Submission by RJ, MG, GJ Munro, 2 November 2009

1. Our property (100 acres) adjoins proposed development our the western boundary, our residence being within a mile of proposed quarry

Proponent's response:
The location of hard rock quarries is primarily governed by the location of a suitable geological formation within close proximity to communities who require the materials to build towns and cities. Both these constraints limit the number of suitable sites available for quarries and unfortunately it is near impossible to find a site that is available and meets these two requirements.

2. Blasting will in the long term affect the house due to vibration

Proponent's response:
Limits stipulated by DECC in licence conditions are well below levels know to cause cosmetic damage. These conditions stipulate that ground vibration peak particle velocity from blasting at the quarry site must not exceed 5mm/s for more than 5% of the total number of blasts over a 12 month period; and must not exceed 10mm/s at any time. The British Standard 7385:Part 2-1993 "*Evaluation and Measurement for Vibration in Buildings Part 2"* is a definitive standard against which the likelihood of building damage from ground vibration can be assessed. According to this standard the vibration values for cosmetic damage in un-reinforced, residential, of light framed structures is 15mm/s at 4Hz increasing to 20mm/s at 15Hz. It is noteworthy that extra to the guide values, the standard states that:

"Some data suggests that the probability of damage tends towards zero at 12.5 mm/s peak component particle velocity. This is not inconsistent with an extensive review of the case history information available in the UK."

Also that:

"A building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive."

3. Sharp devaluation of the property value as no one would be desirous *(sic)* of living next door to an active quarry

Proponent's response:
There is little evidence that the mere presence of a quarry in the area has been shown to decrease property values. Hanson has a number of quarries in NSW that have been operating for more than 40 years. Over the years these quarries have been subjected to an increase encroachment of residential dwellings. It is difficult to believe that a significant number of people would capitalise large amounts of money building a family house near a quarry if they believed that it would ultimately result in a financial loss or a detrimental standard of living. Notwithstanding this, the historical house prices (RP Data) of properties within the vicinity of Hanson's existing quarries have all demonstrated positive growth in value in-line with the greater regional area in which they exist; and in some circumstances for example the suburb of Shell Cove adjacent to Hanson's Bass Point Quarry have far exceeded the growth trend of the local LGA. It should be noted that Hanson's Bass Point Quarry is more than 5 times the size of the proposed Guyong Quarry and Shell Cove has a population of 2,833(2006) compared to Guyong's population of 276(2006). This situation is similar for Hanson quarries at Somersby and Kulnura, NSW.

It is more likely that property values will be more negatively affected by the likelihood of Naturally Occurring Asbestos on all nearby properties that contain Serpintine rock.

4. Livestock will be effected by blasting as well as dust being blown onto pasture

Proponent's response:

Blasting in New South Wales quarries is governed by the Explosives Act 2003, Explosives Regulations 2005, Occupational Health and safety Act 2000, Occupational Health and safety regulation 2001, Occupational Health and Safety Amendment (Dangerous Goods) Regulations 2005, with reference to Australian standard 2187.2 (Explosive storage, transport and Use) and the Australian Explosive Code; and is regulated by the NSW Department Industry and Investment. Hanson quarries are frequented by Mines Inspectors who conduct regular checks on blasting practices, blasting records, and mine plans. The Mines Inspector is empowered with the authority to make and enforce recommendations to ensure the safety of the public and quarry workers is upheld at all times.

The NSW DECCW does not specify particular criteria for impacts on vegetation. The criteria set by DECCW are based on human health requirements. However the DECCW criterion of 4g/m2/month is a level at which dust is noticeable with the naked eye. The predicted total dust levels at the Quinton property is 1.7g/m2/month (see below). This is less than half the amount above.

The measured background (existing) dust deposition levels were assessed by Heggies Pty Ltd to be on an annual average of 1.6g/m2/month. The modelling based on the Project's Emission Inventory indicates an incremental increase of dust deposition caused by quarrying to be 0.1g/m2/month at the Quinton property. This increase represents of 6.25% of the amount of the background level. This increase is considered minor and negligible.

5. Continuous beeping of reverse trucks supposedly one every 15 minutes for a full day on a weekly basis i.e. noise pollution

Proponent's response:
Hanson proposes to adopt "quacker" type reversing alarms. These alarms sound like a duck quacking and are only audible in the immediate vicinity of the reversing vehicle. Consequently, reversing alarms have been omitted from noise modelling.

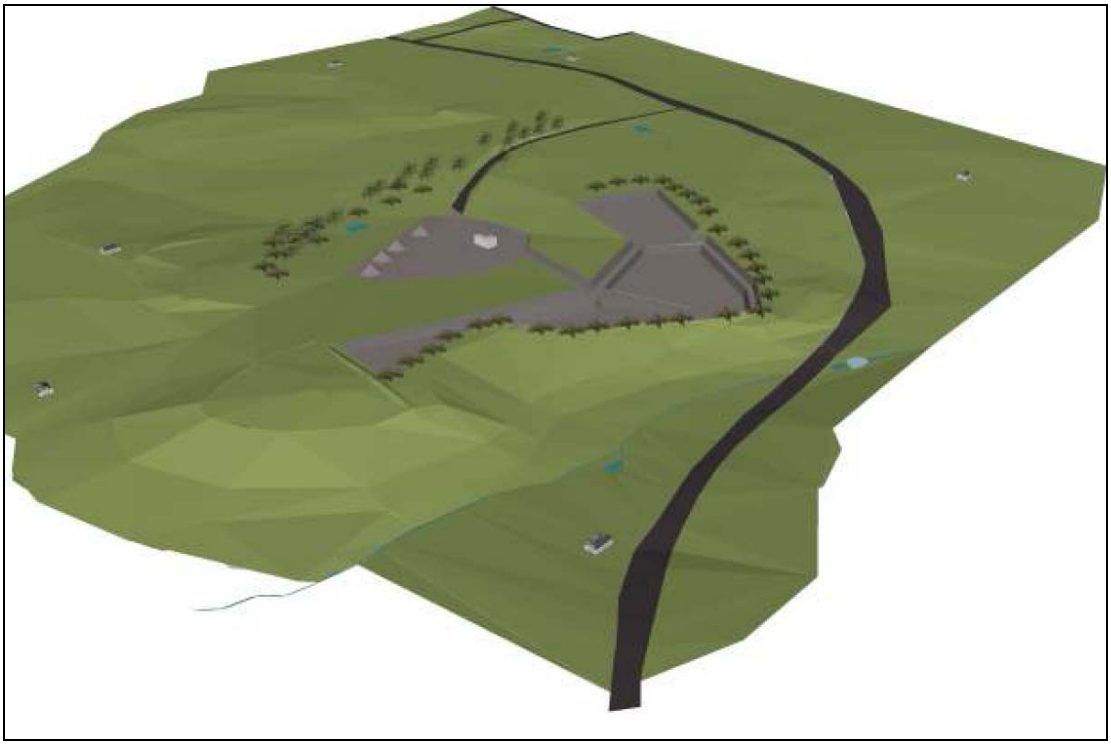
Heggies Pty Ltd was contracted by the proponent to conduct a noise emission assessment in accordance with the Department of Planning's Director General's Requirements issued for the project. Heggies is a multi-disciplined firm of specialist engineers and scientists. With over 130 staff members and 30+ years experience, the company is one of Australia's most recognised and respected consultancies across industries and government agencies. Hanson has relied on the expert advice from Heggies in assessing the impacts of noise emissions created by quarrying and any mitigation measures that in Heggies experience have worked in reducing any impacts to an acceptable level.

The sites weather station is located at RL940mAHD. The crushing plant working pad is located at RL920mAHD. The quarry pit itself commences extraction at RL950mAHD and finishes at RL910mAHD and will be formed into a crater (therefore further containing any noise and dust emissions) with a road cutting connecting the pit to the crushing plant. The weather station is suitably located to provide a good measurement of the wind for the entire site. Not withstanding this, **table 7.17** Volume 1 pg 120 shows the predicted operating noise results in **CALM** conditions (ie no wind therefore the worse case scenario for all receivers). **Table 7.17** shows that for all stages the 24 hour operational noise levels comply with the intrusive criterion for all stages.

