

# Mt Shamrock Environmental Management Plan - 3 Monthly Progress Update

January 2020 - March 2020



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 / overburden removal and terminal face rehabilitation continued in Q1 on southern faces. Approx 1.4 hectares was rehabilitated
- EMP audit complete
- Operational hours unchanged
- Donation of 200T of Quarry material to Lyons Club



## 1.0 LRMP Update

All actions have been completed during the reporting period. Spraying has continued throughout the site for Thistles, Blackberries & general weeds by backpack.



- Weed spraying along the boundary fence including large portion in the north-western section of the quarry
- Slashing / fire prevention works
- Targeted thistles and brush cutting around natural regrowth and new plantation in Phase A/Phase B along Northern and southern areas
- New plantings and areas of natural regeneration are being staked to monitor health and progress
- Preparation for additional infill plantings through Phase A and Phase B

Photos of works done around Phase A and B plantings in North East cnr of site





An additional 500 seedlings are being planted in late May 2020. Target Area show below



It is a combination of mid story and Upper story trees. Species list attached for reference.

Phase A & B In-fill List			
Species	Common Name	Number	Supplied
<i>Eucalyptus Obliqua</i>	Messmate	50	
<i>Eucalyptus radiata subsp. radiata</i>	Narrow-leaf Peppermint	100	
<i>Acacia paradoxa</i>	Hedge Wattle	50	
<i>Hakea nodosa</i>	Yellow Hakea	50	
<i>Acacia mearnsii</i>	Black Wattle	50	
<i>Acacia pycnantha</i>	Golden Wattle	50	
<i>Cassinia aculeata</i>	Dogwood	50	
<i>Allocasuarina littoralis</i>	Black Sheoak	50	
<i>Acacia myrtifolia</i>	Myrtle Wattle	50	
<b>Total</b>		<b>500</b>	

Rehabilitated faces - South East





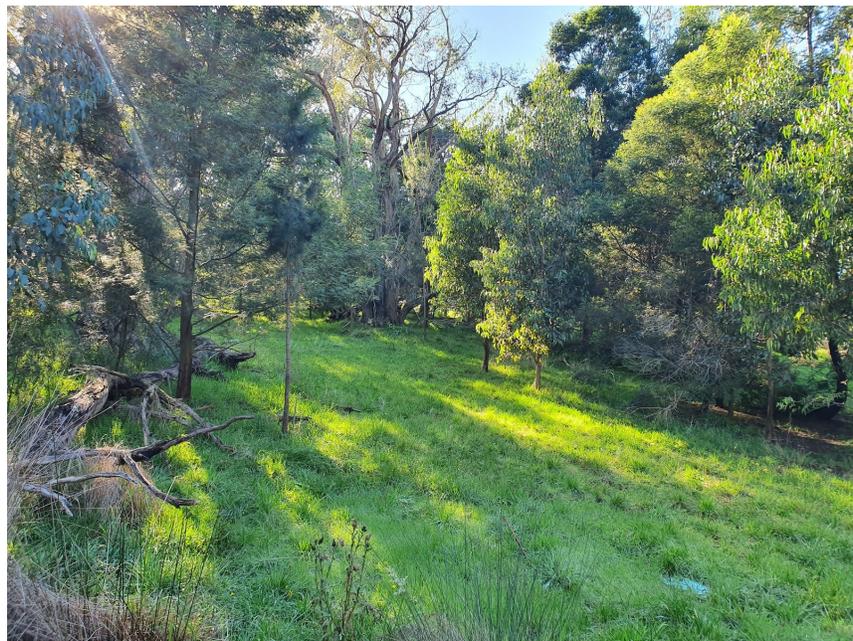
## Newly Backfilled Southern Faces



**Netgain**







## 2.0 Non-Compliance and Complaints

Non-conformances:

- Exceed landfill target by 400kgs per month
- Dust Deposition exceedance in January - caused by Gippsland Bushfires. Windrows and government air pollution advice verify that it is not dust emitted from the quarry.. Example of contaminated sample bottle attached



