

# Mt Shamrock Environmental Management Plan - 3

## Monthly Progress Update

April 2021 - June 2021



Prepared by Matt Dodd for Mt Shamrock Quarry Environmental Review Committee

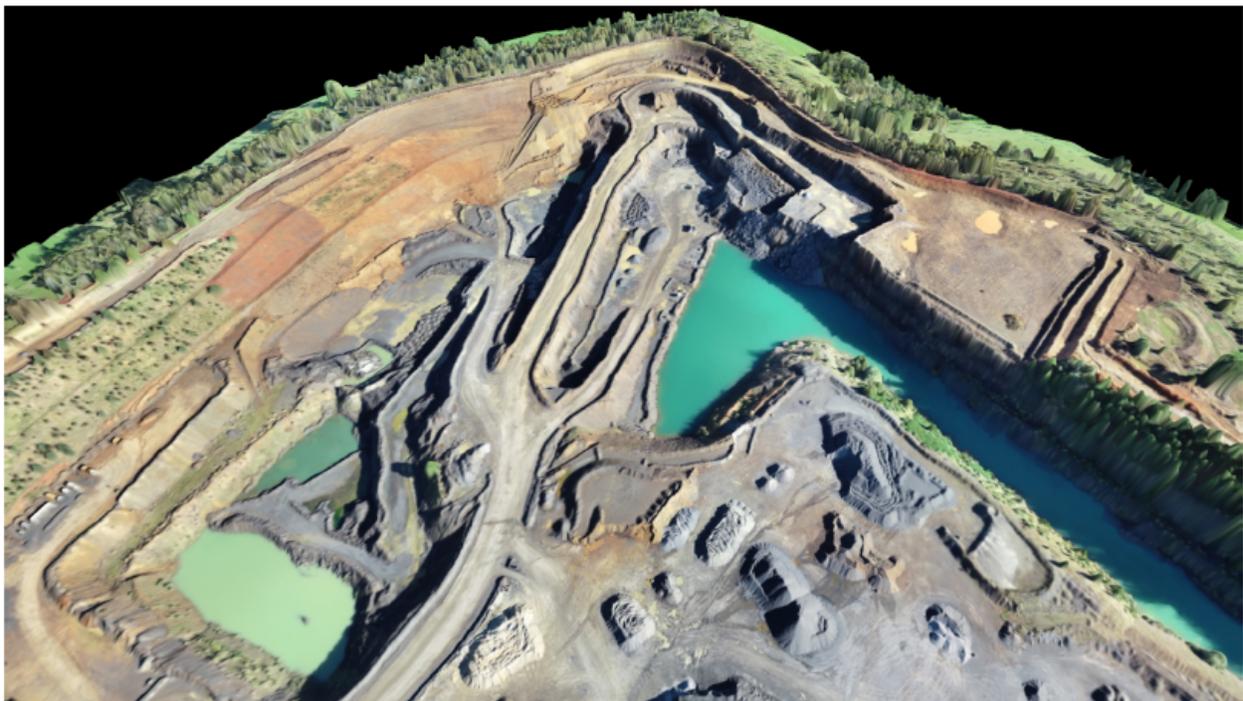
On 11 March 2008, the Mt Shamrock Quarry Environmental Management Plan Version 1:18 January 2008 (EMP) was formally enacted. This document established a framework to ensure compliance with local council, AAV, DPI, EPA and DSE requirements relating to the extension of extractive limits under Work Authority 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**

- Operating hours unchanged
- Stripping / Rehabilitation campaign complete, Topsoil placement in southern rehabilitation faces in progress
- EMP changes register sent to ERC for comment with no additional requests.
- EMP review / revision nearing completion for submission
- Introduction of additional recycling collection facilities (batteries & E-waste)

Here is the most recent aerial photo of the rehabilitation progress on the Southern and Western faces

