

**Hanson Lysterfield Quarry
Community Reference Group**

MINUTES OF MEETING

Meeting No.:	24	Status of Minutes:	APPROVED
Date:	24 June 2020	Time:	6:00pm
Location:	Online via Microsoft Teams		
Minutes Confirmed:	Approved V Bright Seconded S Logan Carried by consensus		

Chairman:	Brian Oates (BO)
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Present:

Members:	Alan Birchall (AB) Alice MacKenzie (AM) John Farrar (JF) Monica Varcoe (MV) Sally Orr (SO) Shane Logan (SL) Susan Pearce (SP) Trevor Harley (TH) Virginia Bright (VB) Wendy Belli (WB)
Presenters/ Observers:	Benny Asirvatham, Acting Manager, ERR Metro Compliance (BA) Daniel Fyfe, Hanson (DF) Cr Darren Pearce (DP) Garrett Hall, Golder, Hanson consultant (GH) Geoff Gilbert, ERR (GG) Lachie McRae, Hanson (LM) Lisa Zieren, Inspector, ERR Metro Compliance Paul Dickie, KCC (PD) Rob Francis, Hanson (RF) Rosie Guardiano, ERR Community Engagement - Petroleum (RG) Lyndel Hunter, LHSC, Hanson consultant (LH)

Item	Issue
1	Welcome Apologies received from: Clayton Collins Paul Lees

	<p>Absent: Darren Heathcote</p> <p>BO welcomed visiting ERR observers to the meeting.</p> <p>Introduction of new Quarry Manager Lachie McRae (Refer to ATTACHMENT A)</p> <p>In his absence, BO thanked Bruce Webster for his work with the CRG and his commitment to community responsiveness. BO advised that during this time, Bruce had responded to many CRG member requests including, site tours, adjustment to the eastern face rehabilitation design, installation of a truck wheel wash, the upgrade of the crusher and screen house upgrade and introduction of traffic management improvements. Bruce has moved on to become Manager of two Hanson quarries – the Langwarrin Quarry and the Lang Lang Quarry. BO and all CRG members wished Bruce well in the future.</p> <p>LM introduced himself advising that he had managed various facilities during his six years with Hanson, including managing the Lysterfield Concrete Batching Plant located at the quarry for the past three and a half years. LM advised that he studied at the University of Otago New Zealand achieving a Master's Degree and a Bachelor of Commerce.</p> <p>LM encouraged all CRG members to stay in touch with him and committed to supporting the CRG.</p>
2	<p>Minutes of previous meeting</p> <p>Minutes of Meeting 23 were approved by TH and SO and carried unanimously.</p> <p>Action Tracker</p> <p>There were no action tracker items from Meeting #23</p>
3	<p>Communication and Consultation (Refer to ATTACHMENT B)</p> <p><u>Community complaints:</u> <i>Rob Francis, Hanson</i> <i>Lachie McRae, Hanson</i></p> <p>RF advised that, during the COVID-19 lockdown period, community complaints about the quarry were being made to members of parliament, Knox City Council, ERR and directly to Hanson about a range of issues including blasting, property damage allegations, operating hours, noise and dirt / mud on Wellington Road.</p> <p>RF outlined the Hanson complaints procedure and presented a summary of complaints received including the issue, Hanson's response to the complaint and the source of the complaint.</p> <p>RF advised that ERR had conducted two site inspections on 15 and 29 May 2020 and provided an outline of each issue, a summary and Hanson's response. The first inspection was conducted to review operating hours and blast monitoring sites, including external locations. The second inspection required Hanson to provide information relevant to CRG membership conflict of interest concerns, transport hours of operation, an inspection of the mobile crushers in the pit area and concern regarding bone seed weeds in the rehabilitation area.</p> <p>RF presented a table of the ERR Inspectors comments regarding blast monitoring locations, air blast and vibration limits, blast monitor readings, weed management and a review of the effectiveness of the CRG. The inspector recommended the production of another newsletter. RF's presentation included a summary of each issue and Hanson's response.</p> <p>RF advised that a sign had been placed at the quarry gate advising 'No trucks allowed past this point between 6:00pm and 6:00am'.</p>

Following the presentation, the following comments were made:

- TH commented that the air blast limits will be lower for the new extension as a consequence of the new regulations. RF advised that new or varied work plan applications would change from 10mm/s to 5mm/s for ground vibration and from 120dBL down to 115dBL for airblast.
- TH commented on ERR's requirement for wider community participation of the CRG. He advised that the group had tried, including a community meeting, three newsletters, and a display at Wellington Village Shopping Centre for two days, but community members aren't prepared to join.
- DP advised that he had recommended the attendance of the CRG to several community members who had made contact with him.
- VB explained her position as representing all equestrian groups in the area. GG supported VB's statement.
- TH commented on VB's positive contribution to the CRG.
- BO advised that the difference between a board of directors and the CRG is that there is no Conflict of Interest registrar is required, nor do CRG members obtain any financial benefit from CRG membership. BO reiterated that CRG membership is open to any person interested in the quarry and its environs and all community members are welcome.

CRG member reports:

A lengthy discussion involving all members and observers was conducted regarding the community activity of the Quarry Bothers Me (QBM) Facebook group, including the segment aired on Channel 9's A Current Affair. Several CRG members had submitted information

During the discussion, the following was noted:

- QBM Facebook group is closed
- The ACA report of community members being removed from meeting was incorrect. ERR sought explanation of this statement. LH described occurrence which was agreed by all.
- Community members registering complaints with ERR, Knox Council or Hanson are invited to attend CRG meetings. To date, few community members have taken up the offer.
- VB provided a letter to the CRG regarding the ACA segment, providing factual responses to some of the claims made by community members appearing in the segment.
- RF reported that he had organised both face-to-face and subsequently online meetings with two community members who appeared in ACA segment, but they had cancelled.
- Conflicts of interest of specific CRG members were discussed and deemed invalid.
- QBM believe community is not being represented on the CRG, that members are hand-picked by Hanson, and that they receive some recompense.
- LH advised that every community member that has applied to join the CRG has been accepted as a member and that members volunteer their time and receive no recompense, other than sandwiches, juice and tea and coffee at CRG face to face meetings.
- Terrock Report of blasting should be more accessible.
- LH advised that Hanson had approved the production of a series of Fact Sheets relevant to Hanson policy, quarry regulations and specific concerns such as blasting, dust, trucks, noise etc. DF advised that Hanson would prioritise Lysterfield Quarry Fact Sheets given tonight's discussion.
- BA advised:
 - that ERR will be monitoring quarry so issues can be addressed

- that ERR acknowledges that complaints are primarily the consequence of a community campaign and that ERR is constantly providing the same information to the same people
- ERR will check the legality of some of the QBM posts on their Facebook page
- Recommended that Hanson recheck blasting data in light of report being based on one blast per week, now two blasts per week
- Most complainants wish to remain anonymous.