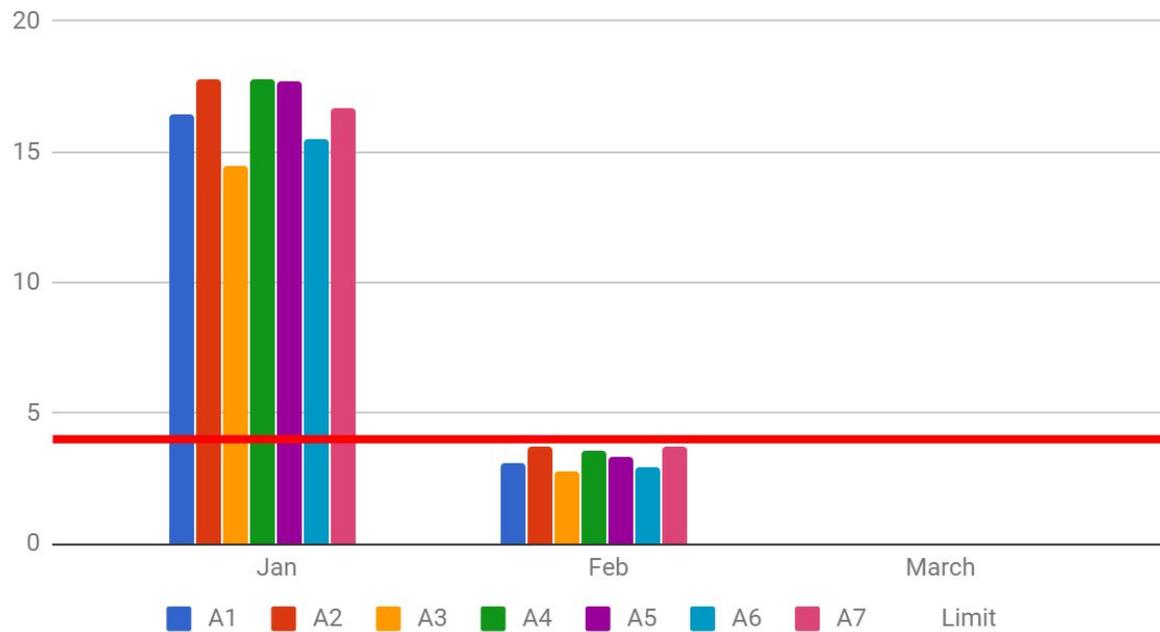
Complaints:

- Nil

## 2.1 Air Quality – Dust

DEPOSITIONAL results have indicated the dust emissions tabulated below

### Dust Deposition Q4 2019 (Limit 4.0/m<sup>2</sup>/mth)



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

Note: there were a number of reactive exceedances in Jan and Feb to bushfire smoke in Gippsland and surrounding areas. .

Covid 19 is delaying results from March. Will submit an additional report when data received

