OMYA AUSTRALIA PTY LTD

ENVIRONMENTAL AUTHORITY AMENDMENT APPLICATION

INFORMATION REQUEST

January 2018
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1. **PROCESS OVERVIEW**

To facilitate the expansion of the Omya Australia Pty Ltd Waste Rock Emplacement Area, an Amendment Application was lodged with the EHP on the 25 August 2016.

A routine Compliance Inspection on site highlighted the need to include an additional ERA to our Environmental Authority and a ‘Change to the Amendment’ was submitted on the 27 March 2017 to include the addition of ERA 33 Crushing Milling Grinding.

As a result of this, OMYA received an Information Request on the 7 April 2017 to provide additional information, specifically the following:

- A water management plan, which meets the requirements, outlined in Guideline – Preparation of water management plans for mining activities (EM324).
- A current sediment and erosion plan of the site, incorporating the proposed new mining lease (MLA 80167) and the expansion of Wells Rock Emplacement Area.
- A proposal for additional surface water monitoring locations upstream and downstream and groundwater monitoring in MLA80167.
- A flora and fauna survey in accordance with the provisions in the Flora Survey Guidelines – Protected Plants and Terrestrial Vertebrate Fauna Survey Guidelines for Queensland.
- An assessment determining if environmental offsets are required, by addressing the criteria as outlined in the Queensland Environmental Offsets Policy – Significant Residual Impact Guideline, and
- An assessment of the potential noise and air impacts relating to activities on site conducted under ERA 33 – crushing, milling, grinding or screening in accordance with the requirements under the Environmental Protection (Noise) Policy 2008, the Environmental Protection (Air) Policy 2008, and relevant conditions with the Guideline- Model mining conditions (ESR/2016/1936).

Omya have complied with the Departments request in full and this document provides all of the requested documentation to further support our Major Amendment Application.

Throughout the Information Request, it is noted that there is numerous variations in the name used for the site and it should be noted that the Department of Environment and Science refer to the site as Omya Australia Pty Ltd in its EA documentation and the Department of Natural Resources and Mines refer to the site as “Mountainside Mine”.

2. **WATER MANAGEMENT PLAN**

<table>
<thead>
<tr>
<th>Information Request Requirement:</th>
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<tbody>
<tr>
<td>A water management plan which meets the requirements outlined in Guideline – Preparation of water management plans for mining activities (EM324).</td>
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</table>

Omya Australia commissioned Dr David Newton of WRM Consultants to undertake an assessment of the current Omya site water management systems and develop a Water Management Plan in line with the Departments guidelines, to ensure the ongoing operation of the site and the proposed expansion of the WREA is managed to maintain compliance with EA conditions and minimise environmental harm.

The full Omya Water Management Plan is contained in Attachment 1.
3. SEDIMENT AND EROSION PLAN

Information Request Requirement:
• A current sediment and erosion plan of the site, incorporating the proposed new mining lease (MLA 80167) and the expansion of Wells Rock Emplacement Area.

Based on the findings of the Omya Water Management Plan, and onsite controls, the Omya 2017 Environmental Management Plan has been updated to capture the sites Sediment and Erosion Controls strategies rather than a stand alone management plan.

A full copy of the 2017 Environmental Management Plan is contained in Attachment 2

4. SURFACE AND GROUND WATER MONITORING LOCATIONS

Information Request Requirements:
• A proposal for additional surface water monitoring locations upstream and downstream and groundwater monitoring in MLA80167.

4.1. SURFACE WATER

Omya have developed a surface water monitoring program which captures the current EA water monitoring locations and additional monitoring points to assist the site in the monitoring of its onsite sediment and erosion controls. The site has undertaken this additional monitoring over the past 12 months to track the success of its onsite sediment control practices and to gain background information on the sites water quality characteristics.

The current Omya Monitoring Program is formalised within the attached Surface Water Monitoring Procedure (Attachment 3).

4.1.1. Upstream and Downs Stream Monitoring

Given the ephemeral nature of the onsite and surrounding creek systems, and that the Omya Mine is located at the upper source of Eight Mile Creek, the following proposed Upstream and Downstream monitoring locations and frequencies have been identified to provide representative data regarding the mines existing and proposed expanded operations.