Following discussion, it was agreed that the following actions should be undertaken:

- *CRG Newsletter Issue #4 to be produced and distributed.* Newsletter content to address misinformation being distributed to community.

RG queried the distribution. LH advised that CRG Newsletter Issue #3 was distributed via Australia Post to 12,033 private residences within Lysterfield, Lysterfield South and Rowville, with a further 400 being hand delivered to residences in Endeavour Hills.

- *Terrock Blasting Report to be uploaded to website.*
- *Lysterfield Quarry Fact Sheets to be prepared and uploaded to website.*

Actions:

- LH to prepare draft CRG Newsletter Issue #4 addressing complaints, community concerns and misinformation and including contributions from members.
- Terrock Blasting Report to be uploaded to website.
- Lysterfield Quarry Fact Sheets to be prepared and uploaded to website.

Corporate Activity:

Lyndel Hunter, LHSC

LH reported that when COVID-19 restrictions first came into play in March, Hanson recognised there was the potential for increased community complaints, as more people would be at home and living under various levels of stress.

Consequently, when the first few complaints came in to Hanson, the community complaint response procedure was immediately triggered, including speaking directly and immediately with the person, organising a visit to their property or a site tour, investigating the complaint and providing a report.

Some community members were satisfied with this process, however there were some who refused to meet with Hanson, even via web link, and it was not long before Hanson was advised by ERR that these community members had emailed a number of elected government representatives and government agencies.

At about the same time, CRG members, and other members of the public, advised Hanson of the QBM group activity using the SMS Blasting notification service as the planned trigger for sending community complaints to a range of government links.

Hanson was also advised by a community member that a Channel 9 journalist had joined QBM and, the very next day, during an operational tour, Hanson and ERR representatives observed a Channel 9 crew at an offsite monitoring location.

On 5 June 2020, Hanson wrote to the Minister for Resources, Jaclyn Symes, outlining Hanson's commitment to community engagement, the commitment of the CRG members and their success in driving change or greater awareness of issues, and described the activity being undertaken by the *Quarry Bothers Me* group. Hanson believed this was necessary should the Minister be approached by media for comment.

At 5:00pm that day, RF received a text from A Current Affair seeking a discussion regarding community concerns. Hanson triggered the internal Media Policy and immediately notified the Media

	<p>Advisor. The long weekend was spent preparing background information for the Media Advisor to provide to A Current Affair by noon Tuesday for presentation that night. However, the segment was presented the following Saturday evening.</p> <p>Following presentation of the segment, and as I mentioned in my email to you all, I intended to desktop analyse the ACA Facebook page comments. Unfortunately, I was unable to do so. Although as at 15.06.20 there were 210 comments, most seemed to be a debate between about 12 people and I was unable to analyse, as the discussion soon moved from the quarry to:</p> <ul style="list-style-type: none"> · Who got there first - the quarry or the houses? · The land must have been cheap – no it's not. · Who's to blame – the developer or the council? <p>The next most discussed topic was trucks and driver behaviour but, again, there was no specific Hanson mention as most people realised there were two quarries and a lot of development was going on – so it was a general 'trucks are bad' discussion.</p>
4	<p>Presentation: Hanson updates</p> <p><u>Buffer Separation Distance:</u> <i>Garrett Hall, Golder</i> (Refer to ATTACHMENT C)</p> <p>GH advised that community complaint regarding buffer distance had been driven by misinformation presented on ACA segment.</p> <p>GH outlined:</p> <ul style="list-style-type: none"> · the EPA Publication 1518 - Guideline for Separation Distances for Industrial Residual Air Emissions (https://www.epa.vic.gov.au/about-epa/publications/1518) · the EPA Publication 1191 - Protocol for Environmental Management: Mining and extractive industries (https://www.epa.vic.gov.au/about-epa/publications/1191) <p>EPA guidelines recommend a distance of 500 metres, however outlines that a reduction of buffer distance can be achieved via Level 1 assessment. The Protocol for Environmental Management (PEM) specifies Level 1 as the most onerous view to be undertaken. GH advised that Level 1 Assessment, in conjunction with EPA, was conducted on a daily basis for three months during the summer and autumn of 2019. Monitoring found Hanson was compliant with results being well within the requirements of the PEM and, importantly, no respirable crystalline silica (RCS) dust was detected. Data demonstrated that the current 400 metre buffer distance is acceptable and that extraction is already taking place closer than 500m from houses.</p> <p>GH reported that, through engagement with the CRG, the reduced extension had been agreed.</p> <p>GH advised that the 400 metre buffer is right on the ridge line and means quarrying will be undertaken more safely and more concealed from community sight lines.</p> <p>SO and MV both commented that it was a good presentation and, put in simple terms, it answered the question of why 400 metres rather than 500metres?</p> <p><u>Project Update:</u> <i>Rob Francis, Hanson</i> (Refer to ATTACHMENT D)</p> <p>RF reiterated that the Key Points relevant to the quarry extension application were that the:</p> <ul style="list-style-type: none"> · the existing 400 metre buffer was being maintained · depth is being increased by 15 metres · rate of extraction is unchanged · quarry operating hours are unchanged

