

# **Mt Shamrock Environmental Management Plan - 3 Monthly Progress Update**

**October 2019 - December 2019**



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.

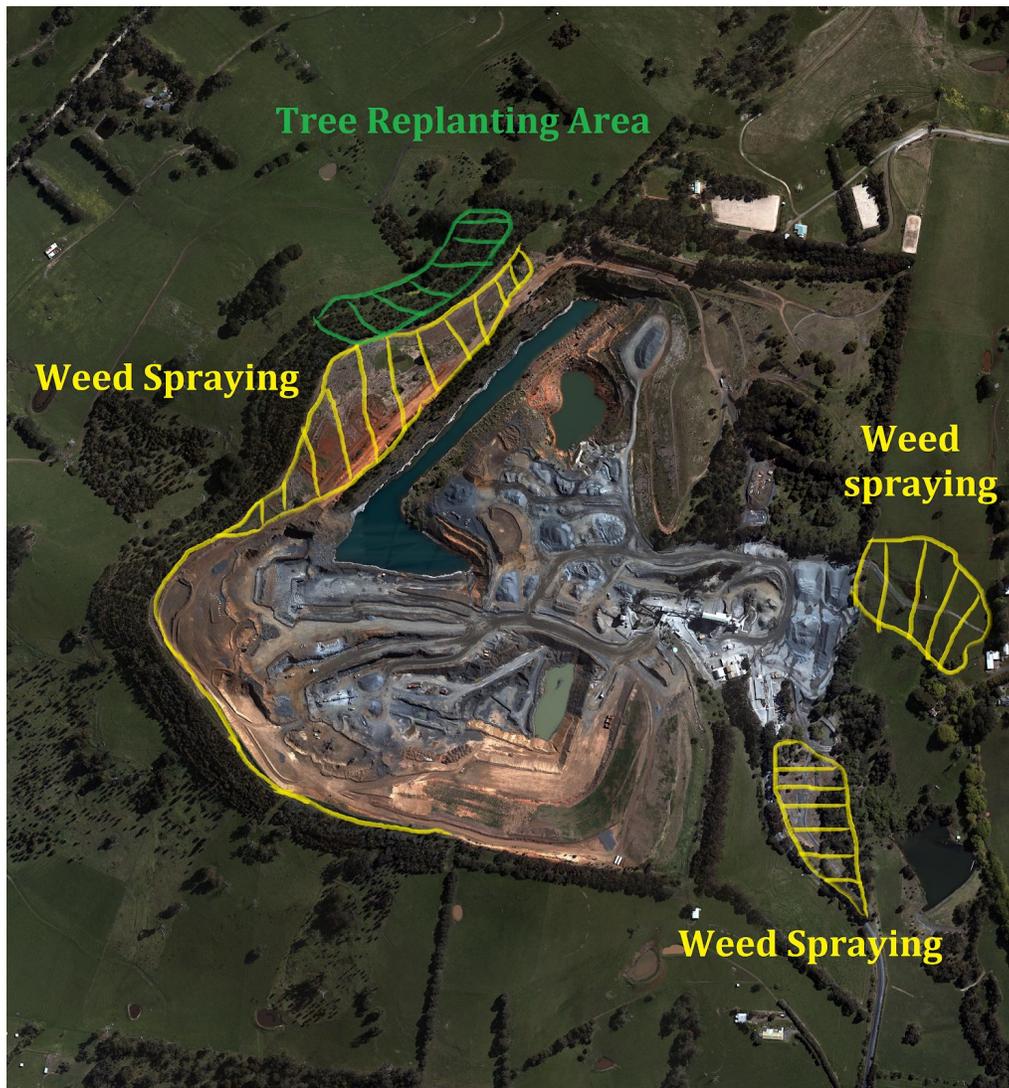
### **Operational Update**

- ERR (Earth Resources Regulators) rehabilitation audit completed - compliant with all requirements
- Stripping program commenced with progressive rehabilitation of terminal southern faces faces began in December



## 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
- Installation of watering / irrigation system on South Eastern rehab batters / recent plantations
- Slashing / fire prevention works
- Targeted thistles and brush cutting around natural regrowth and new plantation in Phase A/Phase B
- New plantings and areas of natural regeneration are being staked to monitor health and progress
- Weed spraying in bottom settling pit area and in the paddocks east of the quarry
- Fence repairs around property
- Tidy-up around buffer properties
- Netgain area maintenance annual fire prevention / slashing