It is proposed to replace the existing BQW1 and BQW 2 with the following locations:

Receiving Water Monitoring Locations and Frequency

<table>
<thead>
<tr>
<th>Monitoring Point</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>BQW 5 Upstream</td>
<td>23°49'12.57&quot;S</td>
<td>150°38'33.05&quot;E</td>
<td>Once every rainfall event &gt;50mm or continuous rain event for &gt;24hr</td>
</tr>
<tr>
<td>BQW 6 Downstream</td>
<td>23°48'8.43&quot;S</td>
<td>150°38'23.52&quot;E</td>
<td>Once every rainfall event &gt;50mm or continuous rain event for &gt;24hr</td>
</tr>
</tbody>
</table>

Receiving Water Contaminant Limits
Monitoring Point | Parameter | Units | Maximum
--- | --- | --- | ---
BQW 5 Upstream | TSS* | Mg/L | See below
 | Electrical Conductivity | μS/cm | See below
BQW 6 Downstream | TSS* | Mg/L | If BQW-1 <250mg/L then 250mg/L, If BQW-1 >250mg/L then BQW-2 not more than 10 % >BQW-1.
 | Electrical Conductivity | μS/cm | If BQW-1 <250μS/cm then 250μS/cm If BQW-1 >250μS/cm then BQW-2 not more than 10 % >BQW-1.

* Omya request that the Department consider a Maximum Turbidity limit relative to Upstream levels for the monitoring of onsite release points. The use of Turbidity will allow onsite monitoring equipment to be used and will allow a more efficient turnaround time for water quality data.

BQW-5 provides a sample location which is above the influence of the Bajool Marble Mine operations but is still indicative of the disturbed grazing lands with area typical of this region.

BQW-6 is located downstream of all mining operations, including the WREA, mine pits, process areas and the historic WREA on site.

These locations are on private property and final approval from landowner will be required once agreed on by the Department.

4.1.2. WREA Monitoring Point

It is proposed to replace the existing BQW-4 with the BQW – 7 which is located closer to the property boundary and captures both the discharges from the Wells Pit during pit pump out and the current and expanded WREA following significant (>50mm rainfall events), refer to Figure 1.

End of Pipe Monitoring Locations and frequency

<table>
<thead>
<tr>
<th>Monitoring Point</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>BQW-7</td>
<td>23°49'9.91&quot;S</td>
<td>150°38'51.97&quot;E</td>
<td>Once every rainfall event &gt;50mm or continuous rain event for &gt;24hr And Daily during Wells Pit Dewatering</td>
</tr>
</tbody>
</table>

End of Pipe Contaminant Release Limits
**Monitoring Point** | **Parameter** | **Units** | **Minimum** | **Maximum**
--- | --- | --- | --- | ---
BQW-7 | TSS* | Mg/L | - | 500
| pH | | | 6.5 | 8.5
| Electrical Conductivity | uS/cm | - | 1000

* Omya request that the Department consider a Maximum Turbidity limit relative to Upstream levels for the monitoring of onsite release points. The use of Turbidity will allow onsite monitoring equipment to be used and will allow a more efficient turnaround time for water quality data.

**Figure 1 – Proposed Water Monitoring Locations**

4.2. **GROUNDWATER**

An assessment of groundwater in the vicinity of the Bajool Marble Mine site has been undertaken by Australasian Groundwater and Environmental Consultants as part of our Water Management Plan development.

Their investigations concluded that within the current operational parameters of the mine, there is a very low risk of mining activities impacting on groundwater reserves in the area:
“The mining process is expected to have almost no impact on groundwater unless the floor of the pit reaches the groundwater table or a karst feature (cave) is intersected. At this stage, the potential for contamination of the groundwater increases. This could occur later in the mine life when the quarry floor extends to about RL 90 mAHD level (estimated) WRM 2018 Attachment 1.

Australasian Groundwater and Environmental Consultants have recommended that in order to monitor the groundwater in the mine area in advance of intersection by the mining activity it is recommended that an exploration borehole near the pit be converted to a monitoring bore by installing uPVC casing (50 mm dia.) and a slotted screen to a depth of approximately 100 meters below ground level.

In consultation with our site Geologist and Mine Engineer, Omya propose to install a bore at an appropriate location and once installed, it will be monitored 6 mthly for standing water depth, pH and electrical conductivity in line with surface water quality parameters.

5. FLORA AND FAUNA ASSESSMENT

Information Request Requirement:

• A flora and fauna survey in accordance with the provisions in the Flora Survey Guidelines – Protected Plants and Terrestrial Vertebrate Fauna Survey Guidelines for Queensland.
• An assessment determining if environmental offsets are required by addressing the criteria as outlined in the Queensland Environmental Offsets Policy – Significant Residual Impact Guideline.

5.1. FLORA SURVEY AND OFFSET ASSESSMENT

Omya Australia has engaged specialist Flora and Fauna Consultants, CQ Environmental Surveys to undertake an assessment of matters of environmental significance associated with the proposed activity. This assessment included an investigation of ecosystems, flora and fauna of significance that may be present, or are likely to be present, and directly, or indirectly, affected by the proposal.