	<ul style="list-style-type: none"> rehabilitation to include a lake and developable area suitable for a range of equestrian, commercial, residential or community outcomes. <p>Within the application process, Hanson is currently awaiting response from ERR.</p> <p>RF advised that Hanson will submit required documentation for the Overburden Earthworks Application demonstrating that conditions would be met.</p> <p>RF outlined Key Points of Transport Hours Application, including:</p> <ul style="list-style-type: none"> Reinstatement of previous annual permits Preloaded vehicle movements only - trucks must be loaded before 6pm Hanson to install 24/7 noise monitoring <p>RF advised that there would be no change to the Planning Permit issued by Knox City Council and that the application had been submitted to ERR.</p>
5	<p>Other Business</p> <p>5.a Operational Report</p> <p><i>Lachie McRae, Quarry Manager</i> (refer to ATTACHMENT E)</p> <p>LM presented dust, wind and weather reports noting:</p> <ul style="list-style-type: none"> Dust readings at Montague Cres have been low. April and May dust readings higher at north-eastern boundary due to proximity to off-site sources and rehabilitation of eastern face of quarry being undertaken Rainfall significantly above average in 2020 <ul style="list-style-type: none"> January 260% of average February 650% of average March 165% of average April 835% of average May back to average There has been strong weed growth in 2020 <p>LM presented blast monitoring results noting:</p> <ul style="list-style-type: none"> All blasts were well within range Hornfels require less blasting force Slightly lower blast vibration readings since mid-2018 Results have been less than 1/3 of limit mid-2018 to May 2020 LM advised that Hanson is now measuring tonnage due to community complaints re increased blasting. <p>GG advised that community members had filmed the blast from a location at Trigg Point. He also queried how the two blasts on 12 June 2020 were spaced. LM advised that they were blasted at the same time and were effectively one blast at 60 to 80 metres apart on the same bench.</p> <p>WB noted that QBM had commented on the double blast. GG advised that ground vibration travels faster than air blast. LM commented that monitoring data recorded a single reading.</p> <p>It was noted by many that the ACA segment stated that blasting had increased. This is not so.</p> <p>A video of all blasts undertaken since Meeting 23 was presented, including a CRG viewing of the two sequential blasts on 12 June 2020.</p> <p>Following discussion re blasting, CRG members requested that Terrock be invited to present an update at the next CRG meeting.</p> <p>As a consequence of a community complaint regarding blast monitoring undertaken by Hanson, LM advised that a blast monitoring review was being undertaken, with specific focus on:</p>

- ERR Guideline, <https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/ground-vibration-and-airblast-limits>
- Australian Standard, AS2187.2-2006 Explosives-Storage and use Part 2: Use of explosives
- Work Authority vibration limit, 10mm/s ppv at any building not owned by the Work Authority holder
- Work Authority airblast overpressure limit, 120 decibels at any building not owned by the Work Authority holder
- Transducer Coupling, adhered to a rigid surface; curb or 200mm concrete cube, as per AS2187.2-2006
- Monitoring locations, as requested by resident, at Hanson boundary
- Following ERR inspection of monitoring practice on Friday 29 May 2020, noise monitoring has been undertaken at quarry entrance

LM provided images of rehabilitation progress on eastern face of quarry, including progressive views from National Park.

Actions:

- Terrock to be invited to present at next CRG meeting.

5.b Questions and Answers

- MV requested Hanson consider moving the stockpile on the western ridge line to improve the horizon view from the estate. LM to consider options.
- WB questioned community complaints about truck movements through the estate. She noted that it could be due to new housing developments in the vicinity.
- WB commented on the terrible condition of Wellington Road stating that it was full of mud, sludge and dust. WB queried the street sweeper program and the success of the wheel wash.
- LM responded that the condition of Wellington Road had been noted and had spoken with the street sweeper. He had also sent the water cart to clear mud from the Hanson drive.
- LM reported that he was investigating contracting a new street sweeper.
- RF reiterated truck complaints process, encouraging all community members to report any bad driver behaviour or truck movement to LM on 0428 917 538 or RF on 0407 530 262 and provide a photo if possible.

Meeting Closed:	8:20pm
Next Meeting:	Meeting 25 Wednesday 2 September 2020 at 6:00pm Via Microsoft Teams link provided with Agenda.

ACTION SUMMARY

Item	Issue	Action	By
3	Draft of CRG Newsletter Issue #4 addressing complaints, community concerns and misinformation and including contributions from members.	LH	02.09.20
3	Terrock Blasting Report to be uploaded to website.	RF	asap
3	Lysterfield Quarry Fact Sheets to be prepared and uploaded to website.	LH	asap
5a	Terrock to be invited to present at next CRG meeting	RF	02.09.20



Quarry Manager Transition

Lysterfield Quarry

Effective May 1st 2020

Thanking Bruce Webster

- Now managing two other quarries for Hanson
 - Langwarrin
 - Lang Lang
- CCAA Award
- Community responsiveness
- Quarry tours
- Eastern face rehabilitation
- Wheel wash
- Lysterfield crusher & screen house upgrade
- Traffic management improvements



Welcoming Lachie McRae

- Managed various Hanson sites
 - Six years with Hanson
- Lysterfield Concrete Batching Plant
 - Manager for three and half years
- University of Otago, New Zealand
 - Master's Degree
 - Bachelor of Commerce
- Auckland tunnel construction
 - Hands on experience





Community Complaints Update

Lysterfield Quarry

June 24th 2020

Complaints Procedure

- Complaint registered in Community Contact Database
- Hanson to respond within one working day
- Request conversation with complainant
 - Pre-COVID-19: Meeting
 - During COVID-19 restrictions: Phone call
- Listen
- Provide requested information
 - Verbally
 - Documentation (hard copy or emailed)
 - Usually from CRG minutes and newsletters
 - Consultant Engineer's reports
- Take action as appropriate / where possible
- Invitation to join SMS blast notification service
- Invitation to attend CRG meeting as observer
 - Potential to apply to CRG members for membership
- Quarry tour if appropriate

Complaint Summary

Address	Issues	Response	Source
Rowville	Traffic volumes & speed, Community Representation	Discussion. Local JP Suggested CRG engagement.	Phoned Hanson
Golding Ave, Rowville	Trucks. Wellington Village	Emailed CRG minutes re trucks	Emailed Hanson
Whipbird Court, Rowville	Shared fence	Replaced fence	Phoned Hanson
Dani Crt, Rowville	Gorse weed	Gorse removed	Direct
Rowville	Crushing times (no evidence of breach)	Operators reminded of hours	Via ERR
Rowville	Respirable silica	Monitoring found none. CRG minutes forwarded to ERR	Via ERR
Rowville	Traffic volumes, silica dust, road stones, more recycling.	No contact with Hanson On day of meeting request to join CRG meeting	Email ERR

ERR Inspectors' Reports Summary

Issue	Summary	Response
ERR Site Inspection 15/05/2020		
Operating hours	Quarry operations and transport discussed	GPS trucks data provided
Blast monitoring sites	Ensure monitors fixed in compliance with standards	Monitoring review. Terrock to confirm compliance
ERR Site Inspection 29/05/2020		
Agistment tenant CRG membership	Perceived conflict of interest	Discuss in CRG meeting
Transport hours of operation	Discussed steps taken	Refer 'Comments' slide
Pit inspection – mobile crushers	No visual dust	None required
Bone seed weeds in rehab area	More indigenous plants required to compete with weeds	Review planting schedule & coordinate with Parks Victoria & Boral