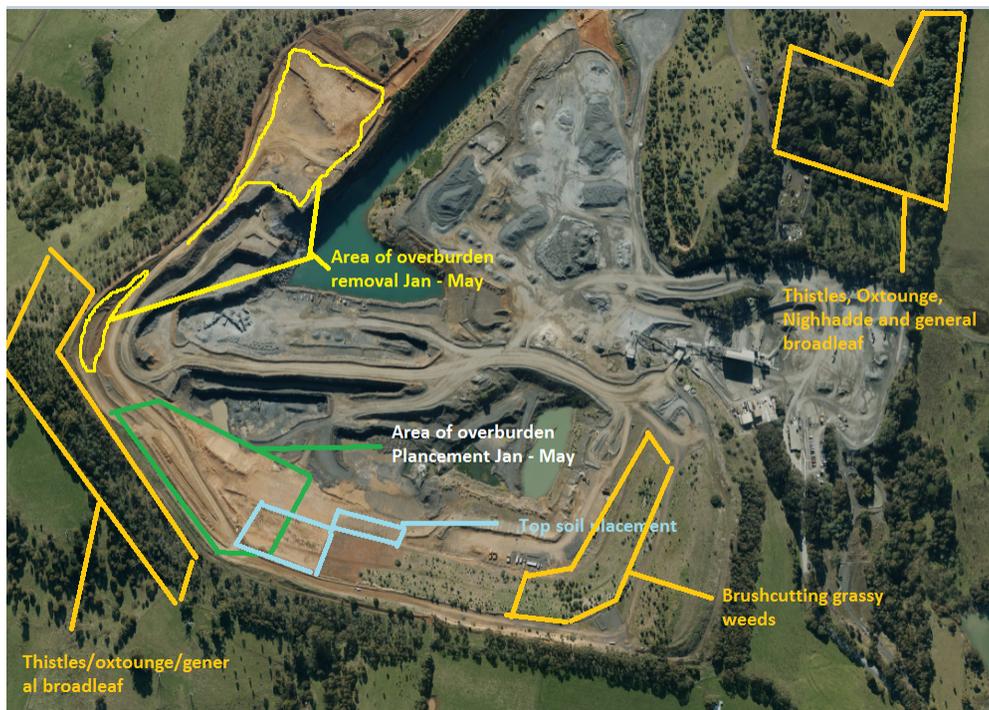


## 1.0 LRMP Update

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

- Completion of 2021 stripping and rehabilitation in Southern faces
- Top soil placement in progress in Southern Rehabilitation faces
- Preparation for hydroseeding and plantings in Southern Rehabilitation faces
- Preparation for additional 700 trees in Phase A and Phase B
- Preparation for additional landslip plantings (recommendations from AECOM report)
- General Broad Leaf, Blackberry and Pampas Grass treatment around property
- Brush Cutting around previous plantings in Southern Rehabilitation areas
- Collection of tree guards for reuse
- Netgain maintenance - hand heeding, pack spraying of perannual grasses

The map below shows some (not all) of the areas that have been maintained over the reporting period.



## 2.0 Non-Compliance and Complaints

Non-conformances:

- In May, 1 Truck went down Mt Shamrock road with the Tarp not fully closed. It was noticed immediately and the driver addressed this.
- 6th June, Conductivity test result at V-Notch returned a result of 1217, license limit is 1200. The EPA were notified, no actions required.