Appendix G in the Heggies noise assessment report in Volume 3 shows the predicted noise contours during the quarry operation. The contours show that the Munro residence ("B") is well outside the 35-40dBA zone.

6. Blasting and excavating will completely change escarpment and entire area

Proponent's response:
The quarry pit will remove around 4 metres off only part of the top of the hill. The pit is then developed into a crater with a road access cutting through to the crushing plant on the east side. The below figures show an aerial view of the proposed quarry and the view from the Munro residence (Carina Vale).



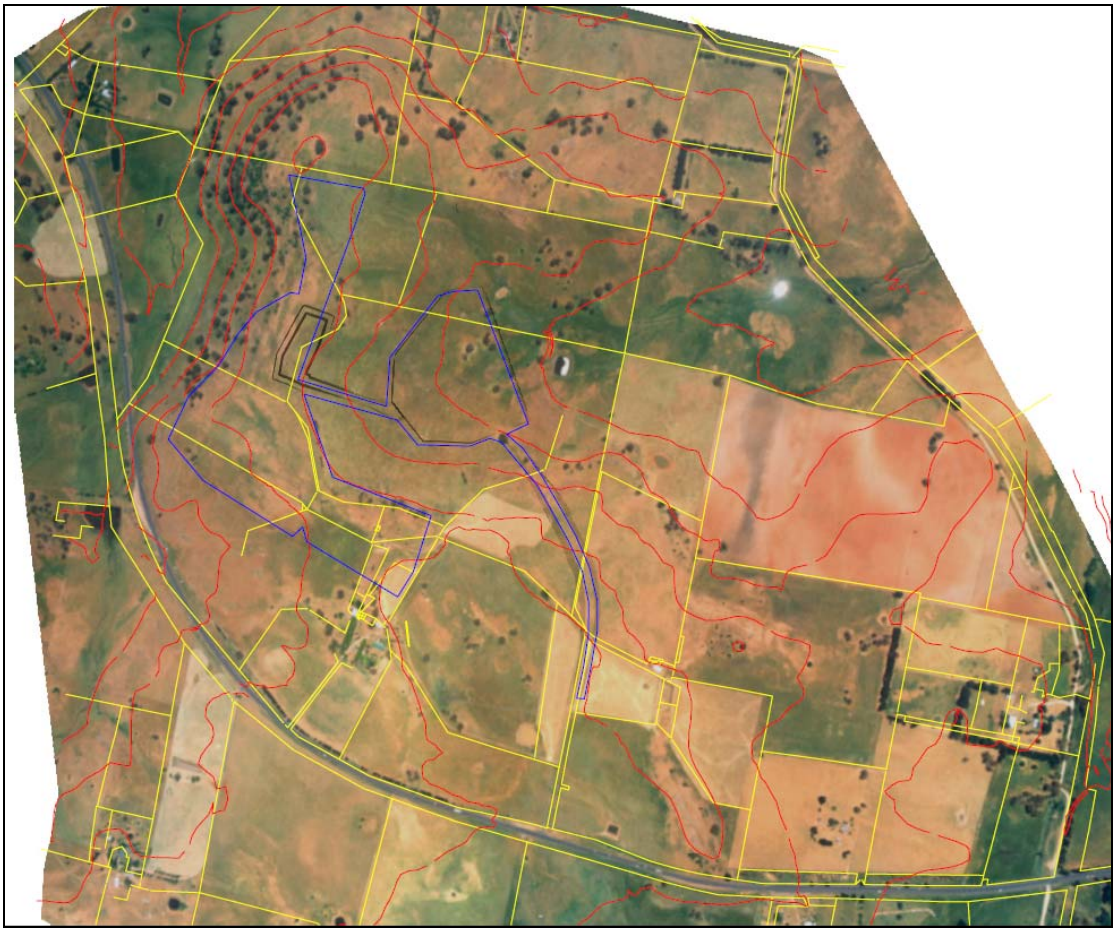
Aerial view from the north west of the proposed Guyong quarry

View looking east taken from the Mitchell Highway near the Munro residence (Carina Vale).

7. Aged eucalyptus will unfortunately be destroyed and are irreplaceable

Proponent's response:
According to the Flora study report in Volume 2 conducted by Geoff Cunningham Natural Resource Consultants Pty Ltd, the site study identified two separate vegetation communities as shown in **Figure 1** on page 8 of the report. Community 1 is cleared lands. Community 2 has the main species present being Ribbon Gum and Apple Box. The photo below shows an aerial view of the site with the quarry pit, haul roads, processing plant and stockpile areas outlined in **BLUE.** It can clearly be seen the proposed areas of ground disturbance occur where significant vegetation clearing has already occurred.

Some remnant trees will need to be removed over the next 20-years; however the proponent is committed to plant 100s of native trees over this period. This commitment will improve the native flora on-site and increase biodiversity.



Aerial photo of the proposed Guyong quarry showing the quarry envelope within the BLUE line.

8. To date we received no direct advice from Hansons that assessment was complete

Proponent's response:
Hanson regrets that it has failed to meet the community's expectation with regard to communication and consultation as part of the planning process. Unfortunately the project has been subjected to a number of new managers at different levels within Hanson. The commitments given at the initial public meeting were not handed over to

new managers in a manner that ensured that the importance maintaining good communication was transferred.

Hanson has good relationships with neighbours at its other quarries and is determined to ensure that that our neighbours at Guyong are not impacted by the presence of this proposed quarry. Hanson has good working relations with regulatory government agencies such as DECCW, DII (formerly DPI), and councils around the state, and considers itself a good corporate citizen.

9. Vegetation area is habitat to a larger variety of birds in particular wedge-tailed eagles, various hawk species, the rare fire-tailed finches also crimson rosellas all to be affected by blasting and lossed (sic) to the area

Proponent's response:
There is no evidence that suggests nearby blasting effects bird numbers. According to the Fauna study report in Volume 2 conducted by Western Research Institute Ltd there were no species of wedge-tailed eagle, various hawks or fire-tailed finches present on the entire site. Crimson rosellas were recorded in the remnant, hybridised and degraded wood patch and house block which are both located outside the quarry ground disturbance envelopes as outline in **Point 7** above. The proponent is committed to plant 100s of native trees during operations. This commitment will improve the native flora on-site and support native fauna and increase biodiversity.

10. Kangaroos and wallabies frequent the area and all fauna will be lost

Proponent's response:
According to the Fauna study report in Volume 2 conducted by Western Research Institute Ltd, page 18:

"All 66 species that were found on the property were either relatively common protected native species (53) or feral species (13). With the exception of the Eastern brown Snake, the Common Skylark, Australian Wood Duck and Pacific Black Duck (4 species), all other native species (49) located during the study were found in the remnant bushland block to the west of the proposed quarry area (Habitat Type 5)."

And also:

"Only those species that are associated with habitats 2, 3 and 4 are likely to be impacted by the proposed development. However, these are all protected species that are relatively common across tablelands, are in very low numbers on the proposed development site, and at worst are likely to be gradually displaced to nearby locations of the landscape if no mitigation actions were envisaged."

In regards to this last point, as mentioned above; the proponent is committed to plant 100s of native trees during operations. This commitment will improve the native flora on-site and support native fauna and increase biodiversity.

11. Influx of heavy vehicles on a highway already under stress

Proponent's response:
As demonstrated in the McLaren Traffic Management Report in Volume 3, the quarry during the peak hours will generate 5 trucks (note on average there will be only be 3 quarry truck movements per hour) entering and leaving the site during the AM and PM peak hours. During these hours the number of other vehicles currently passing the site is 207 and 403 respectively. The quarry truck movements are trivial in comparison. The RTA

will be consulted in regards to the design of the quarry entrance intersection and the proponent has given a commitment to satisfy their requirements.

Submission by NSW Department of Industry and Investment

Fisheries Issues

The department requests that a minimum 50 metre riparian buffer zone is maintained between the quarry site and Lewis Ponds Creek as a precautionary approach to protect Key Fish Habitat.

Proponent's response:
The proponent will commit to ensuring that a minimum 50 metre riparian buffer zone is maintained between the quarry site and Lewis Ponds Creek as a precautionary approach to protect Key Fish Habitat.