ERR Inspectors' Comments

Issue	Summary	Response
Blast monitoring locations	Review locations. Quarry footprint increase since 2005.	Additional locations being trialled
Air blast and vibration limits	Limits will decrease with quarry extension	Included in extension application
Blast monitor readings	Comply with limits	Forwarded CRG minutes & blast reports to ERR
Review CRG effectiveness	Encourage wider community participation	Complainants invited. Pop up shop March 2019 12,000 newsletters Jan 2020
Review CRG effectiveness	Encourage CRG members to engage wider community	Discuss at CRG meeting on 24/6/20
Newsletters	Another newsletter may be a good step	CRG members to vote
Weed management	Coordinate weeding with Boral & Parks Vic	Boral meeting in planning
ERR Blast Inspection 29/5/20	Blast not heard or felt at Hanson driveway gate due to road noise	Reviewing monitor locations
Confirmed transport yard within Work Authority boundary	Preloaded trucks not permitted to start before 6am	1. Lodged application to reinstate expired annual permit 2. New sign at entrance

New Sign at Quarry Gate



Questions?



Lachie McRae

Lysterfield Quarry Manager

P: 03 9274 3700

M: 0428 917 538

E: Lachlan.McRae@hanson.com.au



Rob Francis

Project Development Manager

P: 03 9274 3700

M: 0407 530 262

E: robert.francis@hanson.com.au

Hanson Lysterfield Quarry

CRG PRESENTATION – BUFFER SEPARATION DISTANCE

24 June 2020



EPA Guideline – Separation Distances

CRITERIA FOR VARIATION TO RECOMENDATION

- EPA *Publication 1518, Recommended Separation Distances for Industrial Residual Air Emissions*, includes a recommended separation distance of 500m for a quarry that undertakes blasting, or is processing rock with respirable crystalline silica.
- This guideline provides criteria for where and how a site specific variation to the recommended separation distances may be appropriate, and in this instance, this is through undertaking an environmental risk assessment.

Recommended separation
distances for industrial
residual air emissions

Publication number 1518 March 2013
Authorised and published by EPA Victoria, 200 Victoria Street, Carlton

Guideline



EPA Protocol for Environmental Management

WHAT ASSESSMENT IS REQUIRED?

- With respect to extractive industries, such an assessment is guided by EPA *Publication 1191, Protocol for Environmental Management – Mining and Extractive Industries* (commonly referred to as the “PEM”). Established under the State Environment Protection Policy (Air Quality Management).
- The PEM establishes the scope of the Level 1 assessment to be applied when assessing air quality risks from a quarry of our scale that applies blasting within 500m of a residential area, which is to monitor and assess emissions of PM₁₀, PM_{2.5} and respirable crystalline silica.



PROTOCOL FOR ENVIRONMENTAL MANAGEMENT: MINING AND EXTRACTIVE INDUSTRIES



STATE ENVIRONMENT PROTECTION POLICY (AIR QUALITY MANAGEMENT)

MINING AND EXTRACTIVE INDUSTRIES

Level 1 Assessment Results

AIR EMISSIONS COMPLY WITH PEM

- Hanson commissioned a Level 1 assessment, applying a methodology endorsed by the EPA, which found PM_{10} and $PM_{2.5}$ emission monitoring results from the quarry to be compliant with the PEM criteria, while RCS was not detected in any sample through the monitoring program and therefore also compliant with PEM criteria.
- In this regard Hanson has been able to demonstrate that air emissions from its existing operations, at a separation distance of 400m, comply with PEM criteria and is therefore justified in maintaining our 400m separation to potentially sensitive residential receptors.



Proposed Extension

EXISTING 400 METRE BUFFER TO BE MAINTAINED

- Hanson's proposal is to continue to operate the quarry maintaining existing controls and monitoring regarding dust management without significantly changing operation methods.
- Whilst the life of the quarry would be extended, the existing 400 metre buffer separation distance from houses would be maintained.
- Extraction is already taking place closer than 500m from houses.





Project Update

Lysterfield Quarry Community Reference Group

June 24th 2020

Current Quarry Projects

1. Quarry Extension
2. Overburden Placement
3. Transport hours

Extension Application

Key Points

- 400 metre buffer maintained
- Increase depth by 15 metres
- Rate of extraction unchanged
- Quarry operating hours unchanged
- Rehabilitation to include a lake and developable area suitable for a range of equestrian, commercial, residential or community outcomes.

Application Process for Quarry Extension

Earth Resources Regulation (ERR)

Victorian Government Department of Jobs, Precincts and Regions. (DJPR)