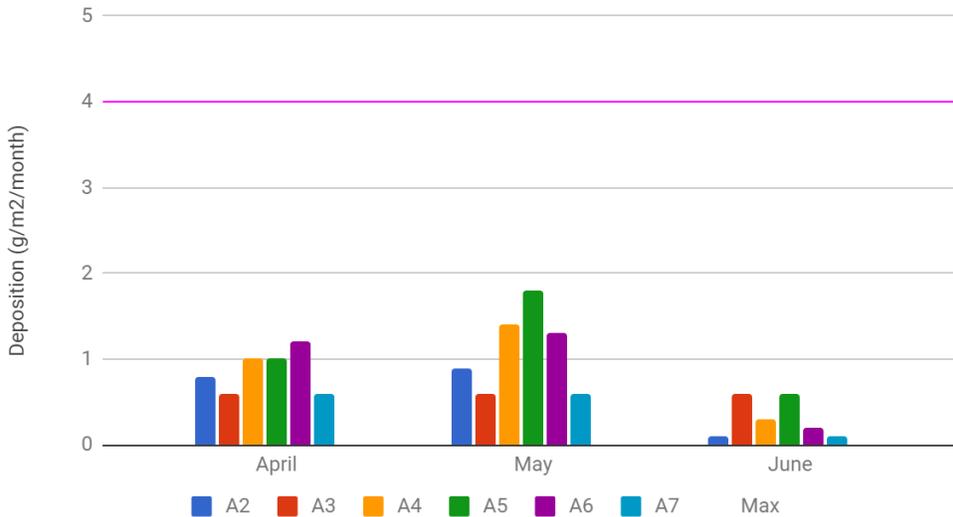
Complaints:

- Nil

## 2.1 Air Quality – Dust

DEPOSITIONAL results have indicated the dust emissions tabulated below

### Dust Deposition Q2 2021



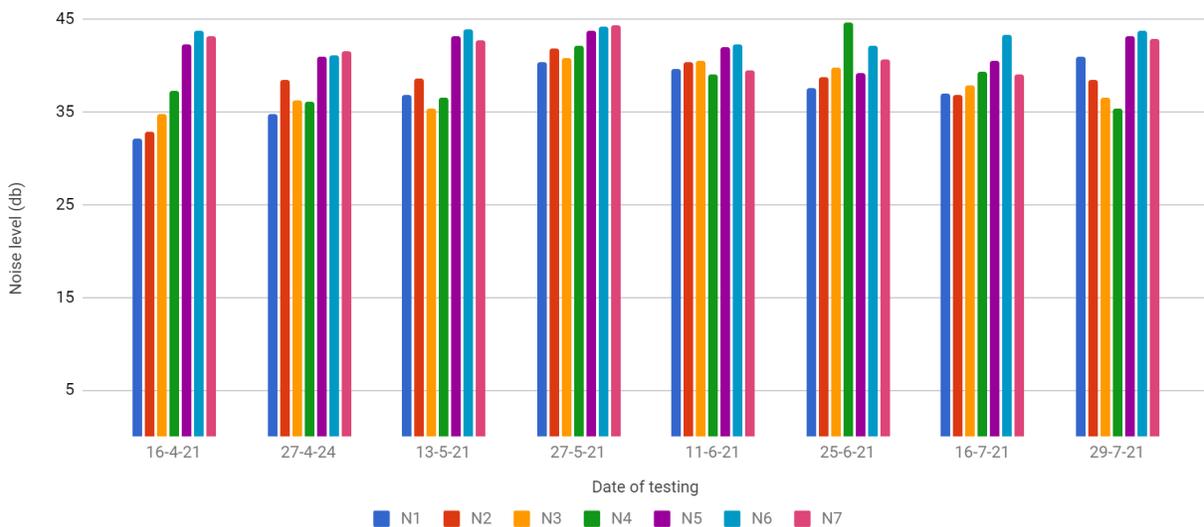
**Limit 4.0g/m2/mth**

Note that during Q2 the deposition results presented are Ash analysis test, rather than just standard deposition, representing true mineral dust deposition generated by quarry activities