Mineral Resources Issues

Figure 5.3 "Site Layout and Works Plan" on page 46 of Volume 1 of the EAR has been used to illustrate the location of the additional extraction areas and potential extraction area not geology or extraction stage cross sections. Figure 5.6 (not Figure 5.1) on page 56 of Volume 1 of the EAR illustrates Stage 1 of the quarry planning and development. As the extraction stages progress the following figures illustrate the development:

- Figure 5.7 stage 2
- Figure 5.8 stage 3
- Figure 5.9 stage4
- Figure 5.10 stage 5
- Figure 5.11 stage 6
- Figure 5.12 stage 7

These figures are made up of a plan view and cross-section for each corresponding stage. The cross-sections shown for Figures 5.8, 5.9, 5.10 and 5.11 are incorrect as Section B does not show a change in pit development, and section 6 on Figure 5.8 shows the quarry pit being intersected at stage 3 when in fact it is not. The correct figures are shown below.

With regard to the Geology Resource section the Sections A, B, and C shown in Figure 5.1 correspond to Figure 5.1A shown below and not any other figures in the EAR. To help clarify the site geology in more detail the Geology Report produce by HCM in 2005 is attached in Annexure C.

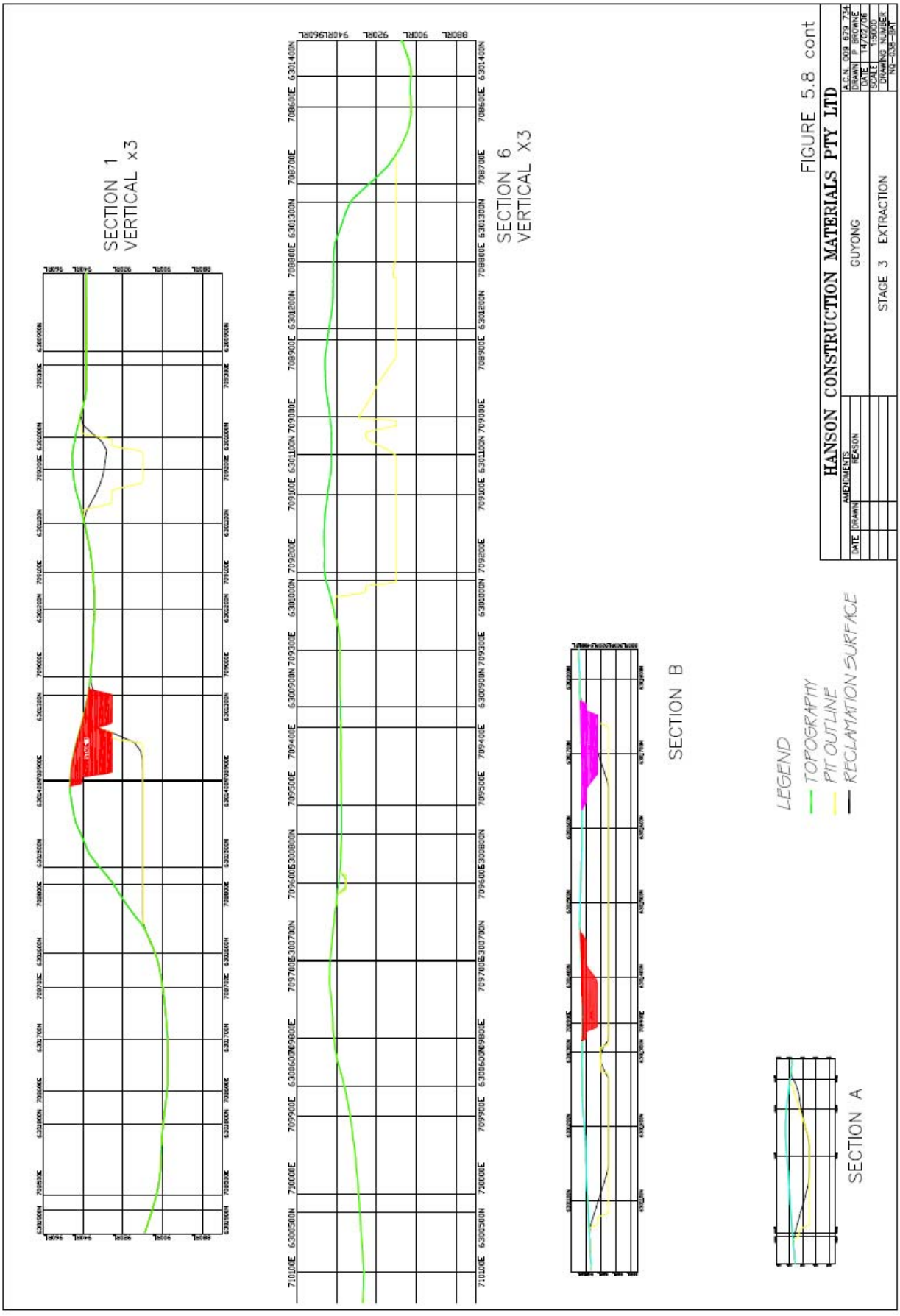


FIGURE 5.8 cont
HANSON CONSTRUCTION MATERIALS PTY LTD
GUYONG
STAGE 3 EXTRACTION
SECTION 1
VERTICAL x3
SECTION 6
VERTICAL X3
SECTION B
SECTION A
LEGEND
TOPOGRAPHY
PIT OUTLINE
RECLAMATION SURFACE