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



## 2.0 Non-Compliance and Complaints

Non-conformances:

- Exceed landfill target by 400kgs per month

Complaints:

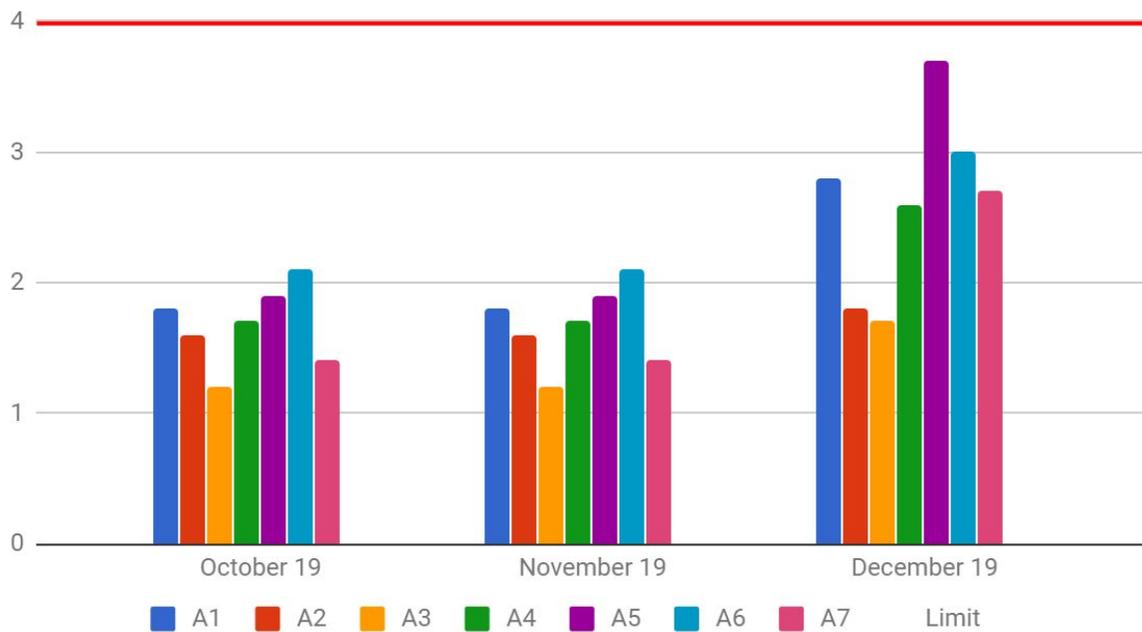
- Nil

### 2.1 Air Quality – Dust

DEPOSITIONAL results have indicated the dust emissions tabulated below

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

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



**Note: there were a number of reactive exceedances in December due to bushfire smoke in Gippsland and surrounding areas.**