## 2.2 Noise

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

### Fortnightly Noise testing results Q2 2021 (Limit 45dB)



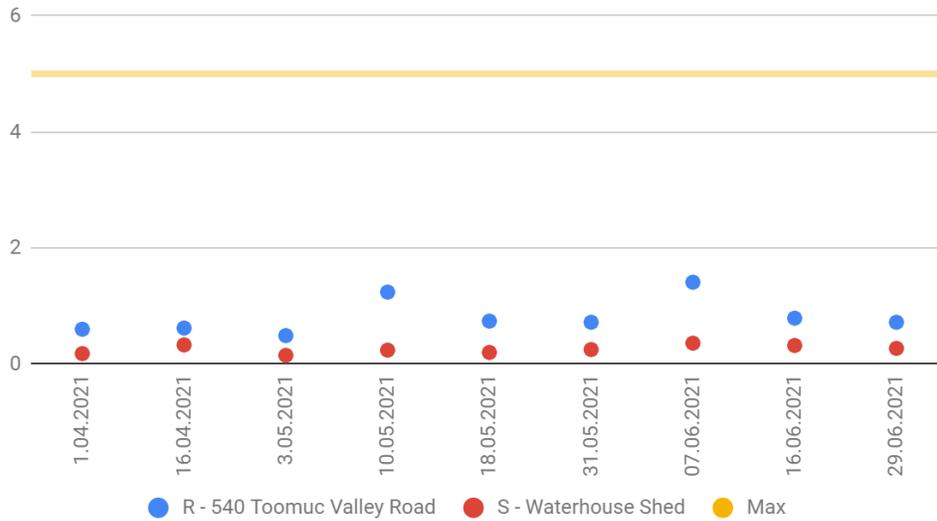
**Limit is 45dB under normal operating conditions**

