

# Mt Shamrock Environmental Management Plan - 3 Monthly Progress Update

April 20 - June 20



Prepared by Matt Dodd for Mt Shamrock Quarry Environmental Review Committee

On 11 March 2008, the Mt Shamrock Quarry Environmental Management Plan Version 1:18 January 2008 (EMP) was formally enacted. This document established a framework to ensure compliance with local council, AAV, DPI, EPA and DSE requirements relating to the extension of extractive limits under Work Authority 174 (WA174). An Environment Review Committee (ERC) was formed to monitor the performance of the quarry against the EMP, the permit and WA174. The ERC consists of delegates from the relevant authorities, members of the Wurundjeri Tribe, and local residents. The ERC is chaired by an independent representative from All Possibilities Pty Ltd to ensure non-partisan administration.

This report details information on both monitoring results and management actions by the quarry in the preceding three months. This report will take the form of an exception report that is where there is a deviance from the EMP. This will be highlighted and the reasons for the deviance explained. A summary of quantifiable monitoring outcomes is also included. Figure 1.12 details all monitoring locations.

### **Operational Update**

- Stripping campaign/rehab campaign finished early April
- Operational hours unchanged
- Donation of approx 200T to Lockys Legacy





## 1.0 LRMP Update

All actions have been completed during the reporting period. Summary of actions completed below



- Weed spraying along the boundary fence including large portion in the north-western section of the quarry
- Continued clean up / slashing/brush cutting of grassy weeds / thistles in Phase A&B heading towards the south west of the site
- Blackberry/broadleaf spraying & brush cutting in rehabilitation faces
- Additional 500 trees planted in Phase A & B for infill and supported, some approx 50-60 since have been lost to kangaroos - will be replacing with beast/kangaroo proof guards in September
- Monthly netgain maintenance continued - hand weeding, spot spraying

## 2.0 Non-Compliance and Complaints

Non-conformances:

- In June - 3 customer trucks (who were arranged by a 3rd party) arrived up Mount Shamrock road prior to 7am. It was their first time to the quarry, they were inducted and now understand the rules

Complaints:

