>
<td>29</td>
<td>M. House</td>
<td>Ongoing</td>
</tr>
<tr>
<td>C6. Surface water</td>
<td>Hydrocarbon spill kits are maintained on site for use if significant quantities of hydrocarbons are lost from plant or equipment.</td>
<td>29</td>
<td>M. House</td>
<td>Already stored</td>
</tr>
<tr>
<td>C7 Acid mine drainage</td>
<td>(a) To monitor the pH of the surface water leaving the site weekly when inflow is occurring, maintain results and submit to the EPA at 6-monthly intervals. If the pH drops below 6 contact the consultant within 24 hours.</td>
<td>31 and Appendix 7</td>
<td>M. House</td>
<td>Weekly/six monthly</td>
</tr>
<tr>
<td></td>
<td>(b) To execute the commitments made in Appendix 7 to the management of AMD.</td>
<td>Appendix 7</td>
<td>M. House</td>
<td>Ongoing</td>
</tr>
<tr>
<td></td>
<td>(c) Stop mining if PAF rocks are inadvertently exposed; implement treatment plan as per Commitment 7(b).</td>
<td>EER Supplement</td>
<td>M. House</td>
<td>As encountered</td>
</tr>
<tr>
<td></td>
<td>(d) PAF rocks will not be used as farm road base; will not be removed from the site.</td>
<td>EER Supplement</td>
<td>M. House</td>
<td>Ongoing</td>
</tr>
<tr>
<td>C8. Sold waste</td>
<td>The stockpiled topsoil materials will be used to progressively rehabilitate the site.</td>
<td>32</td>
<td>M. House</td>
<td>Ongoing</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>----</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>C9. Scrap Waste</td>
<td>All scrap metal or other recyclable materials will be stored on site until sufficient quantities are available to warrant collection for recycle.</td>
<td>32</td>
<td>M. House</td>
<td>Already performed</td>
</tr>
<tr>
<td>C10. Putrescible waste</td>
<td>All putrescible waste from site will be removed for proper disposal.</td>
<td>32</td>
<td>M. House</td>
<td>Already performed</td>
</tr>
</tbody>
</table>
| C11. Noise | (a) Trucks will not use exhaust brakes along the Pit Road and a speed limit of 40km/hr will be imposed on trucks using the road on quarry business.  
(b) Plant will be maintained to limit elevated noise emissions  
(c) Material that is not considered to have acid forming potential will be placed to provide an earth embankment between the quarry and Lake Mikany | 33, EER Supplement | M. House | Ongoing |
| | | | M. House | Ongoing |
| | | | M. House | At Approval |
| C12. Noise | Operating hours will be between 0700 to 1900 hours Monday to Friday and 0800 to 1600 on Saturdays. | 33 | M. House | Already performed |
| C13. Noise | The quarry will be developed in accordance with the prescribed mining and operation plan in order to contain and deflect excess noise from operations to within the amphitheatre to be formed by the quarry faces. | 33 | M. House | Ongoing |
| C14. Traffic | The sight triangle to the north of Fahey’s Land/Gravel Pit Access Road junction will be kept clear of vegetation. | 34 | M. House | At approval |
| C15. Traffic | “Truck Entering” warning signs will be installed on Fahey’s Lane either side of this junction. | 34 | M. House | At approval |
| C16. Traffic | The road verge on the quarry access road will be widened. | 34 | M. House | At approval |
| C17. Weeds | Implementation of a weed management plan. | 36 | M. House | At approval |
| C18. Phytophthora | Implementation of a Phytophthora management plan. | 36 | M. House | At approval |
| C19. Rehabilitation | Progressive re-vegetation and re-introduction to topsoil in the site will be performed in accordance with the mining plan. | 36 | M. House | At approval |

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13 JAN 2013
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C20. Review</td>
<td>Unless otherwise specified but the Board of the EPA, monitoring and review of performance will be undertaken on at least an annual basis for the first 3 years, with the aim of extending the period of review subject to satisfactory performance.</td>
<td>37</td>
<td>M. House</td>
</tr>
<tr>
<td>C21. Karsts</td>
<td>If karst features are encountered extraction will cease in the area, and assessment will be sought from a karst expert and a management plan developed, if required.</td>
<td>EER Supplement</td>
<td>M. House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Annual for first 3 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>As required.</td>
</tr>
</tbody>
</table>