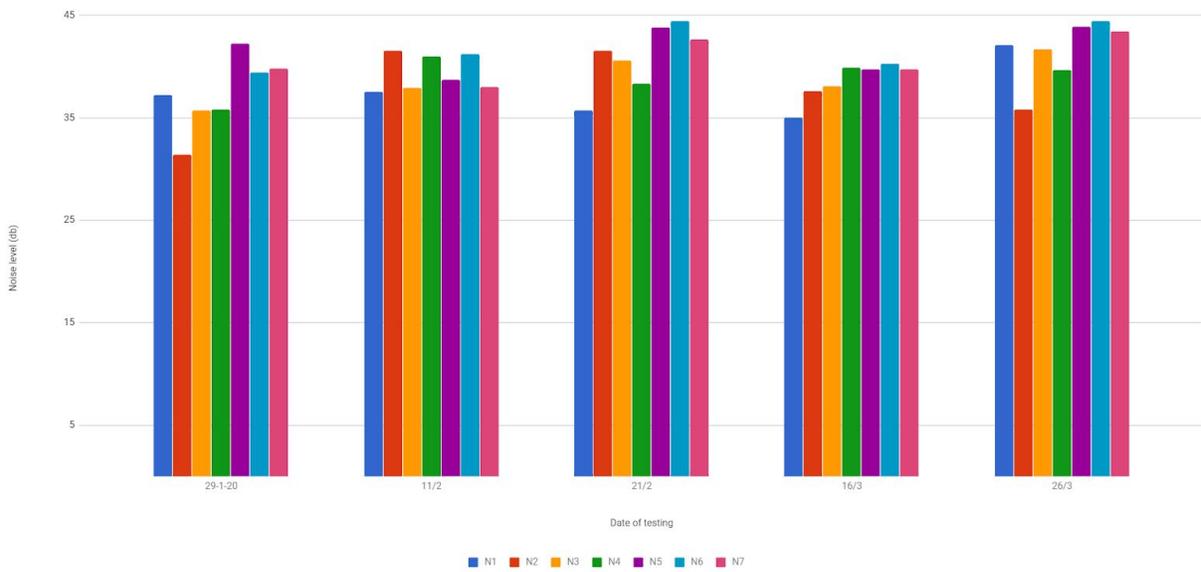
## 2.2 Noise

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 Q1 2020 (Limit 45dB)