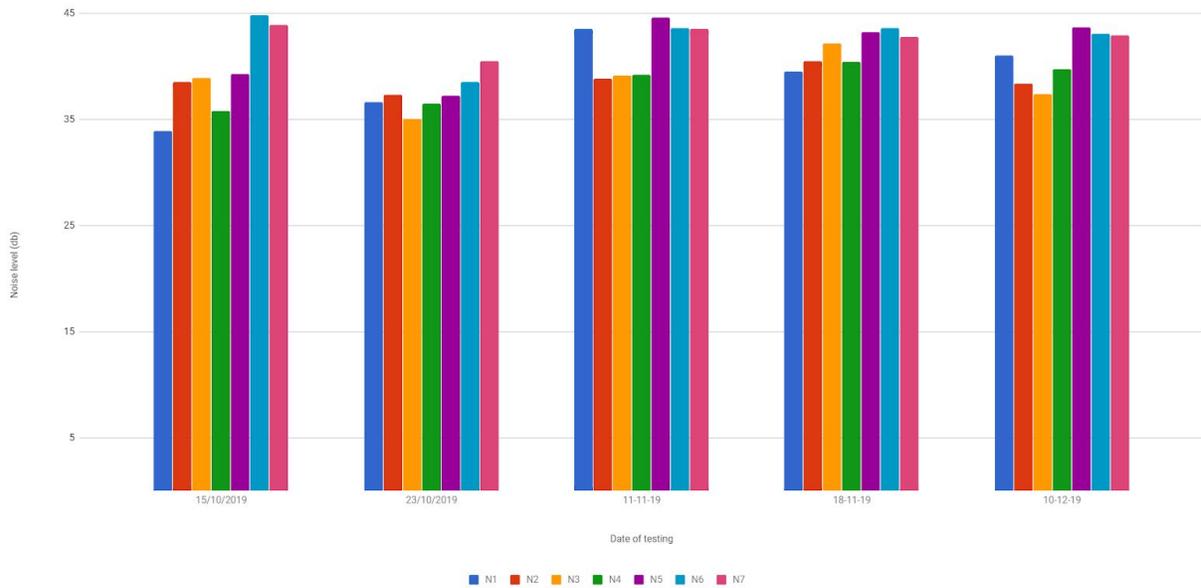
## 2.2 Noise

Average noise levels for the 2nd quarter are shown below.

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

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

Fortnightly Noise testing results Q4 2019 (Limit 45dB)



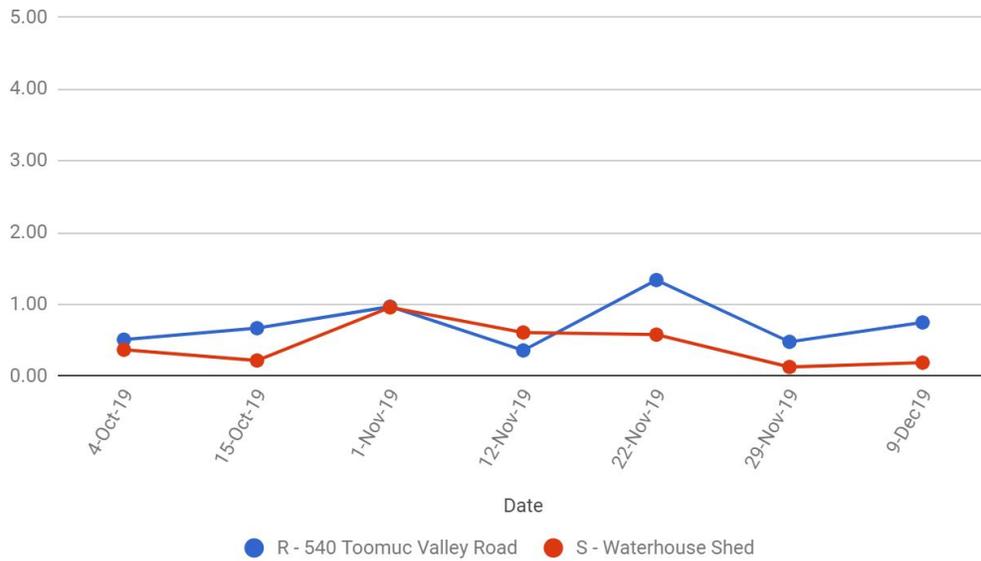
## 2.3 Blasting

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

### Ground Vibration

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

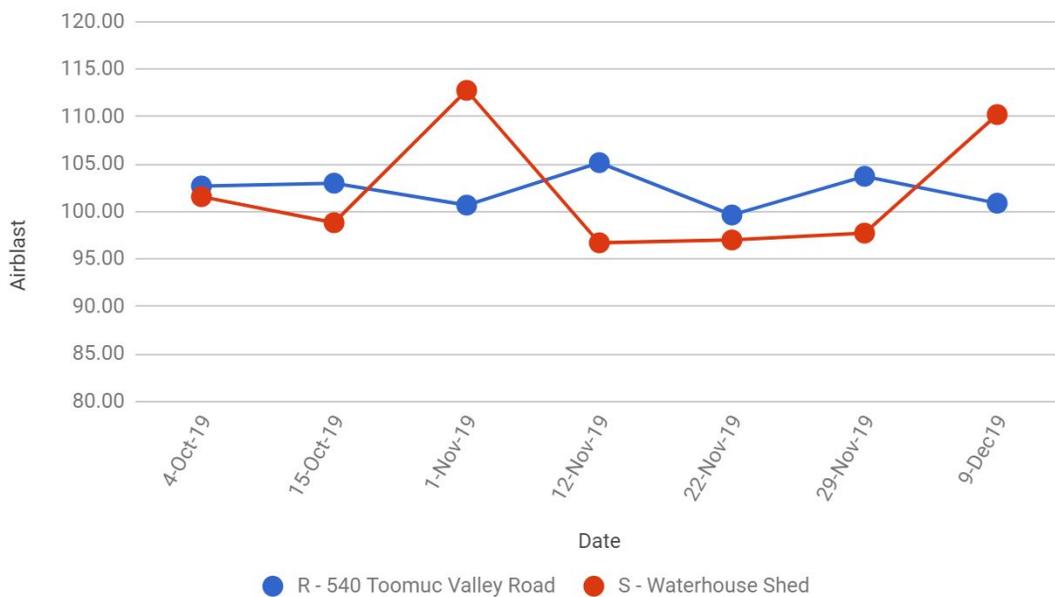
Ground vibration for Q4 2019 (Limit 5 mm/s)