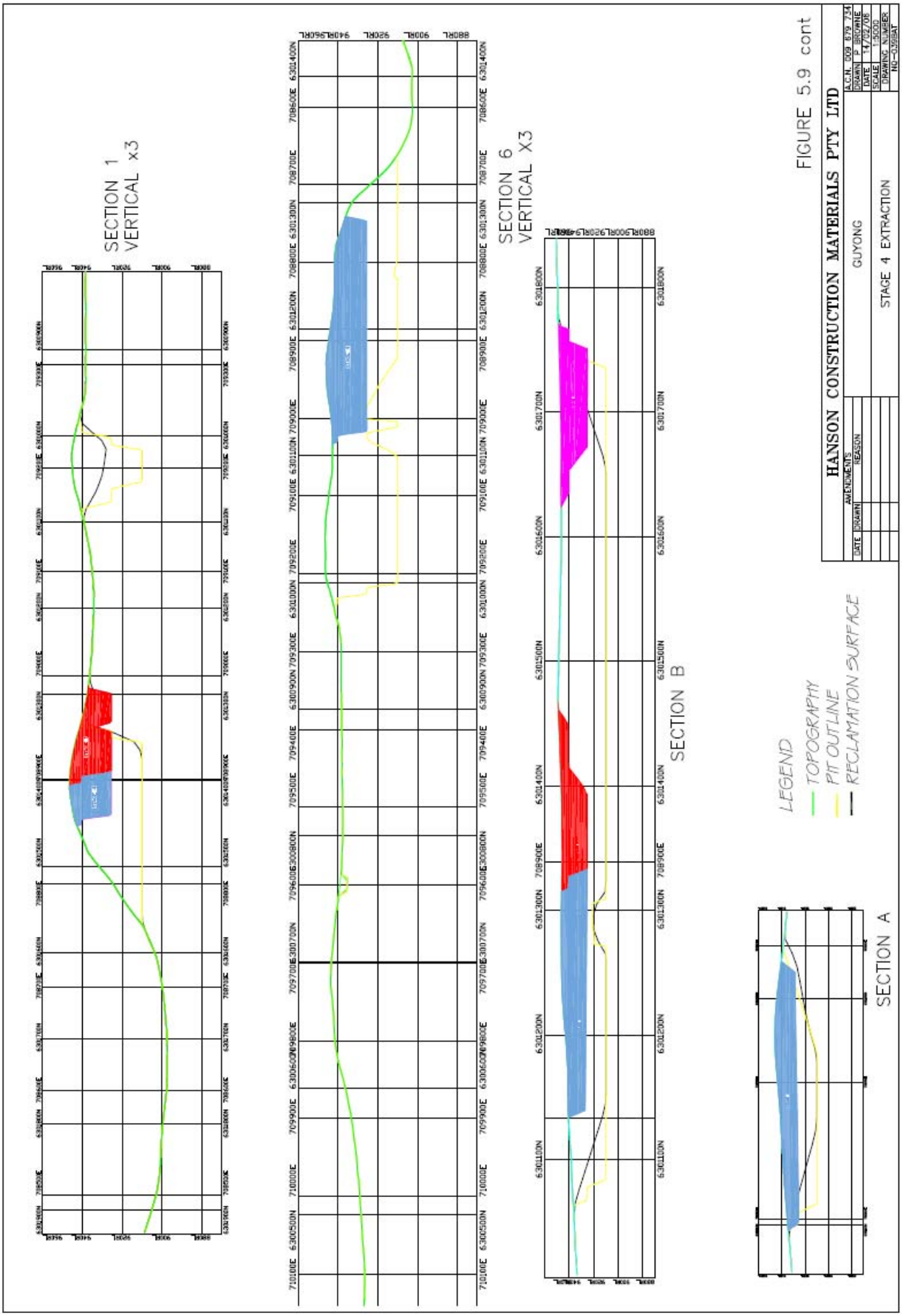


FIGURE 5.9 cont
HANSON CONSTRUCTION MATERIALS PTY LTD
A.C.N. 009 679 731
AMENDMENTS
DATE
DRAWN
REASON
GUYONG
STAGE 4 EXTRACTION
DRAWN P BROWNE
DATE 14/06/06
SCALE 1:3000
DRAWING NUMBER
NG-3998AT
SECTION 1
VERTICAL x3
SECTION 6
VERTICAL X3
SECTION B
SECTION A
LEGEND
TOPOGRAPHY
PIT OUTLINE
RECLAMATION SURFACE

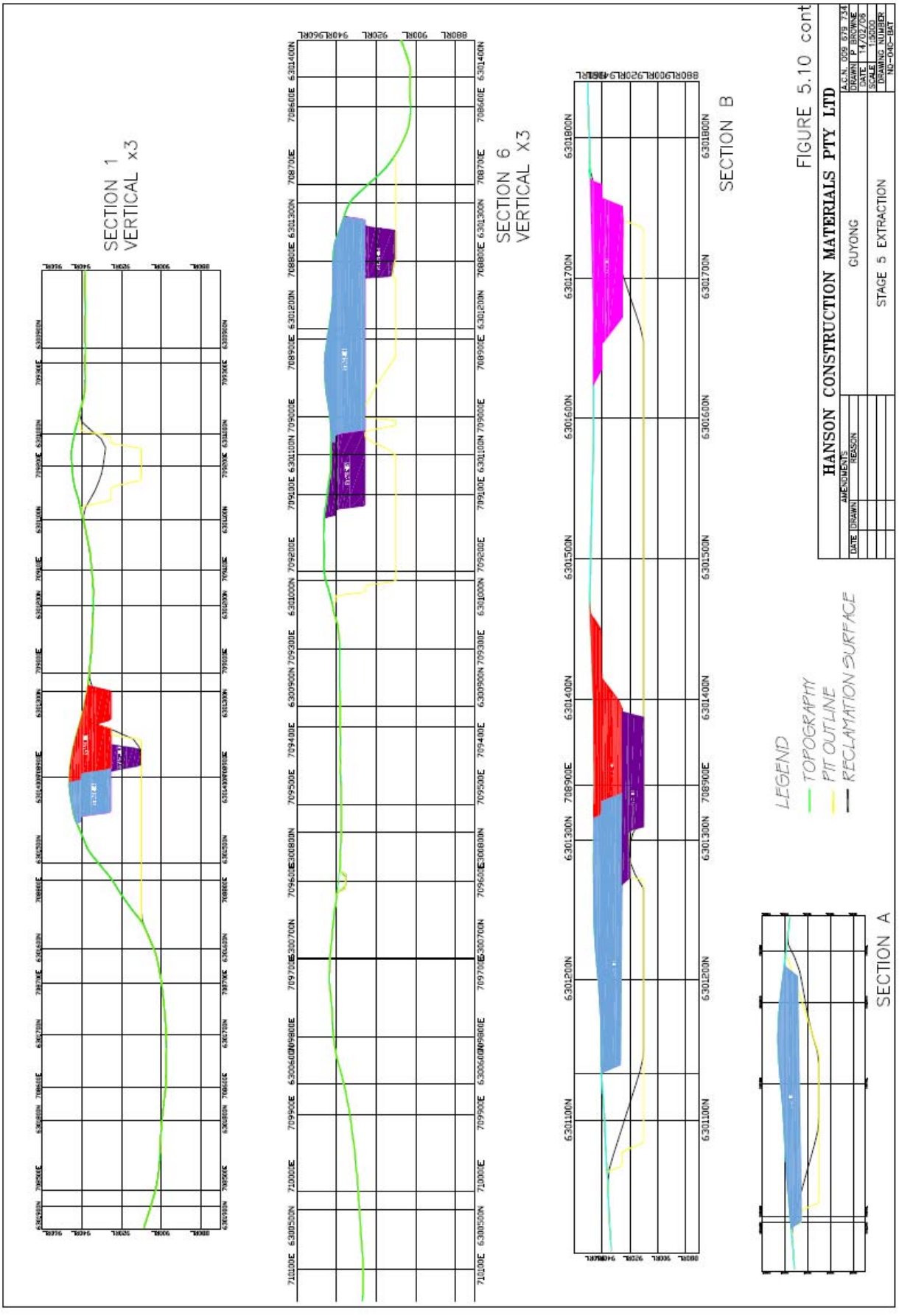


FIGURE 5.10 cont
HANSON CONSTRUCTION MATERIALS PTY LTD
GUYONG
STAGE 5 EXTRACTION
SECTION 1 VERTICAL x3
SECTION 6 VERTICAL X3
SECTION B
SECTION A
LEGEND
TOPOGRAPHY
PIT OUTLINE
RECLAMATION SURFACE