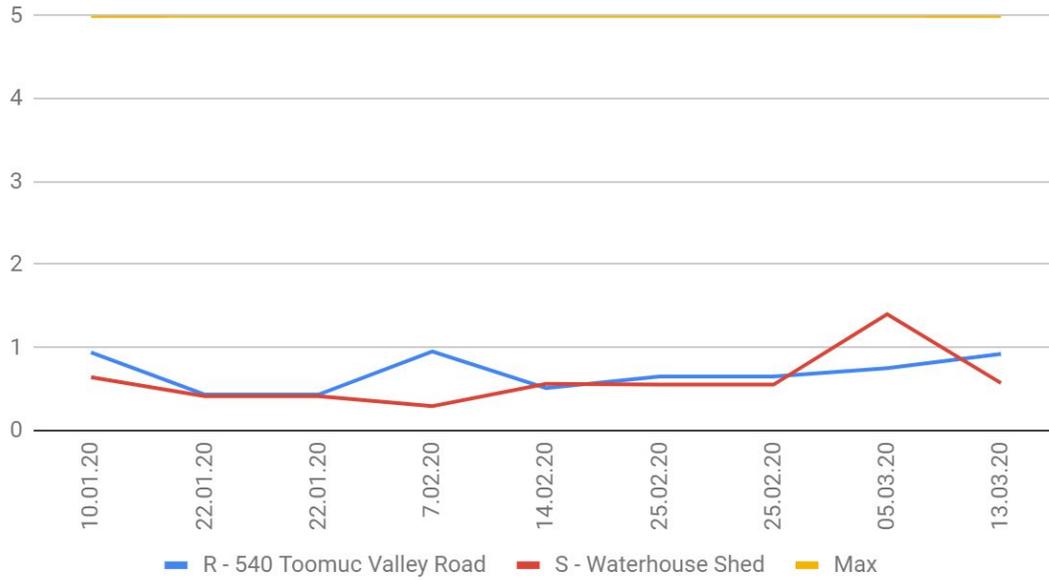


### 2.3 Blasting

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

#### Ground Vibration

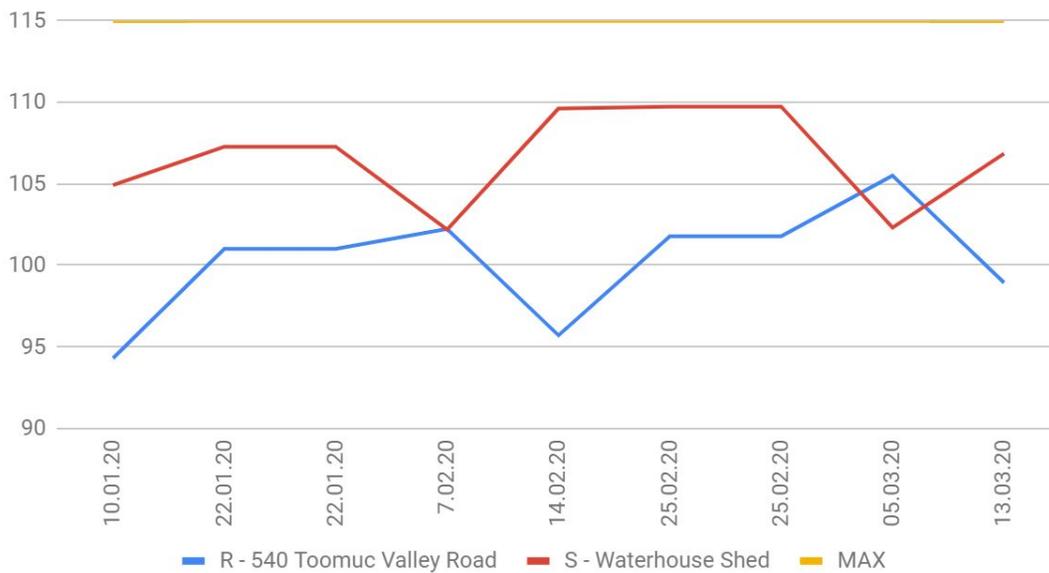
Ground Vibration mm/s Q1 2020



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

#### Air Blast

Air Blast dBL Q1 2020



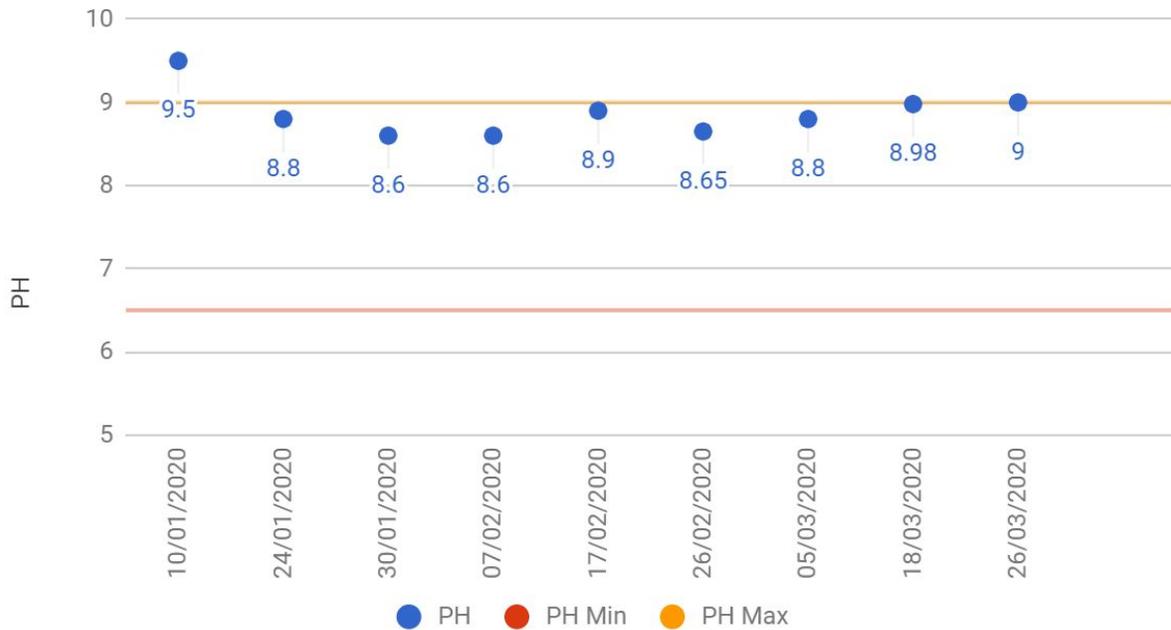
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