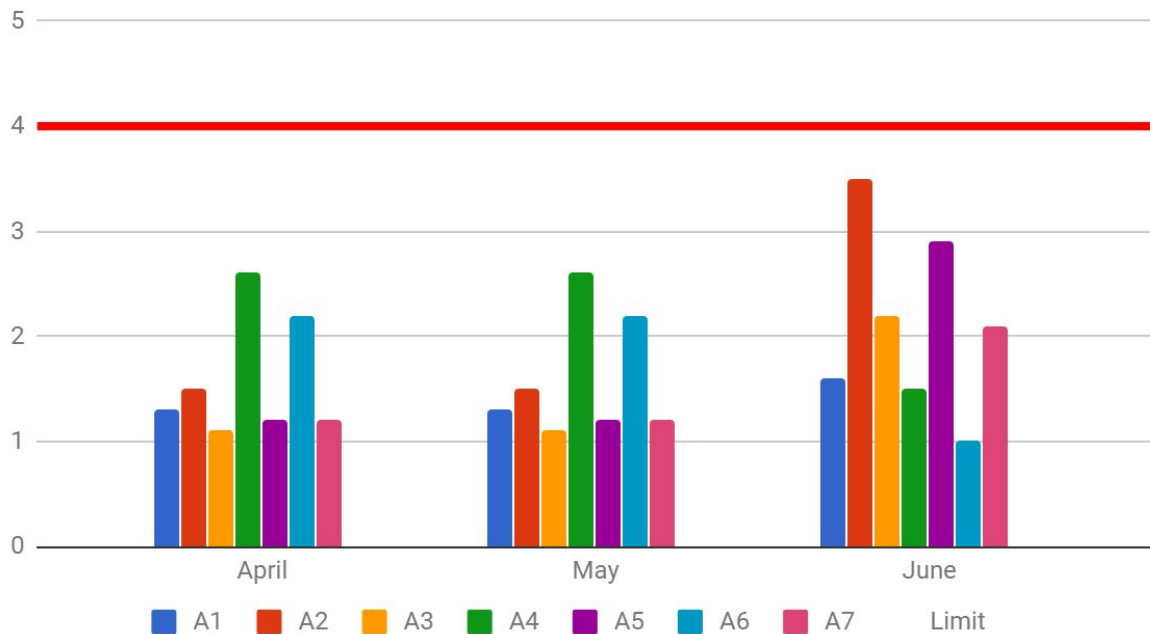
- Nil

### 2.1 Air Quality – Dust

DEPOSITIONAL results have indicated the dust emissions tabulated below

**Limit 4.0g/m<sup>2</sup>/mth**

Dust Deposition Q2 2020 (Limit 4.0/m<sup>2</sup>/mth)



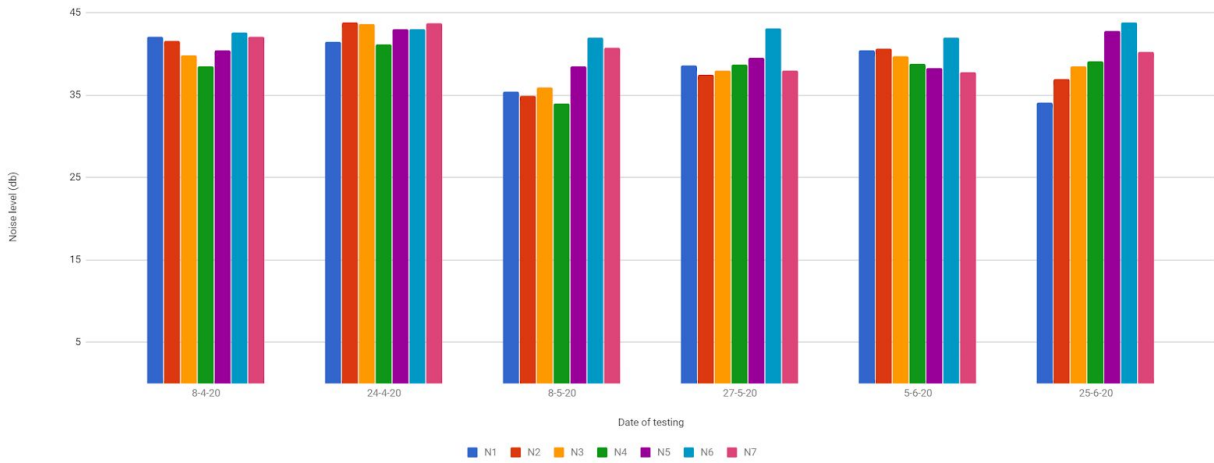
## 2.2 Noise

Average noise levels for the 1st quarter are shown below.

**Limit is 45dB under normal operating conditions**

**Graph showing Noise monitoring results by Sensitive Location**

Fortnightly Noise testing results Q2 2020 (Limit 45dB)