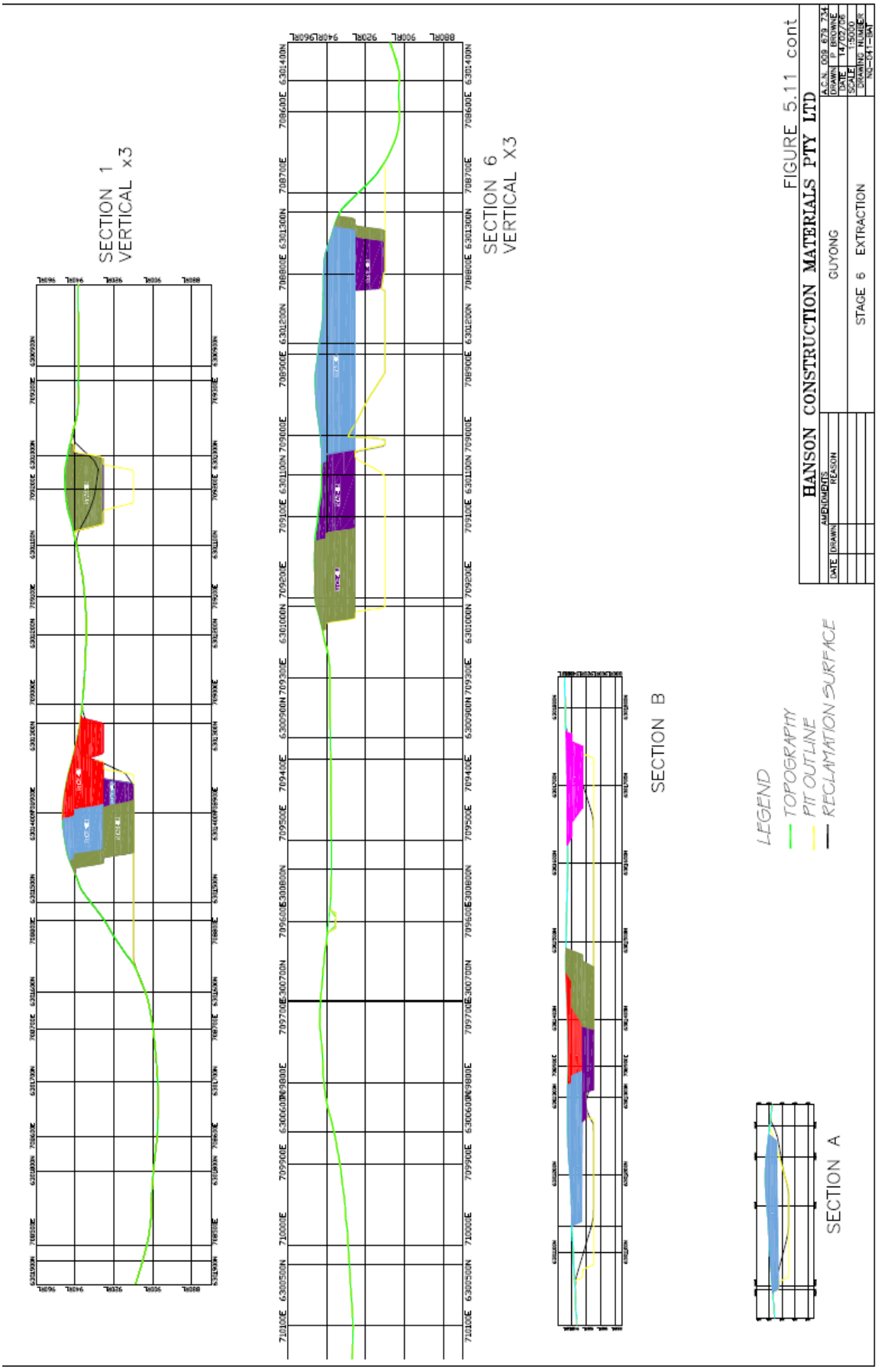


FIGURE 5.11 cont
HANSON CONSTRUCTION MATERIALS PTY LTD
A.C.N. 009 679 734
AMENDMENTS
DATE
DRAWN
REASON
GUYONG
STAGE 6 EXTRACTION
DRAWN P. BROWNE
DATE 14/02/06
SCALE 1:5000
DRAWING NUMBER
NQ-641-041
SECTION 1
VERTICAL x3
SECTION 6
VERTICAL X3
SECTION B
SECTION A
LEGEND
TOPOGRAPHY
PIT OUTLINE
RECLAMATION SURFACE

Attached in Appendix C is the Geology Report produce by HCM in 2005 which provides a more information on the quarry pit design and the core hole logs. Staging/extraction of the resource is difficult to establish from the figures and cross-section. The plans for each stage don't appear to match the corresponding cross sections.

Proponent's response:
As part of its standard operating procedure the proponent will develop a short, medium, and long-term quarry pit resource extraction development plan. The proponent is willing to issue copies of these to the department for its records.

Submission by Sally and Tony Gordon of Hartley, Cadira and Godolphin, 19 November 2009

Summary of Objections

Proponent's response:
The environmental assessment report has been compiled in accordance with the NSW Department of Planning's (DoP) guidelines and the DoP's Director General's Requirements.

"From a technical viewpoint it should have been an essential requirement (and probably cheaper in the long run) to have established permanent weather, dust and noise/vibration collection data collection systems at the site of every one of the potentially effected dwellings which entirely surround the quarry."

Proponent's response:
Heggies Pty Ltd was contracted by the proponent to conduct a noise emission and air quality assessment in accordance with the Department of Planning's Director General's Requirements issued for the project. Heggies is a multi-disciplined firm of specialist engineers and scientists. With over 130 staff members and 30+ years experience, the company is one of Australia's most recognised and respected consultancies across industries and government agencies. Hanson has relied on the expert advice from Heggies in assessing the impacts of noise and air emissions created by quarrying and any mitigation measures that in Heggies experience have worked in reducing any impacts to an acceptable level.

The sites weather station is located at RL940mAHD. The crushing plant working pad is located at RL920mAHD. The quarry pit itself commences extraction at RL950mAHD and finishes at RL910mAHD and will be formed into a crater (therefore further containing any noise and dust emissions) with a road cutting connecting the pit to the crushing plant. The weather station is suitably located to provide a good measurement of the wind for the entire site.

The figures shown in Table 7.3 of Volume 1 indicate that the amount of water the proponent is entitled to as a Landholder will be sufficient to operate the quarry. Nobody can predict the likelihood of the number of wet, average, or dry years in the years to come. However, like all other landholders who are dependent on water, the proponent will need to make alternative arrangements for sourcing water in the event that demand is not met. It is the proponent's obligation to ensure that its operations are adequately licensed; hence it will be necessary to monitor its requirements and ensure that its licensed entitlements are adequate in terms of volume, water source and purpose.

Rangott Mineral Exploration (RME) were commissioned by Hanson to conduct a thorough assessment of the site to determine the whether there is naturally occurring asbestos on the site.

The study involved geological mapping and sampling (on the surface, excavator dug pits, and examination of core holes) of the areas within and around the development envelope of the proposed quarry (see figure 1 below). The report concluded that the basalt in the proposed extraction quarry pit, where drilling and blasting will occur, does not contain asbestos. Based on this the risk associated with exposure to asbestos due to drilling and blasting within the quarry pit is negligible. The RME report indicates that the risk of encountering asbestos increases further to the east away from the extraction area. The RME report has classified the areas of risk as shown in figure 2 below. In the western half of the proposed processing plant and stockpile area, there is an increasing thickness

of cover of partly to deeply weathered Tertiary basalt. This cover material is unlikely to contain asbestiform minerals, except where mixing of Ordovician and Tertiary rock rubble may have occurred in the past. Tremolite asbestos has been detected in the Byng Volcanics rocks that are exposed sporadically along the eastern quarter of the proposed plant site, and for at least 150 metres to the east of the eastern boundary of the plant, and in all probability, are exposed much further to the east.

The mitigation strategies recommended in the RME report are:

- Excavating subsoil and clayey weathered Tertiary Basalt and Scree rocks from the western side of proposed plant site and connecting ramp to quarry pit and placing it over the eastern side of the plant site and compacting it **providing a safe cover of 1-2m over the high risk zone.**
- Excavation of the larger water storage dam retention pond will require constant wetting down of work areas. Wearing of appropriate dust masks in the work areas and downwind during this activity. The filters in air conditioning units on plant equipment should be fitted with filters to prevent fine asbestos fibres from entering the cabins, and washing down plant and equipment on completion of the dam construction will be necessary.
- The entire finished dams should be covered with a thin layer of subsoil or clay, overlain by a thin layer of topsoil, and vegetated with durable binding pasture.

Hanson will further investigate the feasibility of importing clay material to construct the dam to avoid/minimise any excavation work in the dam's construction.

As stated in the RME report, in all probability the areas much further to the east of the proposed development areas are likely to have a greater occurrence of natural asbestos. This would logically include adjoining properties. This is supported by anecdotal evidence of neighbours who have encountered it on their properties while ploughing their fields. Any land that is subject to activity or proposed development that disturbs ground that has the potential to contain naturally occurring asbestos should undergo a thorough risk assessment so that landowners and other members of the public are not put at risk.