## 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

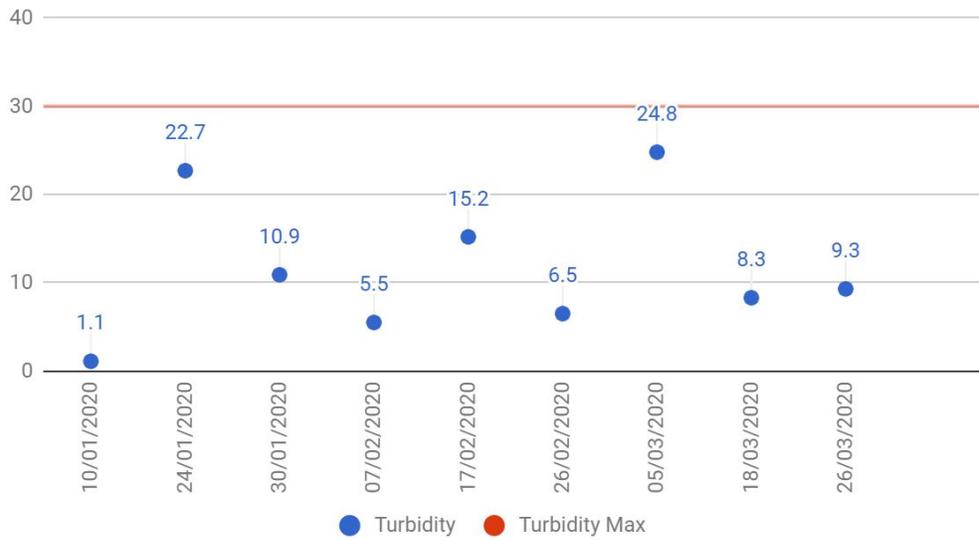
pH Q1 2020



Note - No discharge on days of testing in Jan 10, increase in PH is results of water testing Donnazons dam (low water levels),

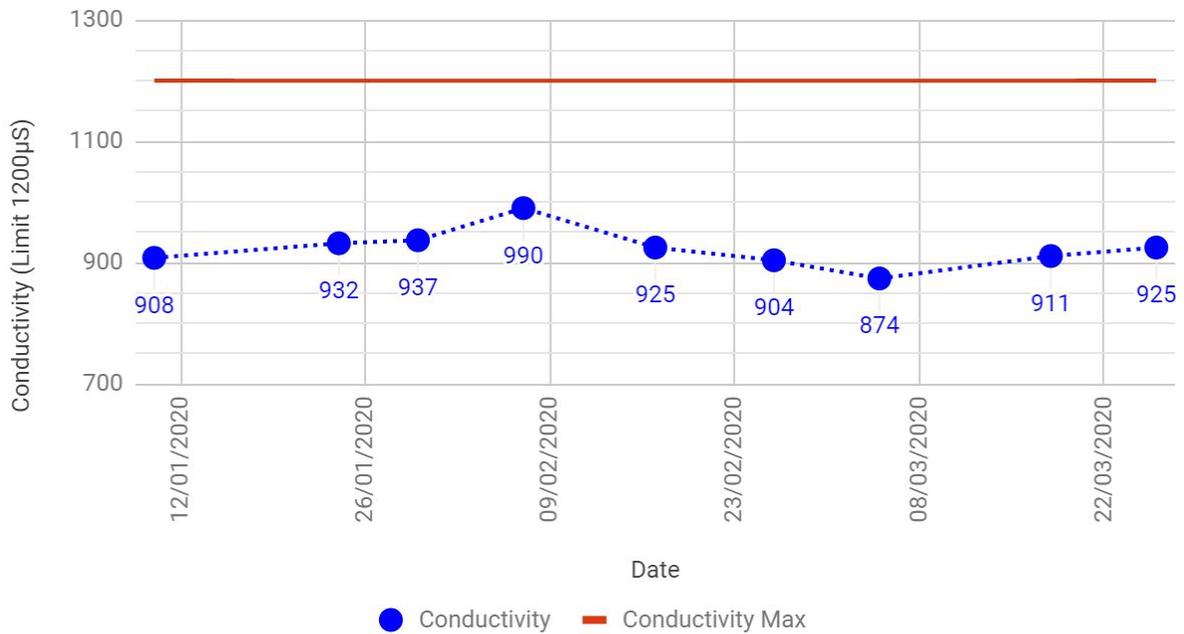
**Turbidity** – Clarity of water Maximum 30NTU