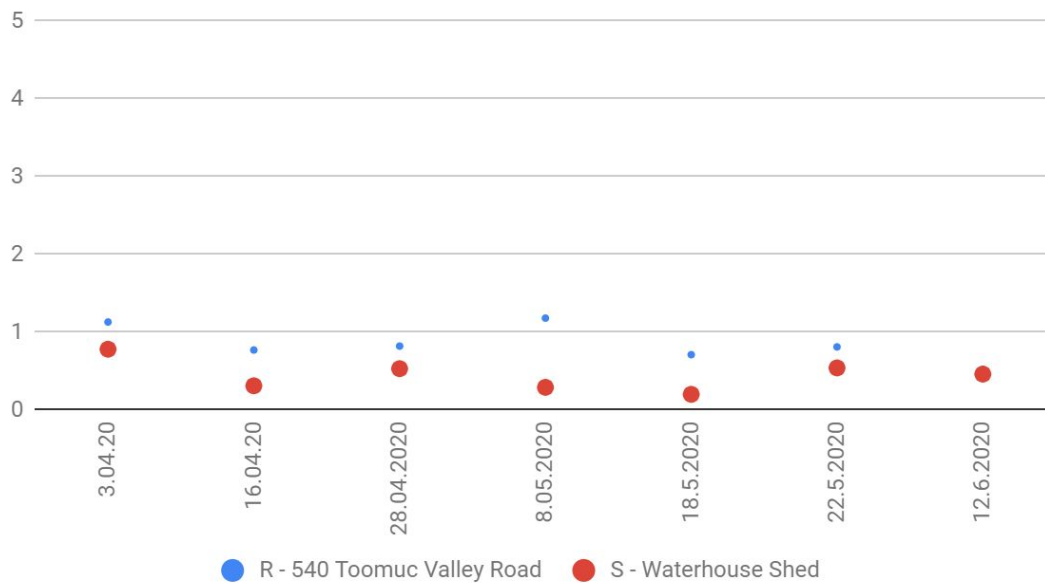


## 2.3 Blasting

All blasting operations have been carried out in accordance with guidelines.