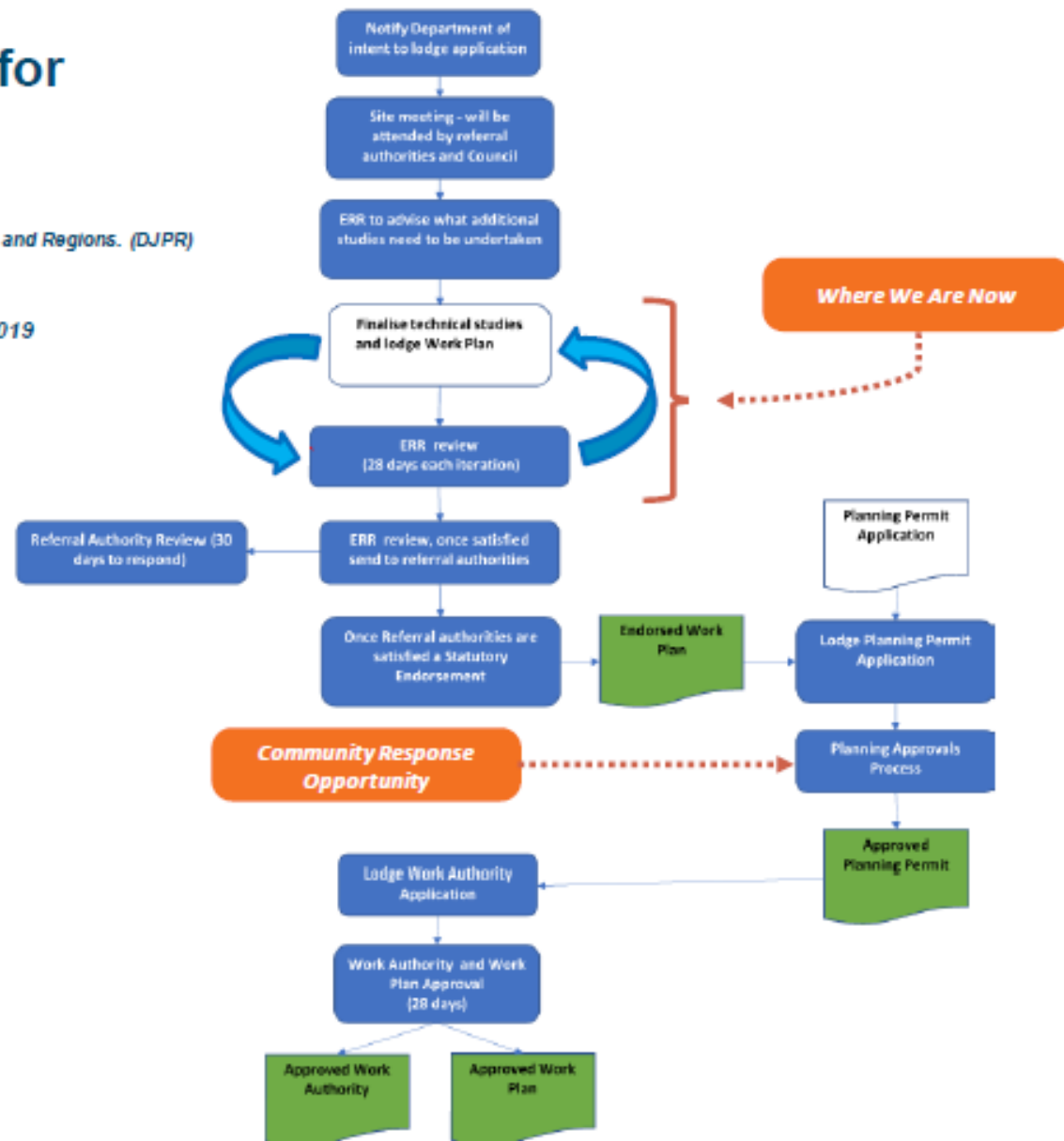
ERR Application Progress:

- Hanson lodged application 19th December 2019
- ERR responded 17th January 2020
- Amendment process underway
- Hanson will submit revision

Knox City Council

Referral Authorities:

- Aboriginal Victoria (Victorian Government)
- Country Fire Authority (CFA)
- Department of Environment, Land, Water & Planning (DELWP)
- Environment Protection Authority Victoria (EPA)
- Melbourne Water
- Parks Victoria
- Southern Rural Water
- VicRoads



Overburden Earthworks Application

- ✓ Lodge Planning Permit
- ✓ Permit Public Display
- ✓ Community Submissions
- ✓ DELWP referrals
- ✓ Council assessment
- ✓ Permit issued with strict conditions on 31/12/19
- Hanson to submit required documentation and met conditions
- Equestrian Relocation Plan
- Equestrian Relocation
- Vegetation Offsets purchased by Hanson
- Fill and machinery availability
- Commencement of Prefilling

Current Phase
in Process



Phase 1: Potential Future Land Use

Transport Hours Application

Key Points

- Reinstatement of previous annual permits
- Preloaded vehicle movements only
 - Trucks must be loaded before 6pm
- Hanson to install 24/7 noise monitoring

Application Process

- No change to Council Planning Permit
- ✓ Submitted to ERR
- Awaiting response

*Current Phase
in Process*

Questions?



Rob Francis

*Project Development Manager,
Hanson*

P: 03 9274 3700

M: 0407 530 262

E: robert.francis@hanson.com.au



Operational Report

Lysterfield Quarry

June 24th 2020

Dust Deposition Gauges Report



Dust Deposition Gauge near Montague Cres.

Dust Deposition Gauge "Borai"

Dust Deposition Gauge "Weather St."

Hasson Waterfield Quarry

Dust Deposition Gauge "Park"

