

Submission : Hanson Expansion Application - DA378-18 and DA462-18 2

This is a submission regarding the application by Hanson Construction Materials Pty Ltd (Hanson) for an expansion of their Red Hill Quarry. In principle we do not have an objection to the application, however we would like to see some conditions and actions taken prior to it is granted.

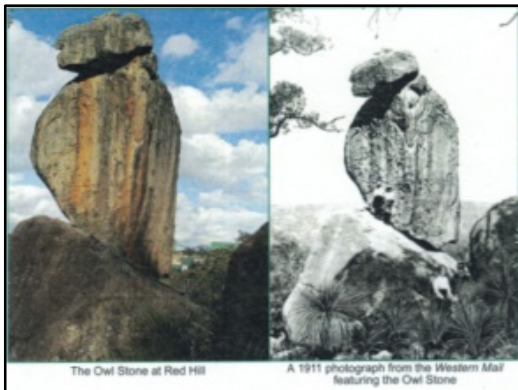
The main points we are commenting on are :

1. Area of expansion in relation to stages 1 & 3.
2. Quarry design.
3. Visual impact study.
4. Dust and vibration monitoring.

Detailed discussion of these points below. When page numbers are referred to they related to City of Swan document "Lot 11 (No.945) Toodyay Rd RED HILL DA378-18 and DA462-18 2.pdf".

1. AREA of EXPANSION

If granted the area of expansion applied for will financially benefit Hanson, especially because of the shorter haulage distances. A temporary social benefit would be that the potential quarrying impact on the aboriginal site of the "Gogomit" (Owl Rock) is delayed to many years into the future. This delay gives Hanson and the community a chance to work out a better way to minimize the potential impact of quarrying in the direction of the Gogomit.



Even though Hanson has been given the permission to quarry stage-3 they should also realize that a granted stage-1 is a bonus. In a show of appreciation as a company that realizes that to operate, they need a

social licence; therefore Hanson should redesign stage-3 and move its northern boundary a minimum of 100m southwards.

2. QUARRY DESIGN

As a geologist it is straight way obvious that the quarry design in the application has **not** been carried out by a qualified mining engineer. In the Appendix-1 are as examples a few plans from the application have been annotated to demonstrate to the City of Swan why in our opinion these plans were not created by an expert in the field. For comparison an example of a proper quarry design has been added.

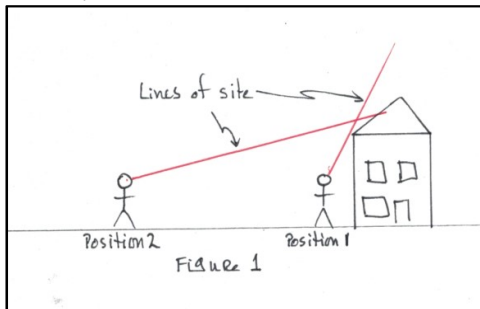
A major concern about the current design is a mine safety issue, i.e. some parts of the quarry are likely to have rockfalls and wall collapses. The outcomes could be fatal for personnel working in the quarry. Appendix-2 has a map explaining why parts of the quarry may not be stable

If Hanson had engaged a mining consultancy from the start to design the quarry instead of using urban planners, the original design would likely have included stage-1 and made other changes to minimise the risk of wall failure. The mining consultant also would have been able to provide a bankable document according to the JORC code ¹.

The documentation provided by Hanson is unlikely be assessed properly by the City of Swan. This is not a criticism, just a realistic observation, because it is unrealistic to expect that the City has mining engineers amongst their staff who are able to assess quarry / mining applications. For these reasons the City of Swan should engage a mining consultancy to assess the application.

3. VISUAL IMPACT STUDY

The visual impact assessment is only based of a limited distance range; their distance of 5km radius (page 77) is not far enough to see the top of Red Hill. We illustrate this in Fig-1 with a sketch, which shows that when standing in front of the house at position-1 it is not possible to see the roof, but from position-2 of is possible. For this reason the 5km radius is not enough and a series of views from West Swan road should be taken, which would mean views from the whole of the Swan Valley have been assessed.



On page in Figures 5 & 6 (page 69) there should be clear indications of start and finish of the cross-sections on the map and cross-section views themselves, which is a

proper cartographic procedure.

The diagrams also state that the average slope is 0%, this is a nonsense value. The same logic produces that the average slope for the Himalayas from north to south of also about 0%. This type of comments makes you sceptical about the quality of the consultant's work.

4. DUST & VIBRATION MONITORING

Are the monthly reports for Audit Code 912:M9.3 : Dust Monitoring and Management and Audit Code 912:M13.1 for Vibration Monitoring and Management available to the public? If not, why not? They both contain data in the interest of public health on a regular basis.