### Ground Vibration

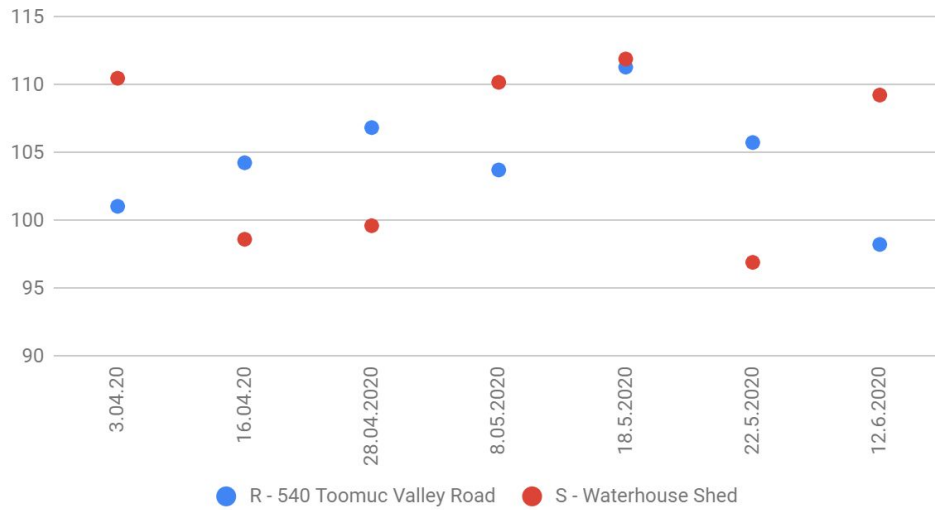
Ground Vibration mm/s Q2 2020



**Limit is 5mm/s for 95% of blasts in a 12 month period.**

## Air Blast

Air Blast dBL Q2 2020



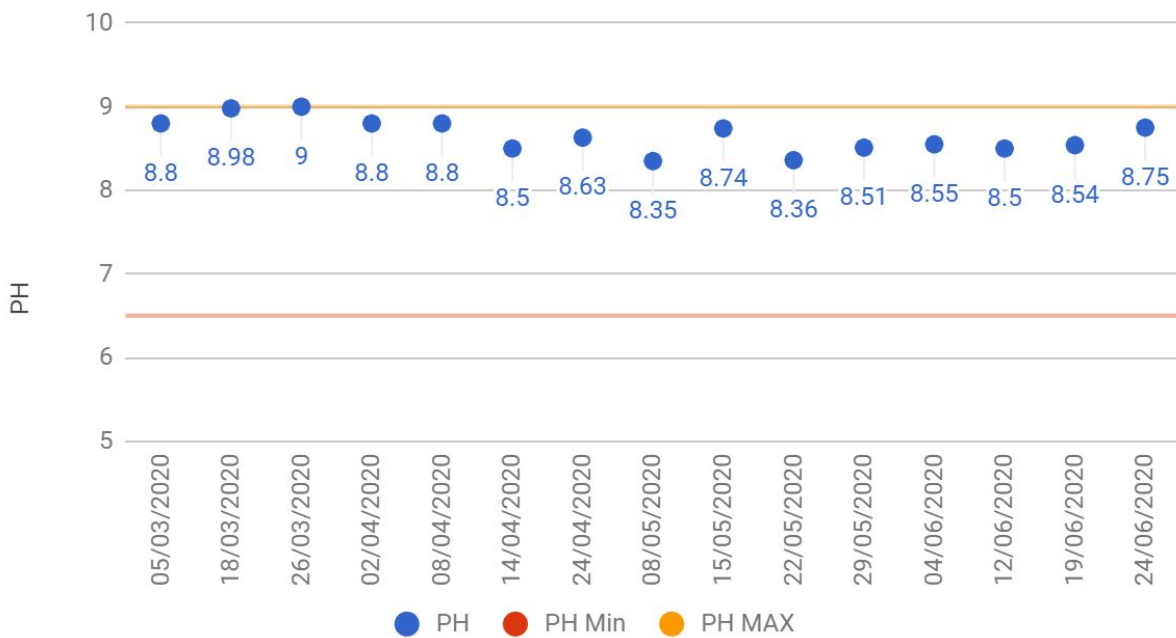
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

