

Environmental Impact Statement For Andersons Clay Mine Extension

October 2018

Volume 1

Prepared by:

**VGT Environmental
Compliance Solutions Pty Ltd**

in conjunction with:

PGH Bricks & Pavers Pty Ltd

Project Site	Andersons Clay Mine, ML1229 (Act 1973)
Report Title	Environmental Impact Statement for Mine Extension 2018

Revision Table

Date	Version	Author	Reviewed	Approved
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Declaration

For submission of Environmental Impact Statement prepared under Part 4 of the Environmental Planning and Assessment Act 1979.

EIS Prepared by

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Applicant

PGH Bricks and Pavers Pty Ltd
59-67 Cecil Road,
Cecil Park NSW 2178

Proposed Development

Andersons Clay Mine Extension

Land to be Developed

Lot 2, DP 856969,
253 Shaw Road, Springdale
Heights NSW 2640

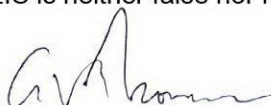
Declaration

We confirm that we have prepared this EIS on accordance with the Secretary's environmental Assessment Requirements issued for the Anderson Clay Mine Extension project issued to PGH Bricks and Pavers Pty Ltd on 18th May 2017 and that the:

- EIS has been prepared in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000;
- EIS contains all available information that is relevant to the environmental assessment of the project: and
- That information in the EIS is neither false nor misleading.



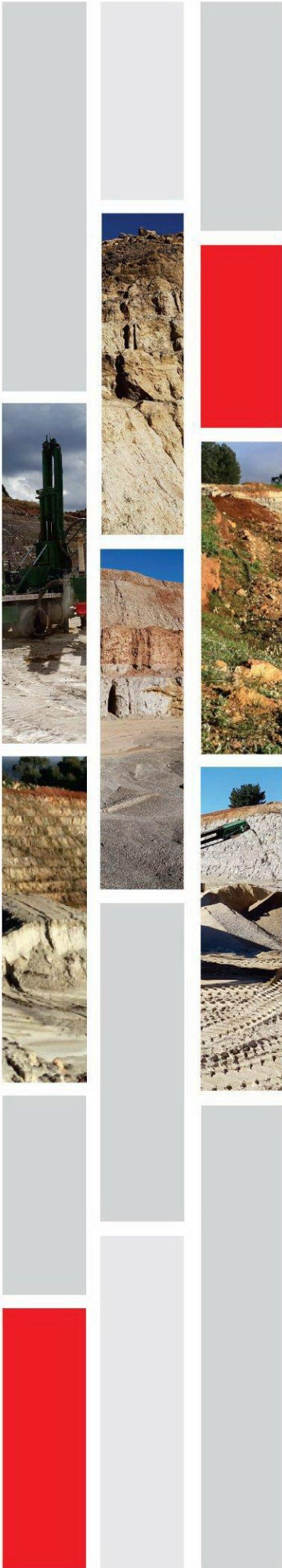
Tara O'Brien
27/11/2018



Greg Thomson
27/11/2018



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27/11/2018



Executive Summary

1 Executive Summary

1.1 Introduction

VGT Environmental Compliance Solutions Pty Ltd (VGT) has prepared this Environmental Impact Statement of behalf of PGH Bricks and Pavers Pty Ltd (PGH, the proponent) to assess the potential environmental impacts of the extension of the Andersons Open Cut Clay Mine in order to allow for the continued extraction to meet the anticipated demands for brick production at its Jindera Brickworks. PGH currently undertakes extraction on the project site which lies at the termination of Shaw Street at Springdale Heights, within the Albury LGA.

The *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) declares the proposal to be a designated development and section 4.12 of the EP&A Act requires the development application to be accompanied by an EIS prepared in accordance with the EP&A Regulation. This EIS has been prepared in accordance with Part 4 of the EP&A Act and Schedule 2 of the EP&A Regulation.

The site is located on Lot 2, DP 856969, 253 Shaw Road, Springdale Heights which covers an area of 15Ha. The current consent permits extraction of up to 50,000 tonnes per annum of brick making material.