In addition we would like to see blasting restriction when there are easterly and south-easterly winds are blowing, because the dust clouds from the blasting are blown into the Swan Valley. These dust clouds are made of fine silica which could cause respiratory problems.

¹ The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code') is a professional code of practice that sets minimum standards for Public Reporting of minerals Exploration Results, Mineral Resources and Ore Reserves. Since 1989 and 1992 respectively, it has been incorporated in the Listing Rules of the Australian and New Zealand Stock Exchanges, making compliance mandatory for listing public companies in Australia and New Zealand. (<http://www.jorc.org/>)

CONCLUSION and RECOMMENDATIONS

In principle we support the application, however would like the following conditions to be met.

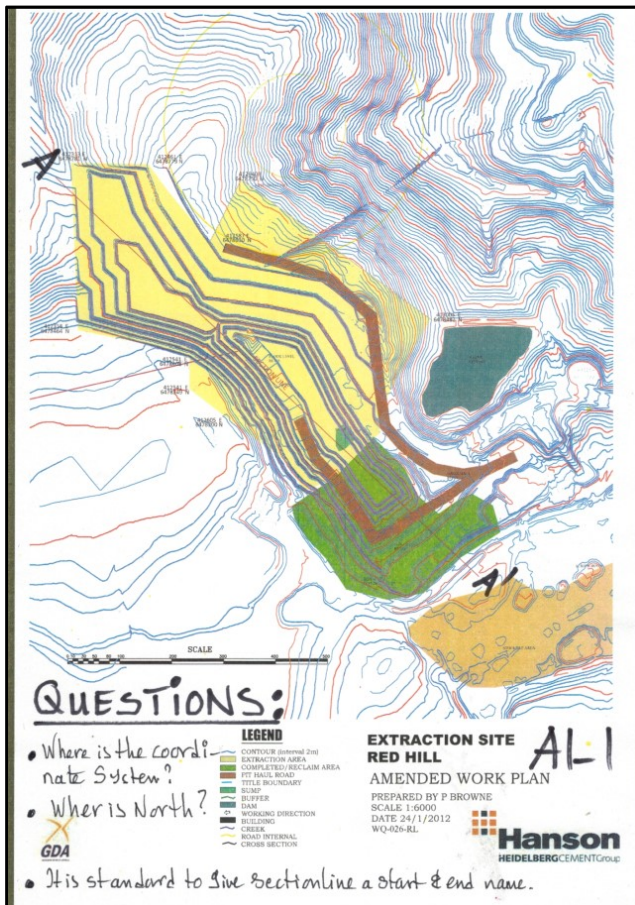
- Undertaking a minimum of 100m shift southwards of the northern boundary of stage-3.
- The City of Swan engages a mining consultancy to assess the proposed design in the application, especially in regards to the safety of the quarry.
- The visual impact study should be extended to show observations from a series of positions along West Swan Road.
- Dust monitoring data to made available from the City of Swan website on a monthly basis.