### Turbidity Q1 2020



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

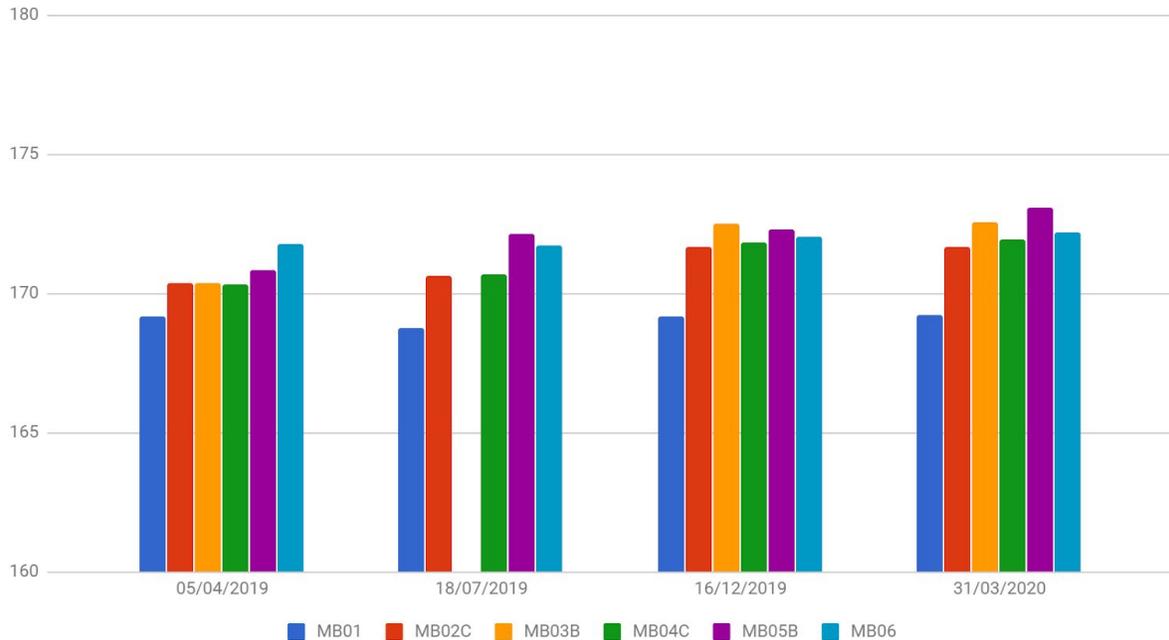
### Conductivity Q1 2020



### Bore Water Measurements –

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

## RWL of ground monitoring bores last 12 months



## WASTE

### Quarry Waste Generation

Categories	Rolling 12 Month Tonnes	Av / month
Landfill	12.92	1.08
Category	YTD	
Steel		T
Recycled Oil	7400	L
Prescribed	0	L
Interceptor waste	12000	L

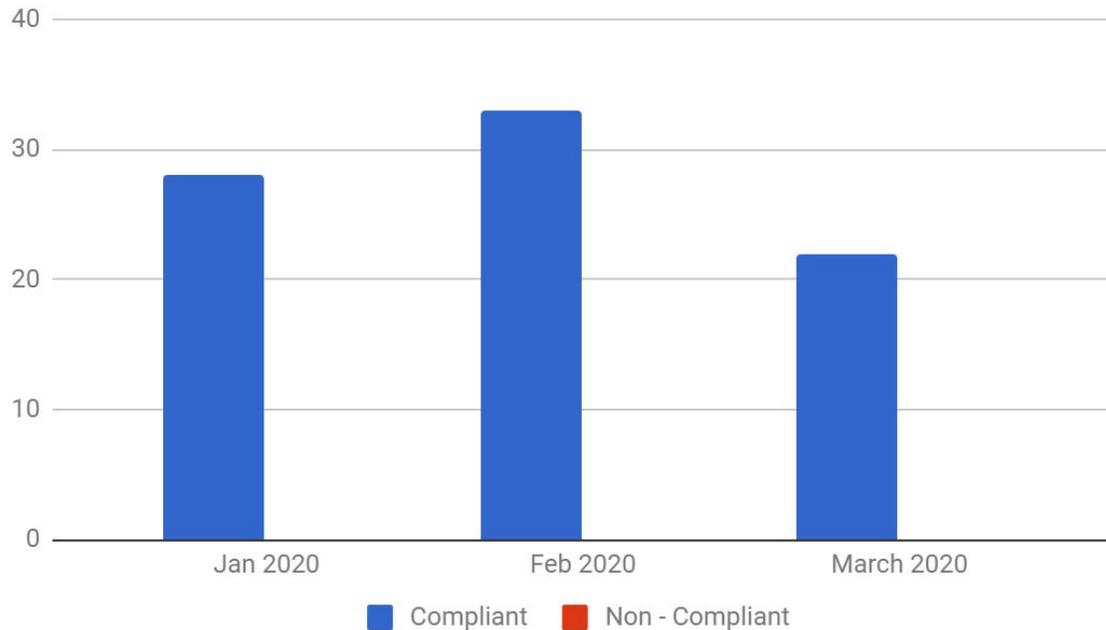
Landfill waste per month increased in Q4 due to clean up of pallets that could not be recycled or not suitable for repurposing