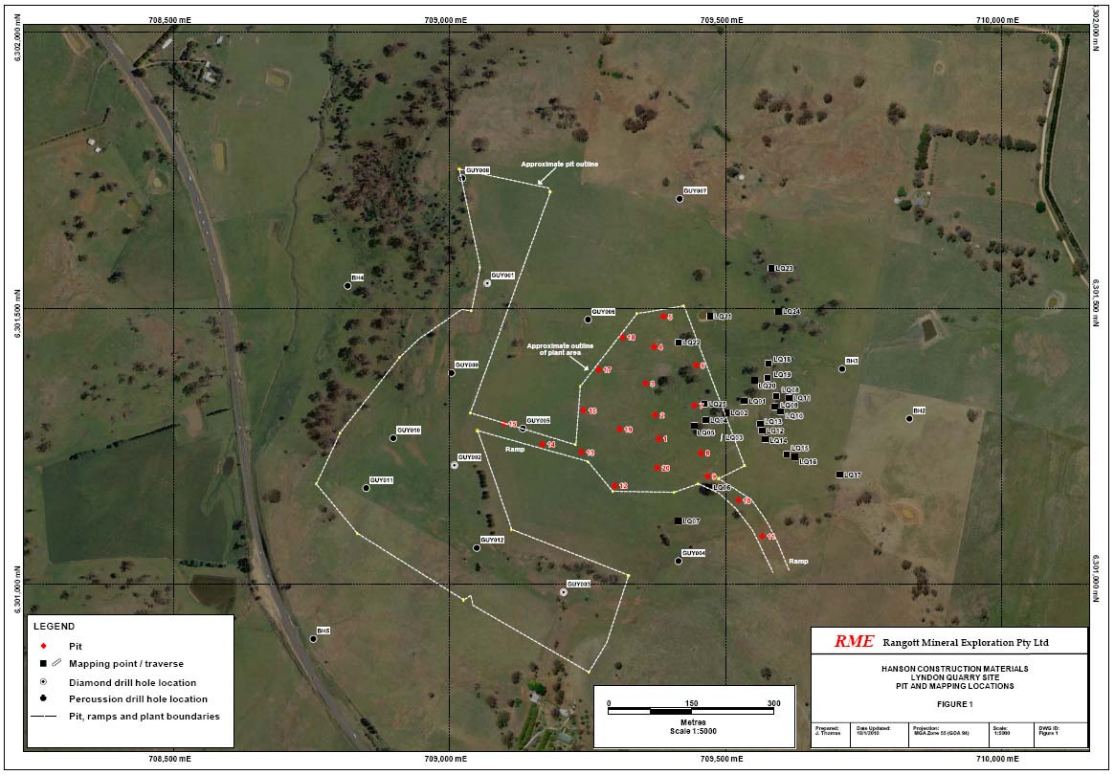


Figure 1- RME, naturally occurring asbestos pit and mapping locations for the proposed quarry site.

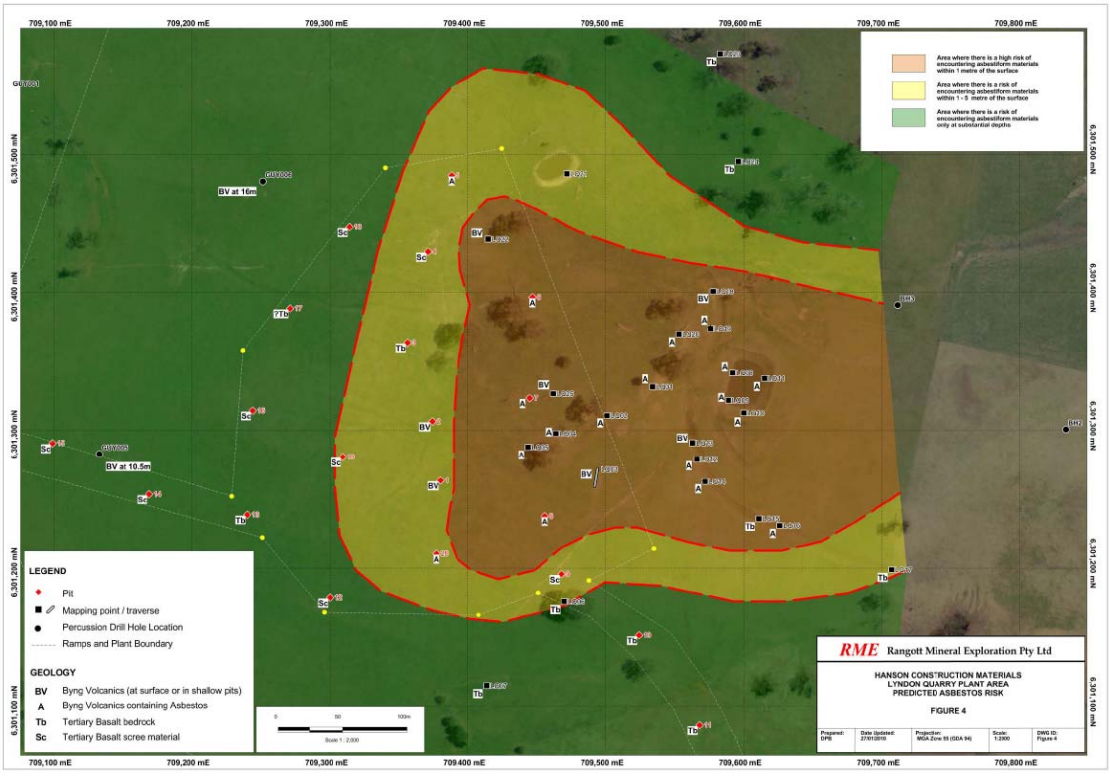


Figure 2- RME, predicted asbestos risk for the proposed quarry site.

A European Heritage assessment study has been conducted by Archaeological Survey Reports Pty Ltd (ASR) in December 2009. ASR concluded in their report:

"No structures or relics of heritage interest were observed in the Project Site.

ASR recommends that there are no constraints to the proposed quarry on Heritage grounds."

1. Cost/benefit analysis to existing neighbours and the need for gravel

Proponent's response:
The environmental assessment report has been compiled in accordance with the NSW State Environmental Planning Policy (Major Development) 2005, NSW Department of Planning's (DoP) guidelines and the DoP's Director General's Requirements.

The aims of the NSW State Environmental Planning Policy (Major Development) 2005 include:

- to identify any such development that is a critical infrastructure project for the purposes of Part 3A of the Act,
- to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant sites for the benefit of the State.

The Hanson Bathurst Quarry has been providing aggregates for the building industries of Bathurst, Orange, Lithgow, Blue Mountains and even as far as Sydney Metropolitan. Road gravels are used by the RTA and councils to upgrade and build new roads that are safer, quieter and reducing accidents and travel times. Tests on the basalt show that it has a unique skid-resistance therefore making it an excellent alternative when replacing existing asphalts. Rail ballast is important in maintaining existing lines and for future upgrades allowing the continued use of our railways by passengers and freight. Globally concrete is the most ubiquitous man made material. Every person requires concrete, whether they are aware of it or not. Without aggregates we cannot produce the concrete to build house slabs, hospitals, schools, roads, airports, footpaths, dams, and council swimming pools.

The quarry at Shadforth is owned and operated by Boral. Boral is a competitor in the construction materials market. To imply that Hanson could merely source its material requirements from the Boral quarry at Shadforth is simply not a viable option. The construction materials market has a limited number of competitors and therefore reducing competition by not allowing Hanson it acquire its own source of materials for the market will push material prices up resulting in higher building costs that will be bourne by the broader community. It is imperative to maintain a healthy competitive market to prevent a monopoly and maintain price competitiveness and lower building costs.

Furthermore, Hanson currently produces 250,00 tonnes p.a of aggregate from it Bathurst quarry which it supplies to concrete plants, local councils, builders, nurseries, etc. It is very doubtful that the Shadforth quarry could meet this extra demand let alone the increase to 400,00 tonnes p.a in 20 years.

There is little evidence that the mere presence of a quarry in the area has been shown to decrease property values. Hanson has a number of quarries in NSW that have been operating for more than 40 years. Over the years these quarries have been subjected to an increase encroachment of residential dwellings. It is difficult to believe that a significant number of people would capitalise large amounts of money building a family house near a quarry if they believed that it would ultimately result in a financial loss or a

detrimental standard of living. Notwithstanding this, the historical house prices (RP Data) of properties within the vicinity of Hanson's existing quarries have all demonstrated positive growth in value in-line with the greater regional area in which they exist; and in some circumstances for example the suburb of Shell Cove adjacent to Hanson's Bass Point Quarry have far exceeded the growth trend of the local LGA. It should be noted that Hanson's Bass Point Quarry is more than 5 times the size of the proposed Guyong Quarry and Shell Cove has a population of 2,833(2006) compared to Guyong's population of 276(2006). This situation is similar for Hanson quarries at Somersby and Kulnura, NSW.

It is more likely that property values will be more negatively affected by the likelihood of Naturally Occurring Asbestos on all nearby properties that contain Serpintine rock.

"It is likely there will be no net change in employment opportunities in the greater region"

One of the positive outcomes of continuity of supply of construction materials into the greater regional markets is maintenance of current employment numbers. This not only includes quarry workers, but also:

- Concrete plant workers
- Tipper truck drivers
- Concrete truck drivers
- Builders
- Concreters and labourers
- Developers
- Other industries that support the building industry including administration and IT.