1.2 The Product

The resource in Andersons Clay Mine consists of two types of raw material, a weathered granite from the Silurian period (known as 'Clay' by PGH) and a weathered Shale from the west has a high percentage of mica, is grey burning. The red burning clay product to the south is used in the production of red bricks. Both products are used as 'shorteners' with when mixed with the local highly plastic Jindera clay providing PGH with a very unique type of brick product.

For ease of interpretation, throughout this document the terms 'Shale' and 'Clay' will be used to describe the above products.

1.3 The Proposal

The proposal objective is to extend the current envelope of extraction to the west, within the property boundary. This extension is approximately 140 metres in length and around 2.5 hectares, in total. Essentially the mine layout will remain as is currently utilised.

The proposal will comprise the following features;

- Extension of the current consent boundary up to 15 metres of the property boundary along the western ridgeline.
- Depth of extraction will be limited to 50m below the surface, as consistent with the current consent.
- Mining will initially be undertaken using batters of up to 4 Horizontal to 1 Vertical on the active face to maximise the resource and maintain a safe working face up to RL 298 metres.
- Further deepening of the pit to the full extent of the depth restriction to 50m below the surface will be investigated and mine stages developed as future requirements demand.
- Very little overburden will be generated as the key resource lies directly beneath the thin topsoil.

- Construction of visual and acoustic bunds along the perimeter of the development.
- No change to current extraction and haulage rates to the Jindera Brickworks.
- Continuation of progressive rehabilitation in areas exhausted of resource.
- No change to noise environment expected.
- No change to air quality expected.

Mining is proposed to continue in the current pit and commence in the west extension area and in the south, within the currently consented area, simultaneously in order to supply the two unique materials to the Jindera Brickworks.

The extraction technique involves dozers pushing down the active mine face and stockpiling at the base on the mine floor. This activity will require a D9 dozer or similar to rip and push down the face. This technique tends to produce a more blended stockpile with a reduced component of oversized material. The active mining face will be 4 horizontal to 1 vertical sloping into a relatively flat floor.

This differs slightly from the current mining techniques where an excavator is used to create narrow benches and a dozer pushes the material won into stockpiles. The proposed technique has the advantage of less mining equipment operating under normal operating conditions which is beneficial in minimising noise impacts. From time to time, however, an excavator and dump truck will be required for pre-stripping and selective inter-burden removal as is currently the case.

Static screening, as is currently undertaken, will continue as required and is conducted on the mine floor to remove oversize particles. It is anticipated that due to the altered mining technique, screening of material will have a reduced duration due to the pulverising impact of the dozer.

1.4 Need for the Proposal

This extension area is vital to the Brickworks factory located within fifteen kilometres from the site at Jindera. The raw material feed stock from Andersons Mine, for the brickworks, is approximately 30% of the annual clay shale supply. Extruded bricks produced from the site are used in the local construction industry as well as distribution within NSW, Queensland and Victoria.

The Jindera Brickworks directly employs 30 full time staff and produces 30 million bricks and is an integral piece in the economy and history of Albury. The mine will employ up to 6 contract workers to undertake mining, stockpiling and processing.

The site produces two distinct products, a Shale (a grey burning clay) and a red clay product, which are used in almost equal portions by the brickworks. Using survey data and site inspections, VGT has estimated that there is approximately 23,400m³ (or 46,800 tonnes) of Shale and approximately 574,200m³ (or 1,148,000 tonnes) of clay remaining within the current consented area down to the depth restriction of 50 metres using batters of 2m Horizontal to 1m Vertical batters. Recovery of the resource using this batter design is impractical due to space restrictions and safety concerns. Using current usage rates of the Jindera brickworks of approximately 50,000 tonnes per annum (or 25,000m³), the site will be exhausted of Shale in 1 to 2 years. The extension of the mine to the west into the Shale deposit will allow for the continuation of the mine, maximise the recovery of the on-site resource and hence extend the life of the brickworks.