## 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 Q1 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.

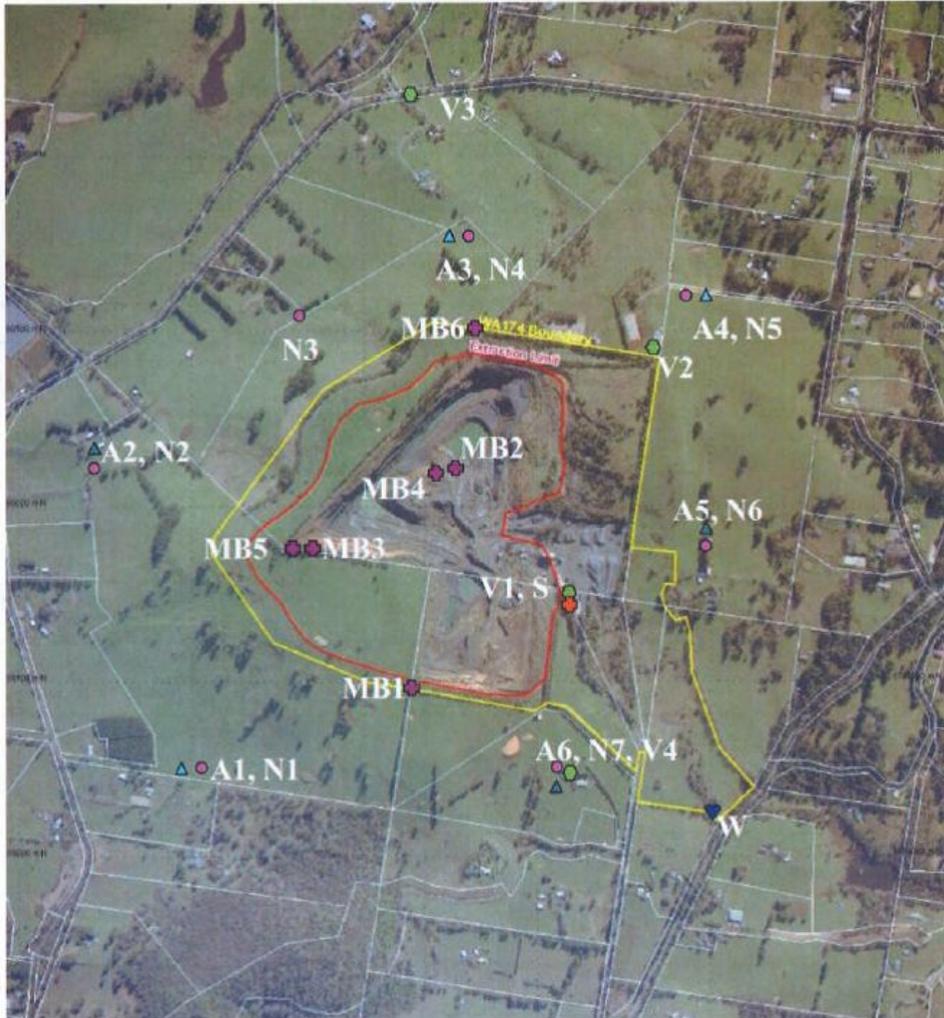
**pH** – A measure of the Acidity or Alkalinity of the water. Limit 6.5-9.0

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

**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

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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