To say "no net change in employment" is a relatively positive outcome. The loss of 250,000 tonnes p.a. of construction aggregates will result in a decline in material supplies, price rises, and job losses as the building industry slows through through-put constraints.

2. Heritage

Proponent's response:

A European Heritage assessment study has been conducted by Archaeological Survey Reports Pty Ltd (ASR) in December 2009. ASR concluded in their report:

"No structures or relics of heritage interest were observed in the Project Site.

ASR recommends that there are no constraints to the proposed quarry on Heritage grounds."

According to an Article by Joe Evans, Gold Gem and Treasure, January 1988; *"The first prospecting trip to discover gold in NSW was organised by Edward Hammond Hargraves who persuaded John Hardman Lister to guide him to Lewis Ponds Creek with the promise he would show Lister where to find gold. They arrived at the corner of Radigan's Gully, about 3km above the junction of Lewis Ponds and Summer Hill Creek, on the 12th February, 1851".* **The junction of the Lewis Ponds Creek and Summer Hill Creek is near the township of Ophir some 26kms north of the proposed quarry site.**

This is supported by an article source from the Powerhouse Museum in Sydney.

"Gold washing cradle used in the Ophir goldfields

This cradle was the first to be used in Australia. It was made by William Tom Jr following directions from Edward Hargraves and was based on similar cradles (also called rockers)

used to wash for gold in California. The cradle was a box with two metal sieves. Earth and water were shovelled on top and by the action of being rocked back and forth, forced through the sieves and out the bottom. Since gold is the heaviest metal it sank to the bottom and was caught in the base of the cradle.

William Tom (1791-1883) was a farmer in the Orange area when he met Edward Hargraves in February 1851, when Hargraves visited his property. Hargraves had just found grains of gold in Summer Hill Creek and was anxious to prospect for more in the Orange area. He showed William Tom Jr (1823-1904) how to build a cradle and, together with his brothers James and Henry, William used this to search for gold along the creek. Eventually they found as much as 16 grains of gold in one day. When they found nuggets weighing four ounces they wrote to Hargraves who hurried back and named the field Ophir. By then Hargraves had written to the 'Sydney Morning Herald' describing his finds and in May described specific areas where gold existed. By 15 May over 300 diggers were at work at Ophir and the Australian gold rushes had begun.

The cradle is cedar, possibly made from off-cuts since some pieces of wood have nails embedded in them that do not relate to its construction. Although Hargraves is credited with the first discovery of gold in Australia, in fact gold had been found by Europeans as early as 1823 (by James McBrien) and Aboriginal people were well aware that a shiny gold mineral could be found along rivers and in rocks. The real contribution Hargraves made was in the introduction of Californian mining methods, particularly the cradle. Easy to make and thus accessible to all, cradles made it possible for anyone to prospect for gold."

Kimberley, Webber, September, 2000

Source:Powerhouse Museum

3. Asbestos Concern

Proponent's response:
Rangott Mineral Exploration (RME) were commissioned by Hanson to conduct a thorough assessment of the site to determine the whether there is naturally occurring asbestos on the site.

The study involved geological mapping and sampling (on the surface, excavator dug pits, and examination of core holes) of the areas within and around the development envelope of the proposed quarry (see figure 1 below). The report concluded that the basalt in the proposed extraction quarry pit, where drilling and blasting will occur, does not contain asbestos. Based on this the risk associated with exposure to asbestos due to drilling and blasting within the quarry pit is negligible. The RME report indicates that the risk of encountering asbestos is increase further to the east away from the extraction area. The RME report has classified the areas of risk as shown in figure 2 below. In the western half of the proposed processing plant and stockpile area, there is an increasing thickness of cover of partly to deeply weathered Tertiary basalt. This cover material is unlikely to contain asbestiform minerals, except where mixing of Ordovician and Tertiary rock rubble may have occurred in the past. Tremolite asbestos has been detected in the Byng Volcanics rocks that are exposed sporadically along the eastern quarter of the proposed plant site, and for at least 150 metres to the east of the eastern boundary of the plant, and in all probability, are exposed much further to the east.

The mitigation strategies recommended in the RME report are:

- Excavating subsoil and clayey weathered Tertiary Basalt and Scree rocks from the western side of proposed plant site and connecting ramp to quarry pit and

placing it over the eastern side of the plant site and compacting it **providing a safe cover of 1-2m over the high risk zone.**

- Excavation of the larger water storage dam retention pond will require constant wetting down of work areas. Wearing of appropriate dust masks in the work areas and downwind during this activity. The filters in air conditioning units on plant equipment should be fitted with filters to prevent fine asbestos fibres from entering the cabins, and washing down plant and equipment on completion of the dam construction will be necessary.
- The entire finished dams should be covered with a thin layer of subsoil or clay, overlain by a thin layer of topsoil, and vegetated with durable binding pasture.

Hanson will further investigate the feasibility of importing clay material to construct the dam to avoid/minimise any excavation work in the dam's construction.

As stated in the RME report, in all probability the areas much further to the east of the proposed development areas are likely to have a greater occurrence of natural asbestos. This would logically include adjoining properties. This is supported by anecdotal evidence of neighbours who have encountered it on their properties while ploughing their fields. Any land that is subject to activity or proposed development that disturbs ground that has the potential to contain naturally occurring asbestos should undergo a thorough risk assessment so that landowners and other members of the public are not put at risk.

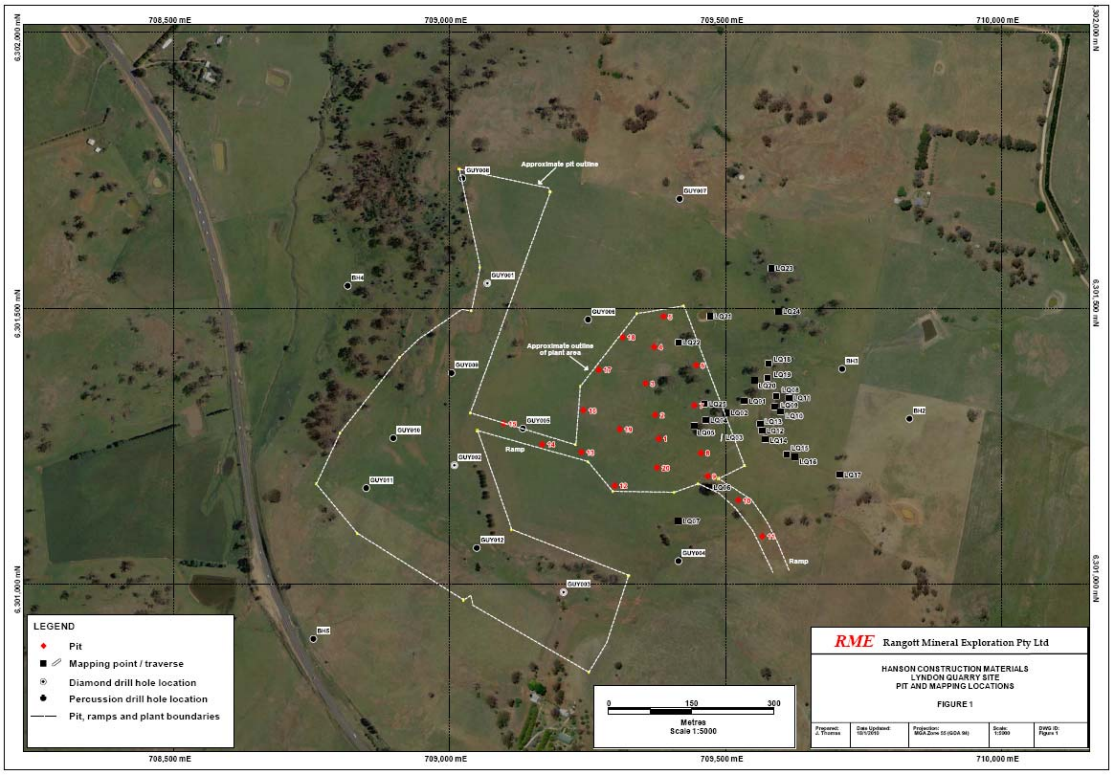


Figure 1- RME, naturally occurring asbestos pit and mapping locations for the proposed quarry site.