## 2.4 Surface Water, Drainage and Groundwater

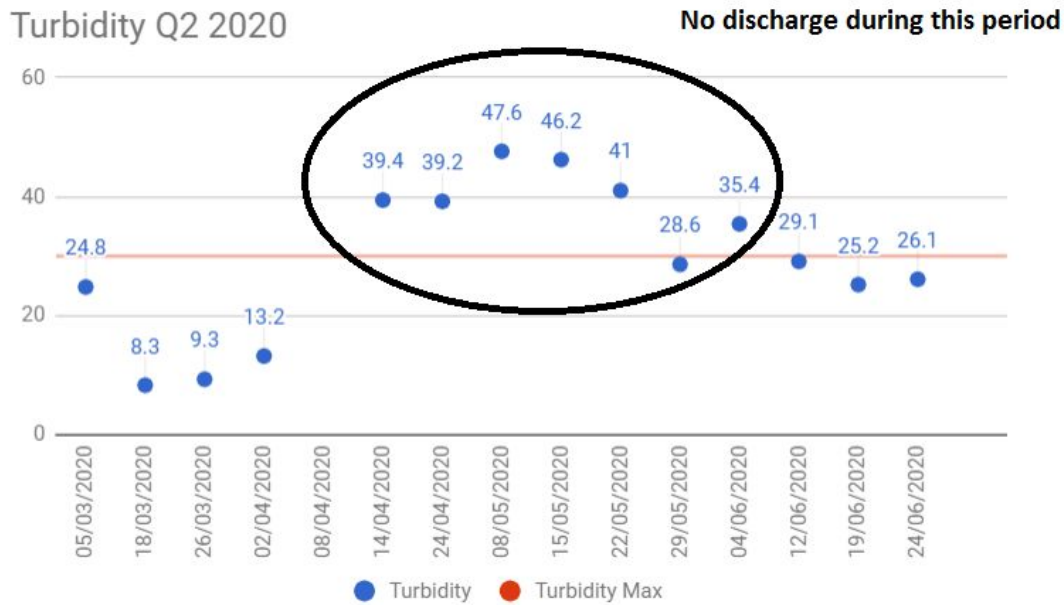
### Graphs showing the Q1 water results

pH – A measure of the Acidity or Alkalinity of the water limit 6.5 to 9.0

pH Q2 2020

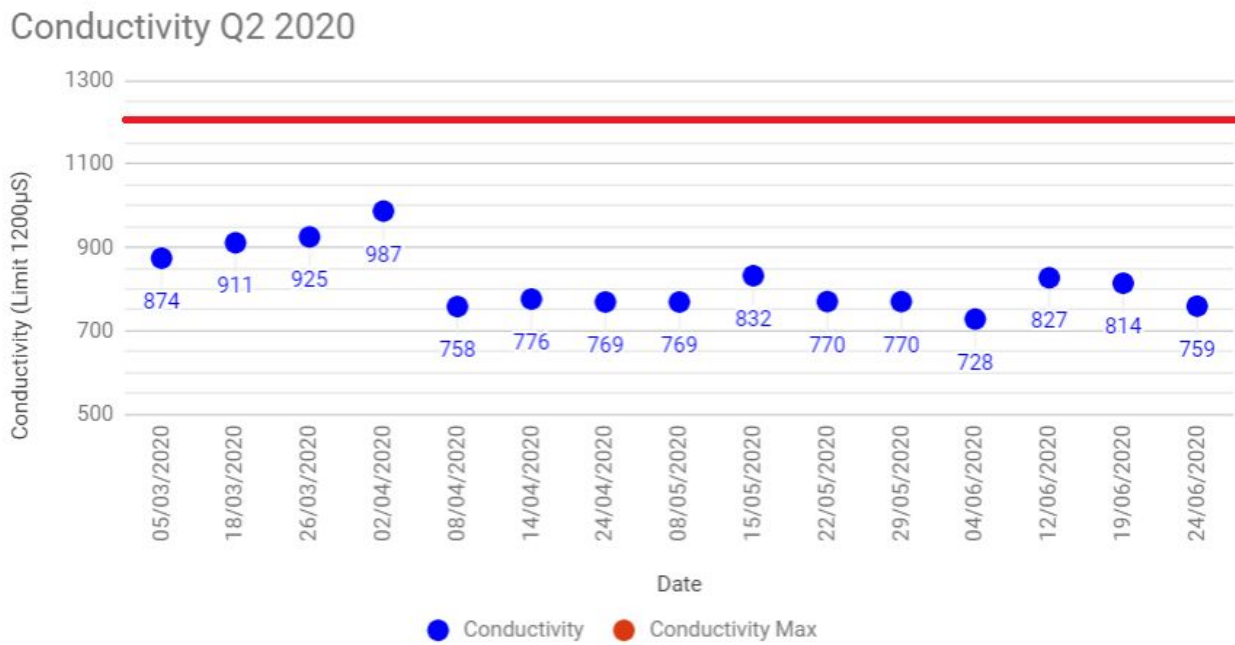


**Turbidity – Clarity of water Maximum 30NTU**



Quarry not discharging water during this period in the circled area - all paddock run off through V notch. We also transferred water between in pit storage to ensure we maintained levels so not to require discharge during heavy rains