The assessment took account of the following guidelines:

However, in the absence of State guidelines for targeted searches (see https://www.qld.gov.au/environment/plants-animals/biodiversity/vertebrate-survey#download) for either koala or black-breasted button-quail, expert advice was followed in targeted searches for both the koala and black-breasted button-quail.

The results are presented within the following three reports:


  This report formalised the scoping study, definition of survey areas, and data base searches, as well as the results of the likelihood of occurrence analysis, and the initial field assessment are reported in Melzer and Denley (2016 Pp 12-21). This included a vegetation map (Appendix 7, page 56), and an initial plant species list (Appendix 8, page 57). The Environmental Values, Potential Impacts & Mitigation Report identified thirty four matters of state or national environmental significance with potential to occur on the site from State and Commonwealth data bases. A likelihood analysis identified four plant species, and two animal species, with some likelihood of occurring on the site. The field assessment confirmed the occurrence of one endangered plant species (Cycas megacarpa) along with suitable habitat for two vulnerable faunal species within the study area.


  This report documented targeted surveys for protected plants known to occur, or with potential to occur, within the study area. Four species were considered to have some likelihood of occurring on site. These were Cossinia australiana (endangered), Cycas megacarpa (endangered), Cycas ophiolitica (endangered), and Marsdenia brevifolia (vulnerable). With the exception of Cycas megacarpa, the other three species were considered to have a very low or low likelihood of occurring in the study area. Cycas megacarpa was known to occur on site.

  The adopted field search method was a timed meander as indicated by EHP (2016). The results of the search are presented in Melzer and Denley (2017 Pp 20-29). The vegetation of the study area was mapped (Appendix 7 page 60), and plant communities described (Appendix 9 Page 62) through a series of secondary site descriptions (Nelder et al. 2017) as indicated by EHP (2016).

  Cycas megacarpa was the only EVNT species identified on the property. The location of individual plants within the project area was shown in Appendix 8 (Page 61) and digital data provided separately to Omya Australia.

5.2. Fauna Survey

This report documented targeted searches that were undertaken for the two species for which suitable habitat was located within, and around, MLA 80167. These species were the koala and the black-breasted button-quail.


No individuals of either species, or tracks or traces of these species, were recorded from the study area. The survey results are reported in Melzer et al. (2017).

The full *Fauna Survey Of Koala And Button-Quail: Waste Rock Emplacement Area Expansion Project* is contained in Attachment 5.

6. Air and Noise Impact Assessments

Information Request Requirement:

- An assessment of the potential noise and air impacts relating to activities on site conducted under ERA 33 – crushing, milling, grinding or screening in accordance with the requirements under the Environmental Protection (Noise) Policy 2008, the Environmental Protection (Air) Policy 2008, and relevant conditions with the Guideline- Model mining conditions (ESR/2016/1936).

Omya Australia engaged AirLabs Australia and Acouras Consultancy to undertake assessments of the current operations on site, which includes the existing ERA 33 Crushing Milling and Screening Activities, and generate an operational Air and Noise Model for the site. This model was then used to undertake assessment of the likely impacts from the WREA expansion activities.

6.1. Air Quality Assessment

From the Air Modeling undertaken, the following observations have been made:

- Modeling of dust emissions from the existing operations (which includes the ERA 33 Activities) show that the predicted ground level TSP, PM$_{10}$, PM$_{2.5}$ and deposited dust levels at identified sensitive receptors are well below the relevant assessment criteria.

- Modeling of dust emissions from the proposed operations (i.e. existing operations+ expansion of the WREA) show that the predicted ground level TSP, PM$_{10}$, PM$_{2.5}$ and deposited dust levels at identified sensitive receptors are well below the relevant assessment criteria.

Through modeling the site demonstrates compliance with the assessment criteria for both existing and proposed operations, Airlabs recommends that the existing dust control
measures should continue to be diligently implemented at all times to effectively manage and mitigate release of dust emissions from the various operational activities at the site.

The full Air Quality Impact Assessment – Existing And Proposed Operations is contained in Attachment 6.

6.2. Noise Assessment

The Noise Modeling and analysis undertaken concluded that that the current operational activities from the quarry including the ERA 33 activities, would fully comply with the DEHP noise limit, our current Environmental Authority Limits and would be unlikely to cause a noise impact at the sites sensitive receivers.

The proposed WREA expansion was also modeled and the predictions indicate noise levels at the sites sensitive receivers would actually reduce and therefore we conclude that there would no change in the noise impacting the nearest receiver.

The full Bajool Marble Mine Noise Impact Assessment is contained in Attachment 7.