## 2.3 Blasting

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

### Ground Vibration

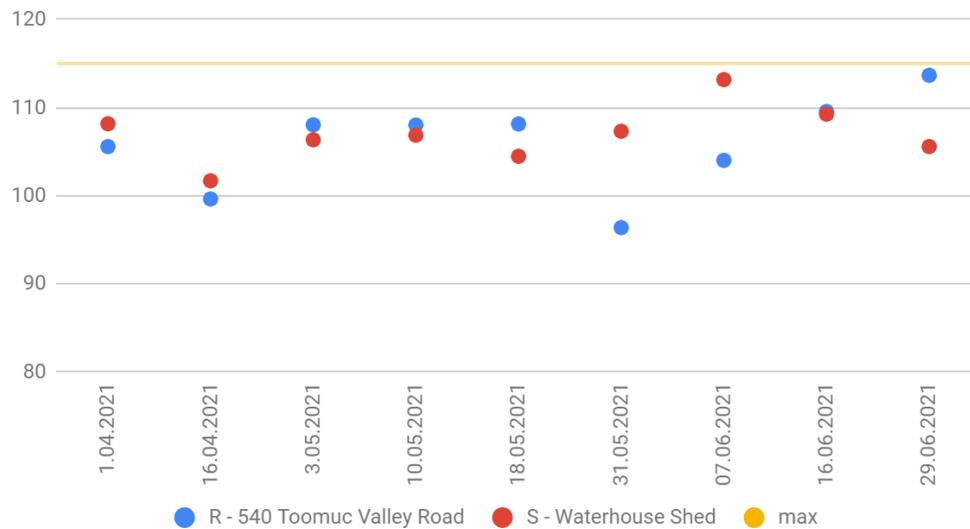
Ground Vibration Q2 2021



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

### Air Blast

Air Blast Q2 2021



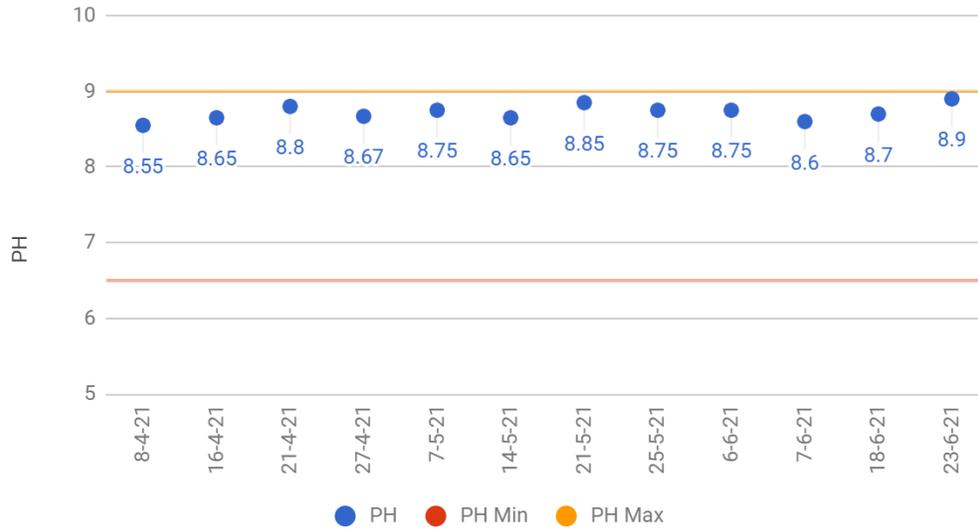
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

## 2.4 Surface Water, Drainage and Groundwater

### Graphs showing the Q1 water results

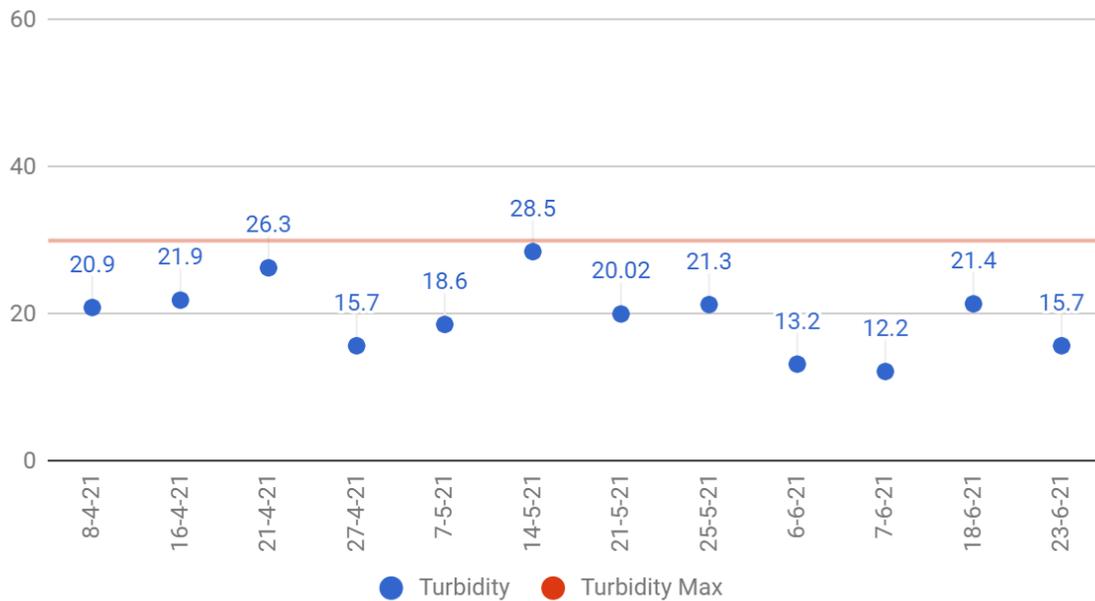
**pH** – A measure of the Acidity or Alkalinity of the water limit 6.5 to 9.0