### Air Blast

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

Air blast limit results for Q3 2019 (Limit 115 dBL)

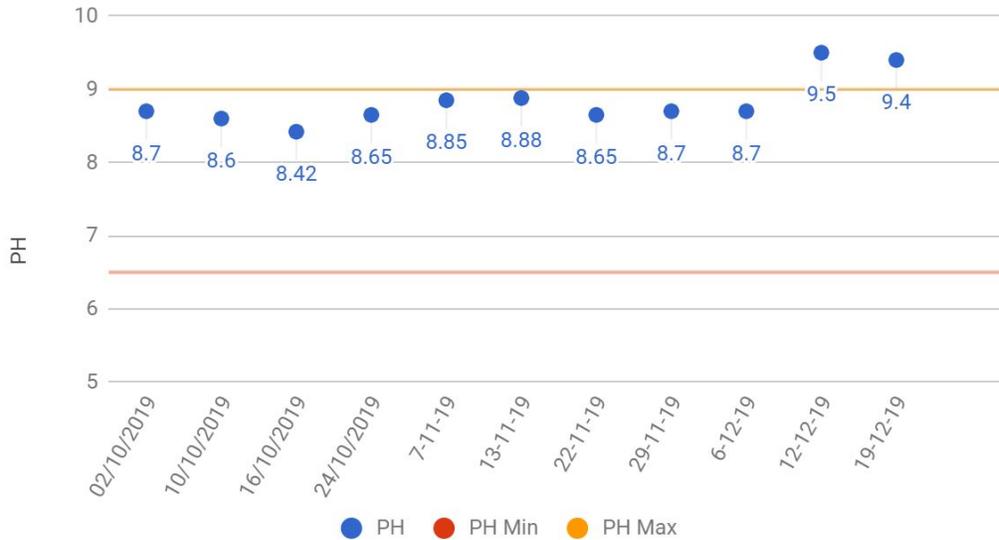


## 2.4 Surface Water, Drainage and Groundwater

### Graphs showing the Q4 water results

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

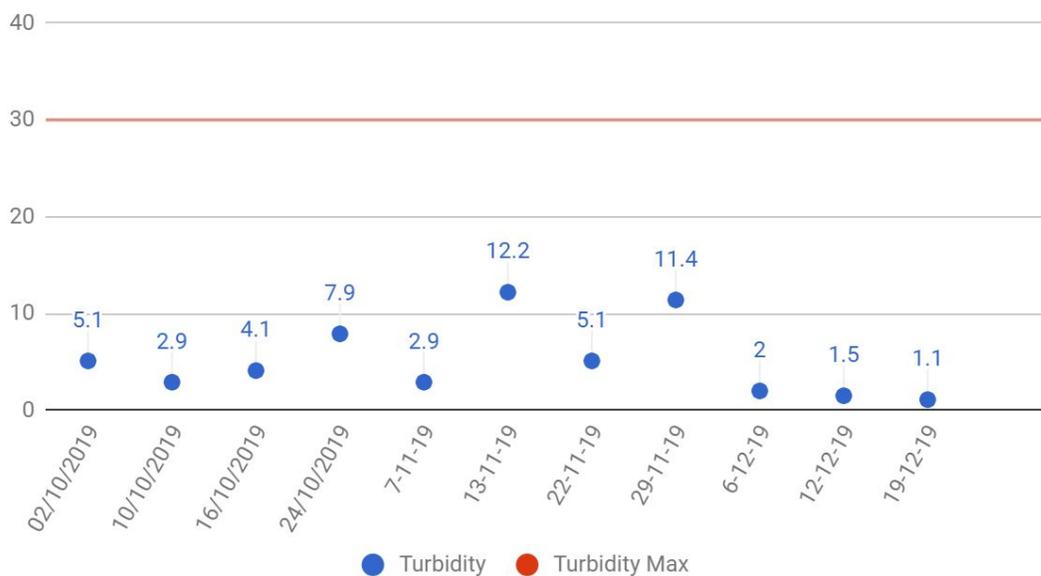