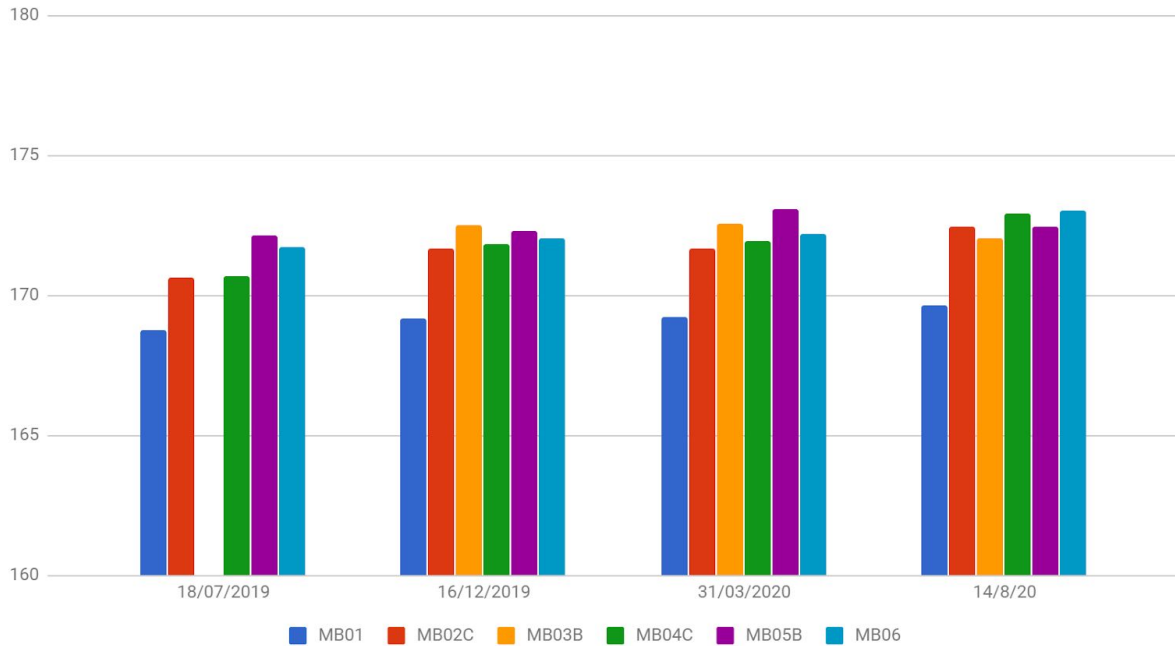
**Conductivity – A measure of the water’s capability to pass electrical current. Limit 1200µS**



## Bore Water Measurements –

Table showing 2019/2020 water table levels in relation to sea level

RWL of ground monitoring bores last 4 monitoring events



## WASTE

### Quarry Waste Generation

Categories	Rolling 12 Month Tonnes	Av / month
Landfill	10.96	.91
Category	YTD	
Steel	46.27	T
Recycled Oil	7400	L
Prescribed	0	L
Interceptor waste	12000	L
Waste Diverted	YTD	
Earth Moving Tyres	8	
Conveyor Belt	3T	

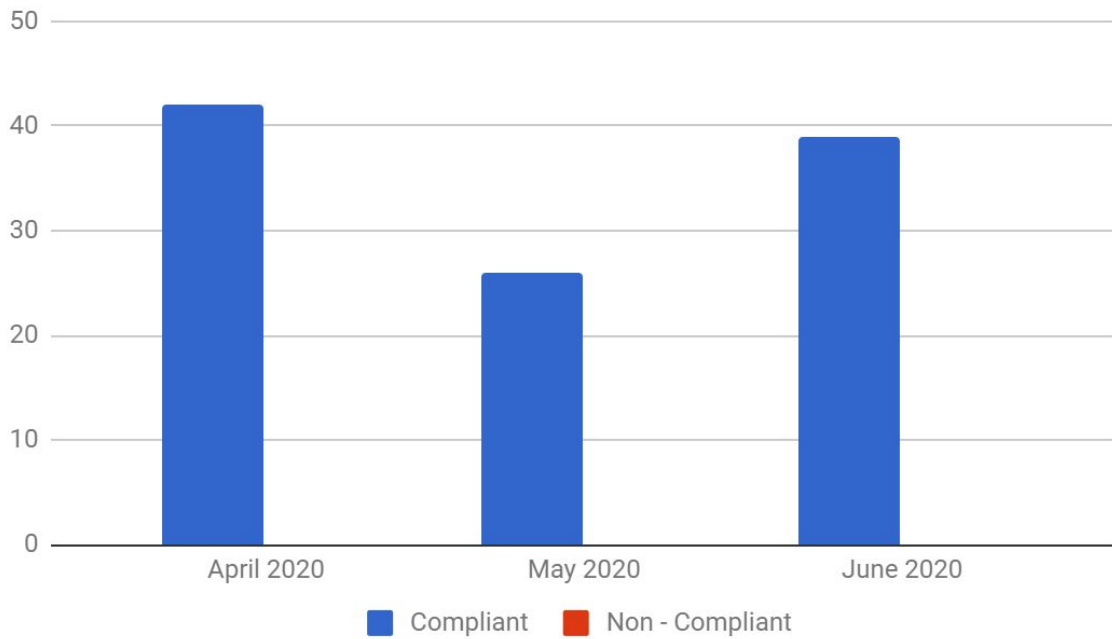


## TARPING

Evaluation of trucks leaving the site concluded that there is minimal material being tracked on to public roadways, representative sampling identified all loads for the Quarter were correctly loaded.