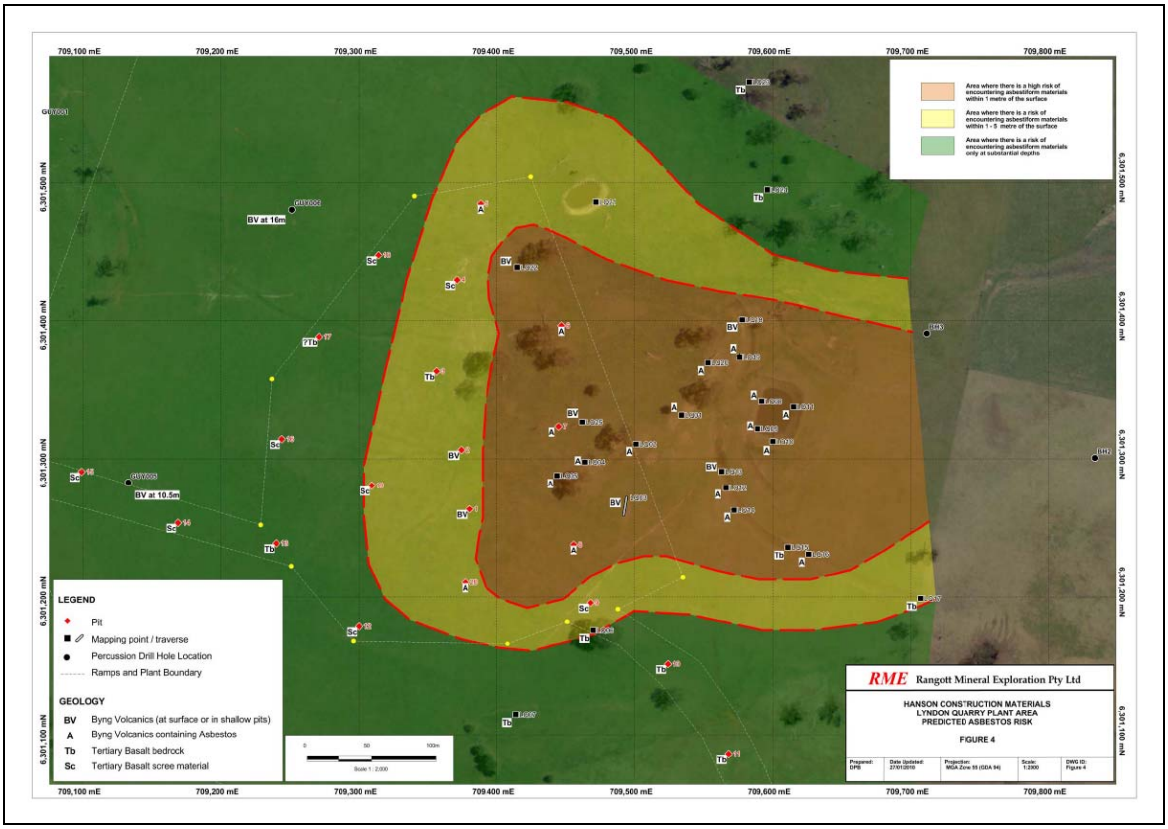


Figure 2- RME, predicted asbestos risk for the proposed quarry site.

4. Inadequate water supply and diversion runoff

Proponent's response:

The figures shown in Table 7.3 of Volume 1 indicate that the amount of water the proponent is entitled to as a Landholder will be sufficient to operate the quarry. Nobody can predict the likelihood of the number of wet, average, or dry years in the years to come. However, like all other landholders who are dependent on water, the proponent will need to make alternative arrangements for sourcing water in the event that demand is not met. It is the proponent's obligation to ensure that its operations are adequately licensed; hence it will be necessary to monitor its requirements and ensure that its licensed entitlements are adequate in terms of volume, water source and purpose.

5. Visual Effects (sic)

Proponent's response:

The quarry pit will remove around 4 metres off only part of the top of the hill. The pit is the developed into a crater with a road access cutting through to the crushing plant on the east side. The figures below show a graphical representation of the proposed quarry site from the north and the likely views from the "Cadira" and "Hartley" properties.

Aerial view from the north (looking south) of the proposed quarry.

View from "Cadira" property looking south to the proposed quarry.

View from "Hartley" property looking west to the proposed quarry.

6. Noise effects (sic)

Proponent's response:

Table 7.17 in Volume 1 shows the predicted operating noise results in **CALM** conditions (ie no wind therefore the worse case scenario for all receivers). This table shows that for all stages the 24 hour operational noise levels comply with the intrusive criterion for all stages. The unattended background noise monitoring carried out by Heggies Pty Ltd measured noise levels over a 10 day period. During this period the existing noise levels were a LAeq(period) of 52dBA for daytime, 59dBA for evening and 55dBA for nigh time.

The proponent is in discussions with Country Energy for the supply of 1MW of power to the site.

7. Dust effects (sic)

Proponent's response:
Referring to Table 5 on page 15 of the Heggies Pty Ltd, Air Quality Impact Assessment in Volume 3. According to NSW DECCW Goals, using an annual averaging period the allowable Maximum Total Deposited Dust Level is 4g/m2/month, and the Maximum Increase in Deposited Dust Level is 2g/m2/month. The first figure sets the upper limit for combined existing levels plus the increase due to the introduced dust emitting activity. The second figure sets the upper limit for the increase in deposited dust caused by the introduced dust emitting activity regardless of the background level.

The figure of 1.6g/m2/month set as the background level is taken as an average.

The predicted incremental amounts resulting from the proposed quarry are shown in Table 8 on page 22 of the Heggies Pty Ltd, Air Quality Impact Assessment in Volume 3 and reproduced on Table 7.10 on page 109 of Volume 1. The predicted incremental amounts have been determined by examining the dust generating quarry activities and any dust suppression activities to produce a net amount of dust emission. The table indicates that the background plus increment amount does not exceed the NSW DECCW Goal using an annual averaging period the allowable Maximum Total Deposited Dust Level of 4g/m2/month, and the Maximum Increase in Deposited Dust Level of 2g/m2/month.

8. Vibration

Proponent's response:
Limits stipulated by DECC in licence conditions are well below levels know to cause cosmetic damage. These conditions stipulate that ground vibration peak particle velocity from blasting at the quarry site must not exceed 5mm/s for more than 5% of the total number of blasts over a 12 month period; and must not exceed 10mm/s at any time. The British Standard 7385:Part 2-1993 "*Evaluation and Measurement for Vibration in Buildings Part 2"* is a definitive standard against which the likelihood of building damage from ground vibration can be assessed. According to this standard the vibration values for cosmetic damage in un-reinforced, residential, of light framed structures is 15mm/s at 4Hz increasing to 20mm/s at 15Hz. It is noteworthy that extra to the guide values, the standard states that:

> *"Some data suggests that the probability of damage tends towards zero at 12.5 mm/s peak component particle velocity. This is not inconsistent with an extensive review of the case history information available in the UK."*

Also that:

> *"A building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive."*

9. Property values

Proponent's response:

There is little evidence that the mere presence of a quarry in the area has been shown to decrease property values. Hanson has a number of quarries in NSW that have been operating for more than 40 years. Over the years these quarries have been subjected to an increase encroachment of residential dwellings. It is difficult to believe that a significant number of people would capitalise large amounts of money building a family house near a quarry if they believed that it would ultimately result in a financial loss or a detrimental standard of living. Notwithstanding this, the historical house prices (RP Data) of properties within the vicinity of Hanson's existing quarries have all demonstrated positive growth in value in-line with the greater regional area in which they exist; and in some circumstances for example the suburb of Shell Cove adjacent to Hanson's Bass Point Quarry have far exceeded the growth trend of the local LGA. It should be noted that Hanson's Bass Point Quarry is more than 5 times the size of the proposed Guyong Quarry and Shell Cove has a population of 2,833(2006) compared to Guyong's population of 276(2006). This situation is similar for Hanson quarries at Somersby and Kulnura, NSW.

It is more likely that property values will be more negatively affected by the likelihood of Naturally Occurring Asbestos on all nearby properties that contain Serpintine rock.