pH Q4 2019



**Note - No discharge on days of testing in December (12th & 19th), increase in PH is results of water testing Donnazons dam (low water levels), subsequent testing in early Jan shows PH is under limits for discharge.**

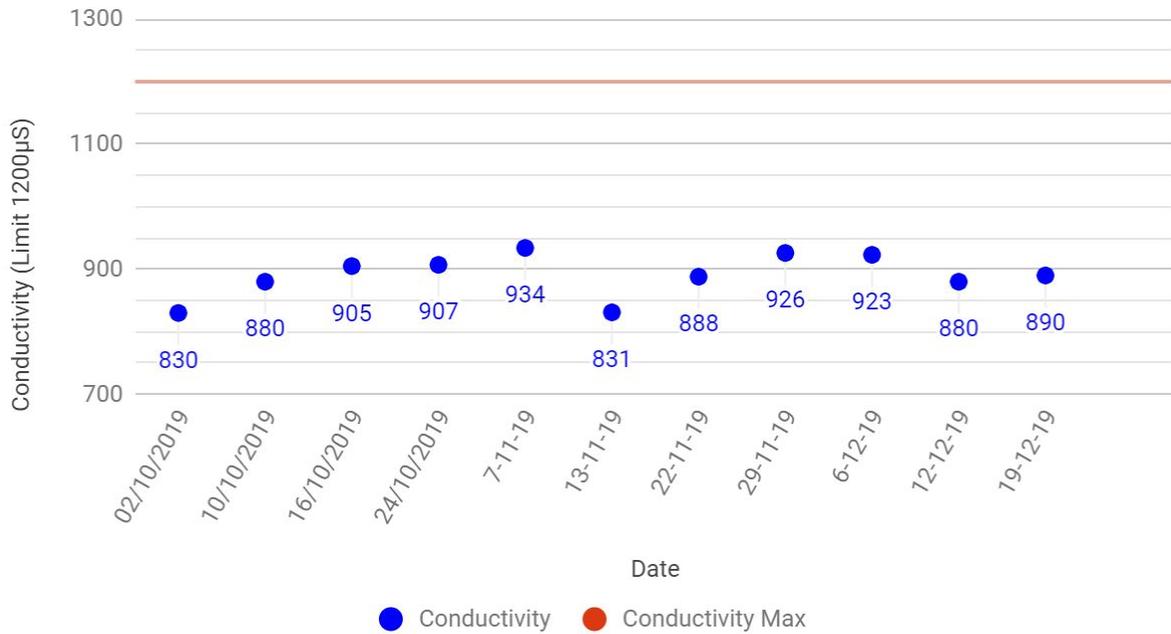
**Turbidity – Clarity of water Maximum 30NTU**