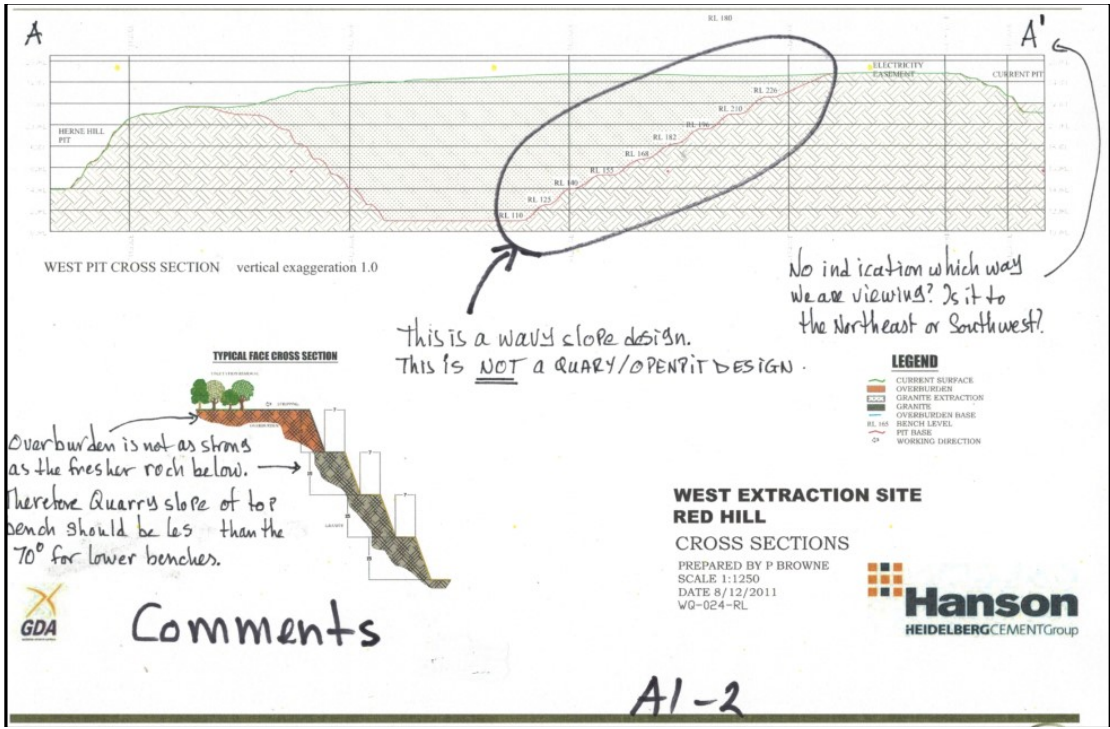
Humphrey Boogaerd

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APPENDIX 1

Images A1-1 to A1-3 are figures from the reports with comments to illustrate the short comings of these diagrams. Image A1-4 is an example of a quarry design.





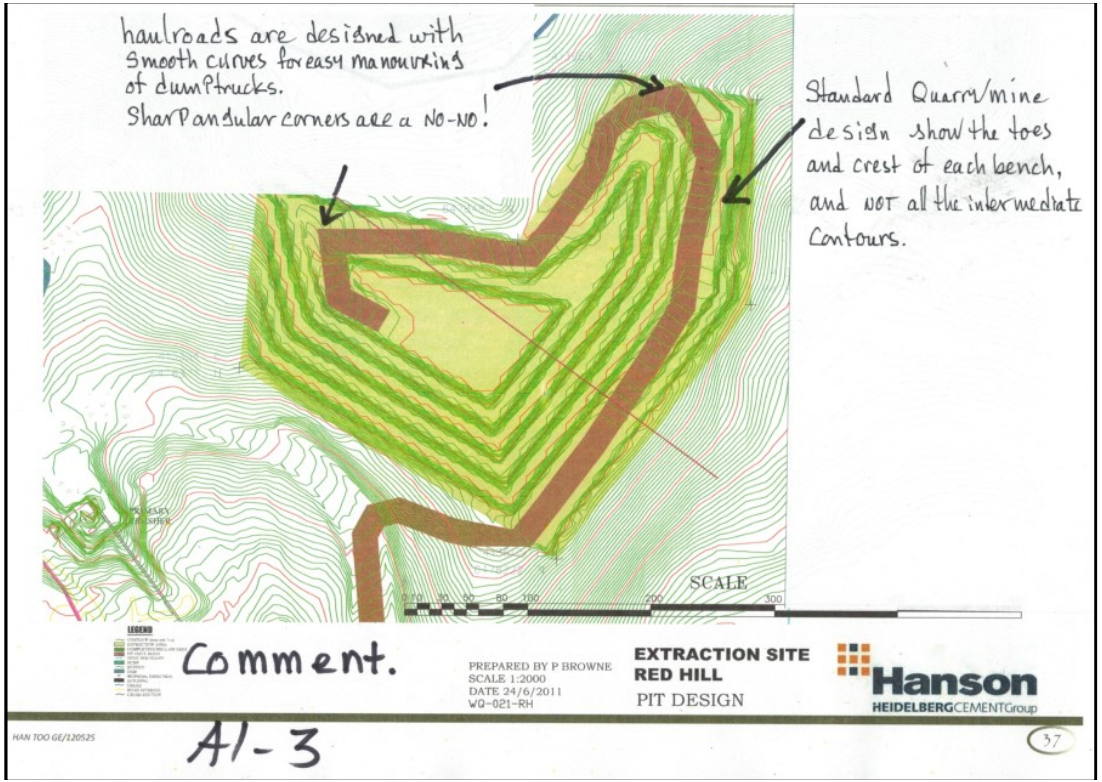
Overburden is not as strong as the fresher rock below. Therefore Quarry slope of top bench should be less than the 70° for lower benches.

Comments

This is a wavy slope design. This is NOT a QUARRY/OPENPIT DESIGN.

No indication which way we are viewing? Is it to the Northeast or Southwest?

A1-2



Comment.

A1-3

37



A1-4 : An example of a proper quarry / openpit design including a haulroad produced with Micromine mining software.
The red lines are the “crest” or top of each bench and the dotted green lines the “toe” of each bench.

APPENDIX 2