1.5 Alternatives Considered

Alternative Options considered for the project include:

- *Do nothing*- If this proposal is not approved, the Jindera Brickworks would be unable to continue production of a large selection of its brick products after a period of 1 to 2 years. The PGH business may be impacted with the inability to continue to produce its well-known and accepted Jindera brick products.
- *Alternative Sources of Shale*- The highly metamorphosed Shale suitable for the brickworks occurs where the Ordovician shales have undergone contact with the Silurian granite units, allowing the recrystallization of Mica and Quartz. By its very nature, the contact margin is narrow and has limited outcrops in the area making it a scarce resource. There are no other quarries or mine within the local area that are located within the Shale geological sequence. Thus if PGH continues to utilise Shale, a Greenfield site is the most likely option but there are limited locations where the resource may be found in the area, if it could be found at all. The lead time to find a suitable site and develop it into a running mine would be long and may significantly impact PGH financially. It is likely that there would be greater impacts to the environment in developing a new site than extending the existing site.

1.6 Statutory And Planning Framework

The objective of this EIS is to fulfil the requirements of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The structure and content of the EIS addresses the Secretary's Environmental Assessment Requirements (SEARs), provided by NSW DPE.

1.7 Rehabilitation

The rehabilitation strategy addresses the long-term rehabilitation of the site and how environmental issues will be managed over time. The key areas addressed were the management of topsoil, erosion and sedimentation and vegetation during the life of the mine.

It will include a sediment dam most likely to the west of the current location, this may remain permanently depending on rainfall intensities and duration of dry weather. Native pasture and grasses will be established on the final void slopes surrounding the sediment dam on pit floor. The landform will also be conducive to low level grazing consistent with neighbouring properties.

The proposed final landform will aim to not preclude any suitable future landuse not currently anticipated. Apart from grazing, the land might become useful for recreation, as per original council consent.

1.8 Consultation

In preparing this EIS, the Secretary's Environmental Assessment Requirements (SEARs) have been addressed as required by the EP&A Act. The key matters raised by the Secretary for consideration in the EIS are outlined in *Appendix A* of the EIS.

The proponent has undertaken consultation with key local and State Government agencies as specified in the SEARs during the preliminary design phase and preparation of this EA. The key agencies that VGT and PGH have consulted include:

- Albury City Council
- NSW Office of Environment and Heritage (OEH)

The focus of the community consultation has been to develop targeted land owner consultation and engagement to discern the position of the site's key stakeholders in respect to the proposal.

As part of the Aboriginal Cultural Heritage Assessment Report (ACHAR), consultation was undertaken with the Local Aboriginal Land Council, Albury City Council and the public via an advertisement.

1.9 Environmental Assessment

1.9.1 Land Resources

The potential impacts of the proposed works on land resources are not considered to be significant. Many of the potential land use impacts are related to soil erosion and sedimentation issues, which would be effectively managed through the implementation of appropriate mitigation measures.

The existing operation demonstrates the ability to co-exist within a variety of environments with minimal impact and it is anticipated that the proposed operations would integrate effectively with both existing and future planned land uses in the area for the life of the project.

1.9.2 Water

The potential impacts on the surface water and groundwater for the proposal are not considered significant. All surface water captured within the disturbed extraction area is diverted to the In-Pit Sediment Dam. Clean water is diverted around the site, assisted by the elevated location. The water modelling undertaken suggests that there is a very low likelihood that the void will overtop at any stage of the development. Any predicted deficits of water that may be experienced for dust suppression activities may be overcome using potable water sources for the water cart.

There will be no increase in the frequency of discharges over and above current levels in the short to medium term and therefore no additional impacts on riparian environments, including geomorphology and environmental flows. In the long-term flows are unlikely to be returned to the pre-development levels as the final void is not expected to overtop. However, the volume of water captured in the final void will be very small compared to the whole of Humbug Gully catchment and impacts to the riparian and ecological value of the water course is expected to be negligible.

No groundwater has been encountered at the site and no groundwater is expected to be encountered during the development. The impact to the aquatic Groundwater Dependant Ecosystems (GDE) in Humbug Gully has been assessed to be considered negligible and there are no Terrestrial GDEs on or nearby the site.

1.9.3 Biodiversity

Vegetation at the project site and surrounds is highly modified as a result of historical clearing due to agriculture and mining activities.

The Biodiversity Assessment concluded that the proposal area does not support any threatened fauna species, thus any impact on these species, or their habitat is therefore unlikely from the proposed development. As a result, no Assessment of Significance was required.