Turbidity Q4 2019



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

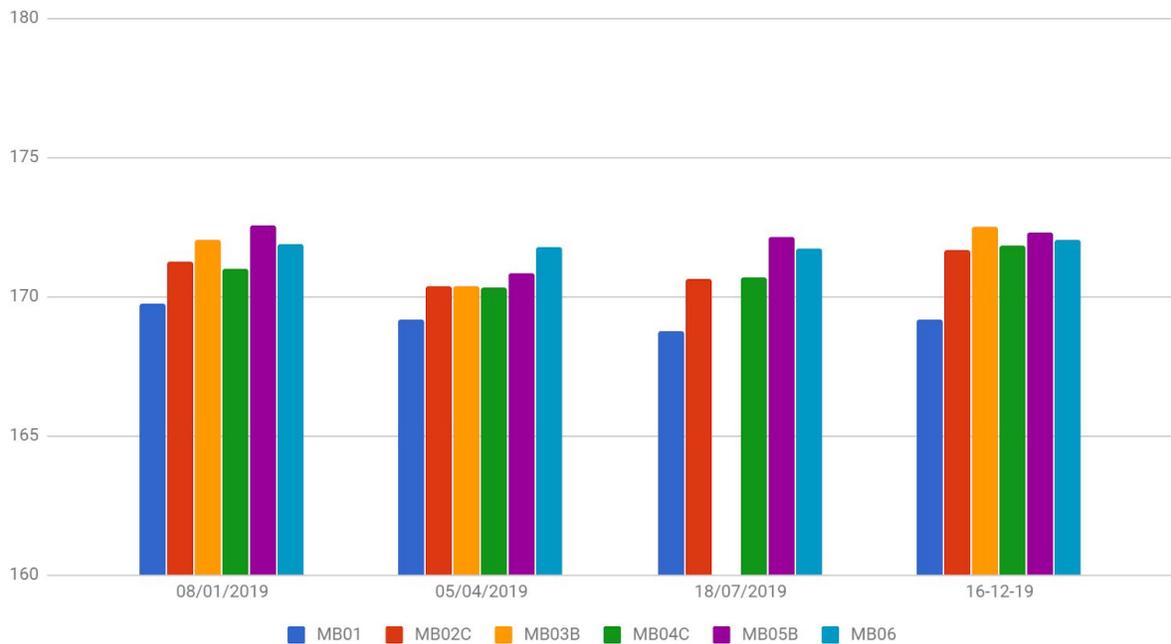
### Conductivity Q4. 2019



### Bore Water Measurements –

Table showing 2018 - 2019 water table levels in relation to sea level

#### RWL of ground monitoring bores 2018-2019



## WASTE

### Quarry Waste Generation

Categories	Rolling 12 Month Tonnes	Av / month
Landfill	12.8	1.08
Category	YTD	
Steel	51.46	T
Recycled Oil	6900	L
Prescribed	2800	L
Interceptor waste	14000	L

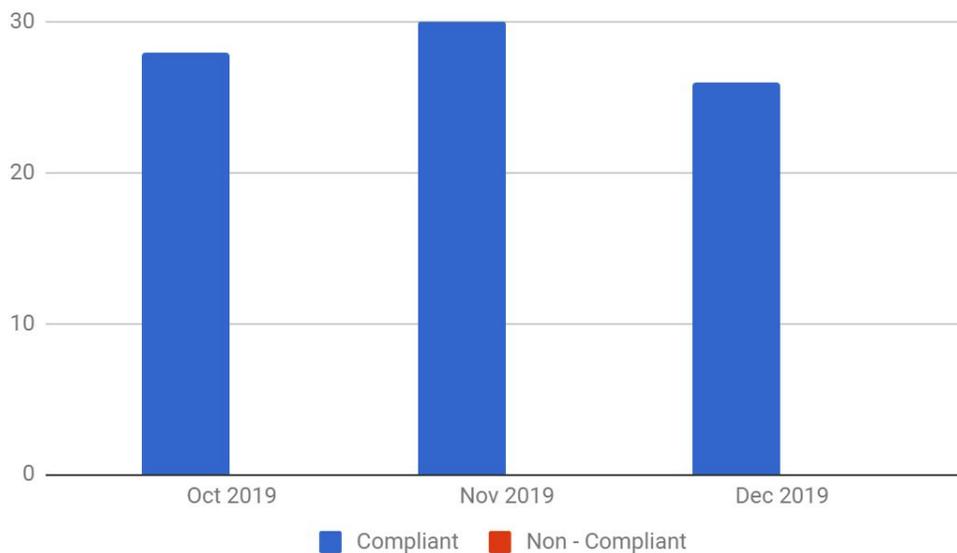
Landfill waste per month increased in Q4 due to clean up of pallets that could not be recycled or not suitable for repurposing

## 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 Q4 2019



## **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**

<b>EMP ref.</b>	<b>Rating</b>	<b>Non-conformance</b>	<b>Recommendation</b>	<b>Status</b>
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.	

description      **MNC**      minor non conformance - if the environmental impact of the non conformance is likely to be contaminated within the site or have limited off site impact or is a documentation issue.