Graph showing Tarping visual checks

### Tarping compliance Q2 2020



## **Appendix 1 - Limits & Definitions**

### **2.1 – Air Quality - Dust**

#### **Dust Deposition**

Deposition bottles are stationed at 7 locations including a background monitoring location at station A7. Particulate matter sampled by this method is predominantly dust particles which, because of their size rapidly settle from the air. Results can be affected by Ash from burning off, bird droppings and insects.

**Limit** – 4.0gm/m<sup>2</sup> mth

#### **Reactive Monitoring**

Reactive management tool with preset alarm if the PM10 1 hour average is exceeded. Reactive monitors are similar to the Hi Vol monitors.

**Limit** – 64 µg/m<sup>3</sup> (1 hour average)

### **2.2 - Noise**

Noise monitoring locations and limits set in the EMP are monitored through the use of a RION hand held monitor. Employees on site who conduct the monitoring are trained and certified in theoretical and practical assessment of the RION hand held meter and basic acoustics.

**Limits** – 45dB(A) LAeq 7:00 – 18:00 Normal Operation  
68dB(A) LAeq 7:00 – 18:00 Noise Attenuation Mound Construction

### **2.3 – Blasting**

Blasting is monitored for Air Blast and Ground Vibration during every blast performed on site.

**Air Blast** – a measurement of air pressure pulse travelling through the air.

**Ground Vibration** – a measurement of the shock wave passing through the ground

**Limits** –

**Air Blast** – Peak Air Blast of 115 dBL at sensitive locations for 95% of blasts in a 12 month period

**Ground Vibration** – Peak Particle Velocity (PPV) 5mm/sec at sensitive locations for 95% of blasts in a 12 month period

## **2.4 – Surface Water, Drainage & Groundwater**

During discharge, water is monitored at the V Notch located at the bottom of the Donnazon property spillway. A solar powered flow meter logs flow data and the water is sampled manually by trained and certified employees. Water is tested for Turbidity, pH and conductivity. Water is monitored at Donnazzons dam regularly prior to discharge to determine if the water is ok to discharge.