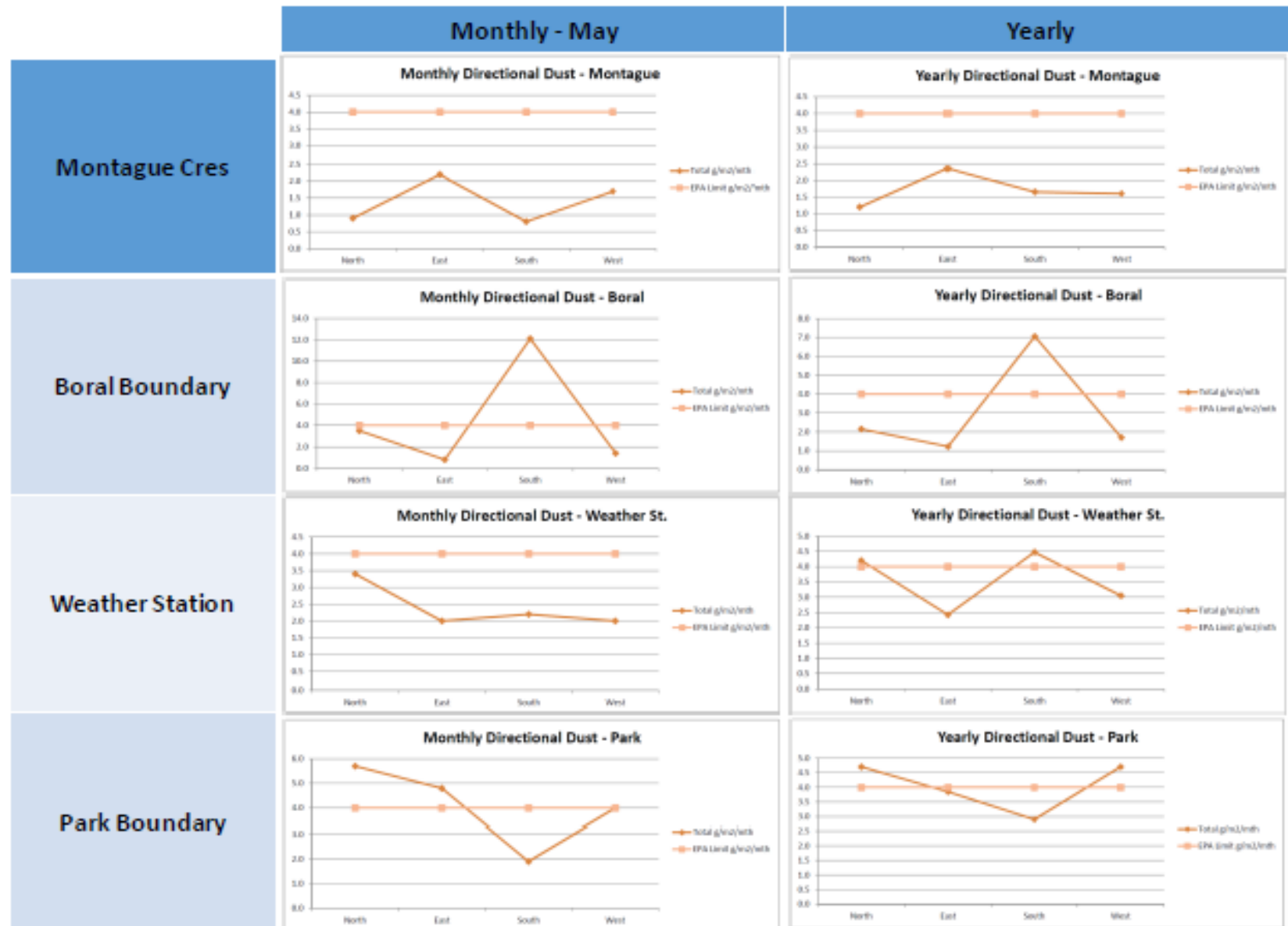
1011 m



Dust Data – May & April 2020



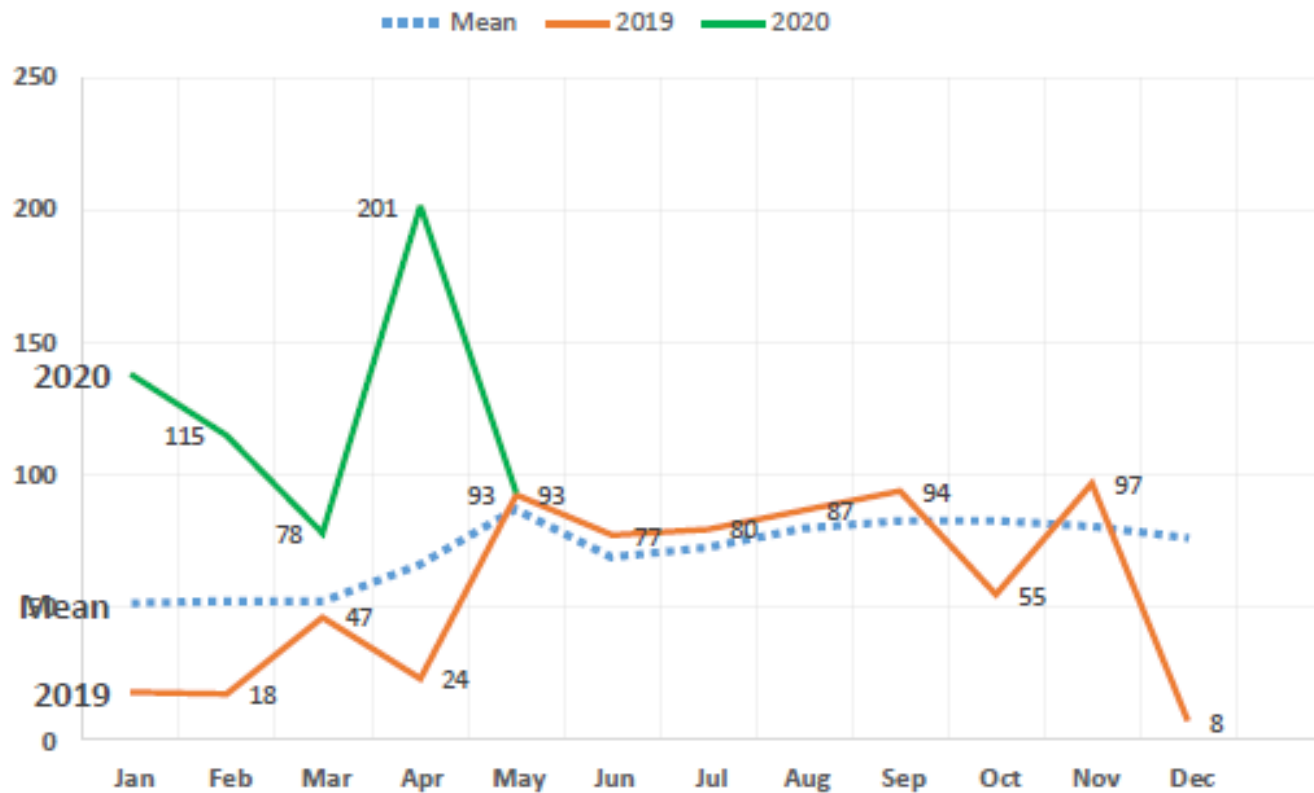
Dust Data – May 2020



Rainfall Data

http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=136&p_display_type=dailyDataFile&p_startYear=&p_c=&p_stn_num=086104

TOTAL VS MEAN RAINFALL SCORESBY



Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	51.9	52.3	52.8	66.6	87.1	69.4	73.0	79.9	82.6	82.8	80.8	76.4
Median	50.8	39.2	46.0	62.6	83.1	64.6	71.2	82.4	78.6	77.8	72.5	73.7

Comments, Observations & Photos

- Wind & weather
 - Rainfall significantly above average in 2020
 - December 1/10th of average
 - January 260% of average
 - February 650% of average
 - March 165% of average
 - April 835% of average
 - May back to average
- Comments...
 - Strong weed growth in 2020.
 - Dust readings at Montague Cres low.
 - April & May dust readings higher at Nth Eastern boundary