About 2.64 ha of TSC Act listed Box Gum woodland, of which 1.6 ha also conforms to the EPBC Act listing, would be impacted by the proposal. Assessments of Significance were completed and found that the impact on this endangered ecological community would not be significant, and so no Species Impact Statement or referral to the Minister was required.

1.9.4 Indigenous Heritage

One isolated find and two areas of potential archaeological deposit (PAD) were identified within the area of proposed impact. Test excavations was completed to accurately assess the archaeological significance of the PAD within the extension area and associated isolated artefact.

The assessment found as there was only a single isolated quartz flake and a highly disturbed area, the assessment of harm overall for the proposal is therefore assessed as very low. Following the assessment recommendations, prior to commencing works the proponent will apply for Aboriginal Heritage Impact Permit (AHIP) that covers the development area.

Mitigation measures as described in the EIS would be implemented on the site to ensure that potential heritage impacts are adequately managed during mining activities.

1.9.5 Non-Indigenous Heritage

No Non-Indigenous archaeological material or areas of archaeological potential were identified as part of this heritage assessment.

1.9.6 Noise

The potential impacts of the proposed works on noise impacts are not considered to be significant as there will be no change to the currently consented extractions rates, mining campaign frequency and duration and transportation due to this mine extension. Therefore no additional mitigation measures are anticipated to be required for the development.

1.9.7 Hazards and Waste

The continuation and expansion of operations on the project site would result in the generation of the same types and quantities of wastes generated under existing operations. Potential waste management impacts would be minimised using appropriate mitigation and management on the site.

1.9.8 Traffic

The potential impacts of the proposed works on traffic are not considered to be significant. There will be no changes to the frequency of transportation, hours of operation and traffic routes to and from the site to the Jindera Brickworks due to the development. Haulage will continue to be undertaken on a campaign basis and not spread evenly throughout the year. Therefore, there will be no additional impacts.

1.9.9 Air Quality

The impact from nuisance dust has been assessed to be minimal given the distance from sensitive receptors and the dust mitigations measures that will continue to be applied to the site. Depositional dust monitoring has been undertaken on the site since June 2017. The results to date are well below the EPA recommended level of an Annual Average for Insoluble Solids less than 4g/m² per month. This is expected to continue given that there will be no changes to the mining and hauling frequency and methods.

1.9.10 Visual Amenity

It is expected that the overall visual character of the project site would remain largely unchanged as a result of the project. Only one sensitive receptor has direct views of the site and is approximately 500m to the north east (R2). The extension of the mine will slightly increase the visible active faces for this resident however, distance and vegetation will provide adequate shielding. Other sensitive receptors and the City of Albury will not be impacted by the mine extension due to the topographical shielding afforded by the ridgeline where the mine is located.

1.9.11 Social and Economic

The continuation and extension of the mine will provide direct economic benefits to employees and contractors. Indirectly it will strengthen the economic position of the construction and manufacturing sector within Albury city and surrounds which has been in decline over the last decade.

The mine has been operating on the project site for the many decades without significant conflict. The project would not place additional strain on community or social infrastructure or resulting in unacceptable impacts upon general amenity.

1.10 Cumulative Impacts

The cumulative impacts of the project have been considered with respect to the impacts associated with the continuation of operations in the context of existing surrounding development as well as in relation to other approved projects in the region.

Mitigation measures have been recommended throughout this EIS to minimise impacts associated with the project. Provided these mitigation measures are adopted, the project would have negligible cumulative impacts.

1.11 Justification

The proposed continuation and expansion of operations on the project site has been considered in the context of the principles of Ecologically Sustainable Development (ESD) and is generally consistent with these principles. The project is not expected to result in significant environmental impacts provided the environmental management measures recommended in the EIS are implemented. The project stands to provide positive economic benefit through the extraction and utilisation of a regionally significant resource and the provision of local employment.

1.12 Conclusion

Potential environmental impacts resulting from the project have been identified and measures have been recommended throughout the EIS to manage impacts to within acceptable levels. The project would be operated to meet existing environmental standards and the environmental performance of the project would be monitored to ensure achievement of these standards.

Undertaking the project in the manner proposed is justified taking into consideration potential biophysical, economic and socio-cultural implications.