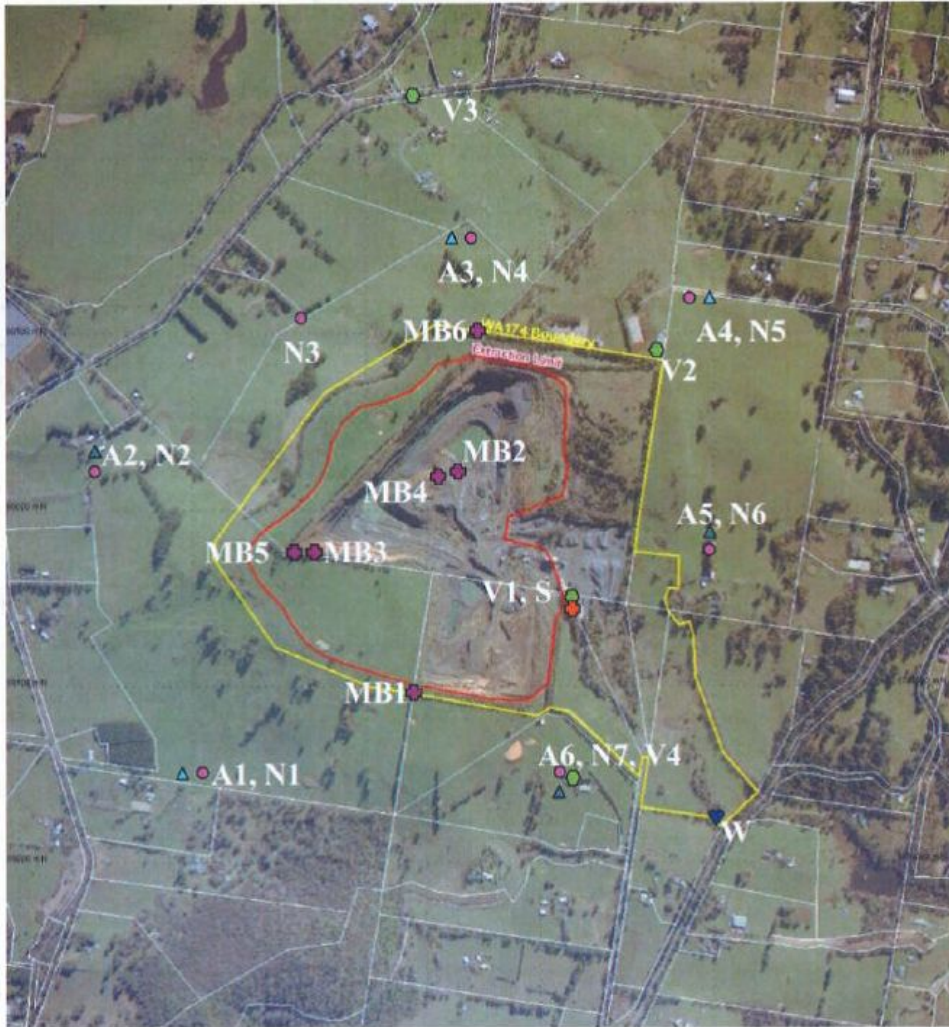
**pH** – A measure of the Acidity or Alkalinity of the water. Limit 6.5-9.0

**Conductivity** – A measure of the water's capability to pass electrical current. Limit 1200 $\mu$ S

**Turbidity** – Clarity of water. Maximum 30NTU

## Appendix 2 – Monitoring Locations

HOLCIM, MOUNT SHAMROCK QUARRY PAKENHAM  
Figure 1: Environmental Monitoring Locations



### LEGEND:

- ▲ A = Air monitoring location ( ▲ signifies high volume compliance monitoring station at A2, A5, A6)  
(Note: Background PM<sub>10</sub> monitoring also at address to be determined)
- N = Noise Monitoring location
- V = Blast Vibration and Noise Overpressure location
- W = Surface Water Sampling Point
- MB = Groundwater monitoring bores
- S = Weather Station



### EMP audit action list 2019

EMP ref.	Rating	Non-conformance	Recommendation	Status
2.1.3	MNC	The LRMP is not being periodically reviewed as required.	LRMP to be reviewed before the next stage of rehab works commences, and outcomes documented and presented to ERC for comment and agreement.	Carried over to 2020

### EMP Audit action list 2020

EMP Reference	Rating	Non Conformance	recommendation	Status
2.2.3 Noise	MNC	Rental water truck has a reverse beeper not a squarker	Replace reverse device with a squarker	Closed
2.6.2 GHG emissions	MNC	Holcim did not meet its energy reduction target of 3% (2% was achieved)	Investigate further measures to reduce energy usage per tonne of product delivered. These could include benchmarking the site against similar sites in Australia and overseas, and adopting strategies used elsewhere	Open
2.12.3 Waste Management	MNC	Waste streams at maint / service area not being properly segregated	Develop further measures to ensure <ul style="list-style-type: none"> <li>- Co-mingling of recyclable and regulated waste in landfill skip ceases</li> <li>- Use of inappropriate or improperly labelled waste bins within workshop ceases, by removing bins from sites</li> <li>- Cardboard waste is compacted in the cardboard recycling skip</li> <li>- Make sure all chemicals are stored properly</li> </ul>	Open - WIP

description	<b>MNC</b>	minor non conformance - if the environmental impact of the non conformance is likely to be contained within the site or have limited off site impact or is a documentation issue.
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