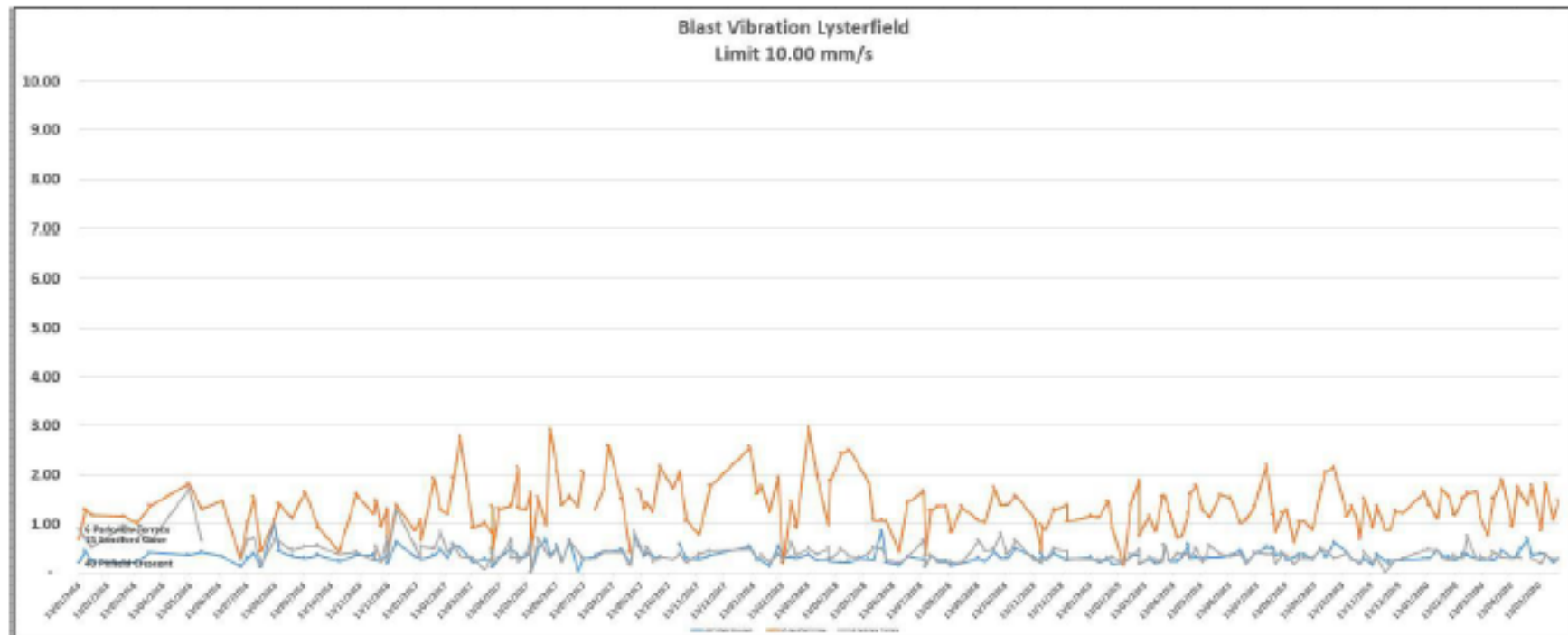
Blast Monitoring Results 2020

SHOT no.	Comments		40 Pitfield Crescent [TERROCK]		16 Sandford Close [TERROCK]		8 Parkview Terrace [TERROCK]		Quarry Gate Block		Quarry Gate Slab		Paddock West Boundary	
	Date	Estimated Tonnes	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba
2001	10-Jan-20	24,838	0.28	83.44	1.84	100.67	0.48	108.28						
2002	15-Jan-20	42,446	0.28	88.68	1.38	94.08	0.48	92.81						
2003	24-Jan-20	26,477	0.48	89.88	1.12	97.44	0.48	97.86						
2004	29-Jan-20	36,130	0.38	93.33	1.71	97.86	0.31	102.38						
2005	12-Feb-20	18,904	0.28	86.08	1.18	100.87	0.34	93.21						
2006	08-Feb-20	48,000	0.32	82.23	1.66	102.38	0.28	97.68						
2007	12-Feb-20	34,000	0.28	86.08	1.18	100.87	0.34	93.21						
2008	21-Feb-20	44,122	0.38	98.77	1.63	98.12	0.29	88.68						
2009	28-Feb-20	38,167	0.38	103.67	1.82	108.82	0.74	108.72						
2010	08-Mar-20	48,663	0.30	83.21	1.86	100.67	0.28	88.78						
2011	11-Mar-20	83,004	0.26	82.38	1.13	98.41	0.34	93.88						
2012	18-Mar-20	28,620	0.27	90.88	0.78	100.87	0.27	104.68						
2013	25-Mar-20	83,688	0.28	101.38	1.63	101.82	0.43	93.88						
2014	03-Apr-20	60,823	0.48	84.70	1.90	102.40	0.31	108.42						
2015	14-Apr-20	48,038	0.30	87.31	0.86	98.36	0.30	101.86						
2016	20/04/202	62,312	0.38	84.30	1.78	100.82	0.31	102.07						
2017	24-Apr-20	64,801	0.60	98.82	1.68	98.86	0.30	97.22						
2018	01-May-20	74,831	0.70	90.03	1.38	98.22								
2019	08-May-20	61,886	0.38	101.78	1.77	101.24	0.28	86.08						
2020	16-May-20	30,836	0.38	83.88	0.86	101.78	0.18	101.18						
2021	20-May-20	47,816	0.37	82.74	1.82	97.00	0.38	101.38						
2022	29-May-20	26,682	0.20	90.83	1.08	97.16	0.27	88.28	0.48	94.80	0.68	94.98	1.78	94.88
2023	03-Jun-20	38,343	0.28	83.88	1.48	98.38	0.28	94.20	0.80	104.21	0.78	108.68	2.26	100.08
2024	12-Jun-20	28,982	0.27	86.97	1.40	103.24	0.23	101.80	0.83	98.61	0.84	98.83	3.68	106.64
2025	12-Jun-20	27,981	0.27	86.97	1.40	103.24	0.23	101.80	0.83	98.61	0.84	98.83	3.68	106.64

Limits: Vibration 10.00 mm/s. Air Blast 120.00 dba

Blast Monitoring Results 2016-2020

- Hornfels requires less blasting force
- Slightly lower since mid-2018
- Less than 1/3 of limit mid-2018 to May 2020



Limits: Vibration 10.00 mm/s. Air Blast 120.00 dba

Blast Monitoring Review

- ERR Guideline
 - <https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/ground-vibration-and-airblast-limits>
- Australian Standard
 - AS2187.2-2006 Explosives-Storage and use Part 2: Use of explosives
- Work Authority vibration limit
 - 10mm/s ppv at any building not owned by the Work Authority holder
- Work Authority airblast overpressure limit
 - 120 decibels at any building not owned by the Work Authority holder
- Transducer Coupling
 - Adhered to a rigid surface; curb or 200mm concrete cube, as per AS2187.2-2006
- Monitoring locations
 - As requested by resident
 - At Hanson boundary
- ERR inspected monitoring practice Friday 29th May 2020
 - 2 x monitors at quarry entrance



Ground vibration and airblast limits for mines and quarries

Environmental guidelines

5.3 Measurement

Measurements should be conducted by suitably trained personnel using appropriate equipment. Equipment used for blast monitoring should meet or exceed the relevant Australian Standards or equivalent overseas standards for field equipment.

Equipment should be calibrated on a regular basis in accordance with the manufacturers recommendations or other appropriate standards.

Measurement Procedures should be in accordance with the equipment manufacturers' recommendations. In particular, the use of the ground vibration transducer should be consistent with achieving optimum coupling with the ground.

Source: <https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/ground-vibration-and-airblast-limits>

J3.2.2 *Measuring technique*

The purpose of the measurement is to measure the magnitude of ground vibration that is transmitted to the structure at ground level.

Ground vibrations should normally be measured on the ground near the point of concern. The measurement location(s) should be away from structures that may produce reflections and cause spurious readings. Poor ground conditions for instrument coupling or lack of access should not preclude taking measurements on the foundation of the structure at ground level; however, it should be noted that measurements taken on the structure above ground level can be misleading as they are often exaggerated by structural or modal response. The choice of locations and the process of undertaking ground vibration measurement should be restricted to competent persons.

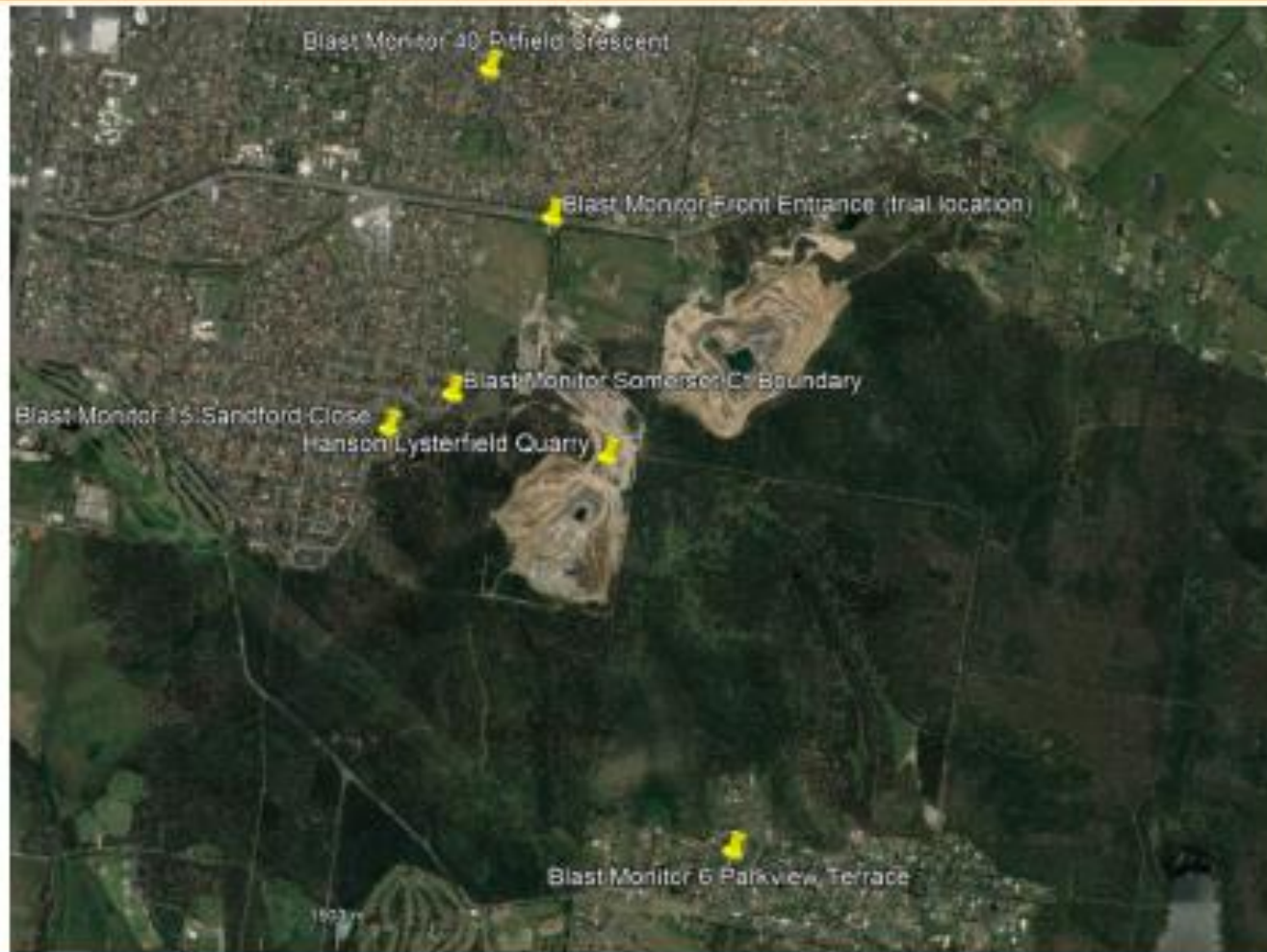
103

AS 2187.2—2006

The basis for coupling the transducer is to ensure that it faithfully records the motion of the ground. The preferred coupling method depends on site conditions. Where there is a rigid surface (e.g., concrete or rock) adhesive or mechanical bonding can be used. Where the surface is soil, the transducer can be embedded or fixed to an embedded mount (for example, 200 mm concrete cube or similarly sized cylinder). If measurements are repeated at the same location, an embedded mount is particularly justified for consistency of results.

Source: Excerpt from pages 102 & 103 of AS2187.2-2006 Explosives-Storage and use Part 2: Use of explosives

Blast Monitor Locations



Blast Monitors



15 Sandford Close





Monitoring conducted by Terrock Consulting Engineers

Hanson Lysterfield Quarry Rehabilitation Progress

June 24th 2020



Eastern Face Rehabilitation



31st January 2020





2017 View of Eastern Face from Quarry



Eastern Face from National Park



Eastern Face from National Park



14th February 2020

Eastern Face from National Park



Questions?



Lachie McRae

Lysterfield Quarry Manager

P: 03 9274 3700

M: 0428 917 538

E: Lachlan.McRae@hanson.com.au