pH Q2 2021



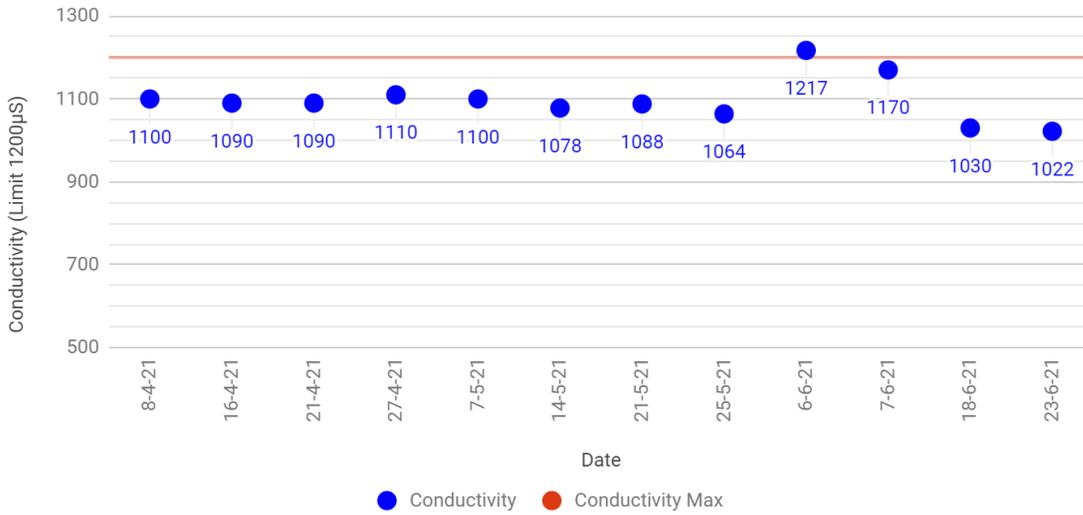
**Turbidity** – Clarity of water Maximum 30NTU

Turbidity Q2 2021



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

### Conductivity Q2 2021

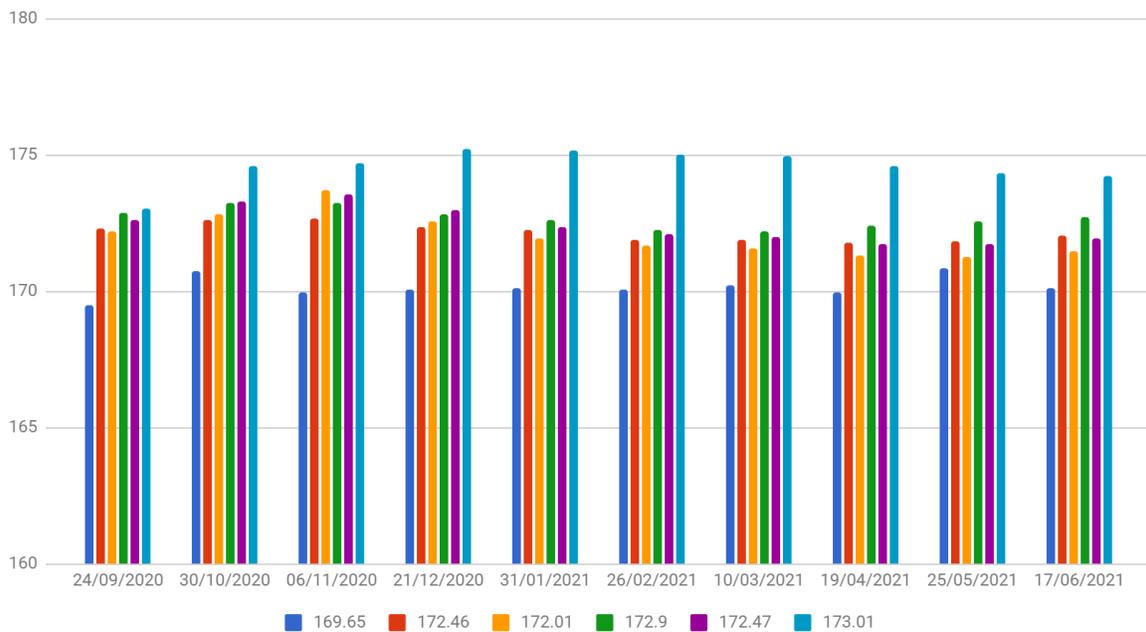


As noted earlier, the result on the 6th June exceeded the prescribed license limit of 1200. This was reported to the EPA with no actions required.

### Bore Water Measurements –

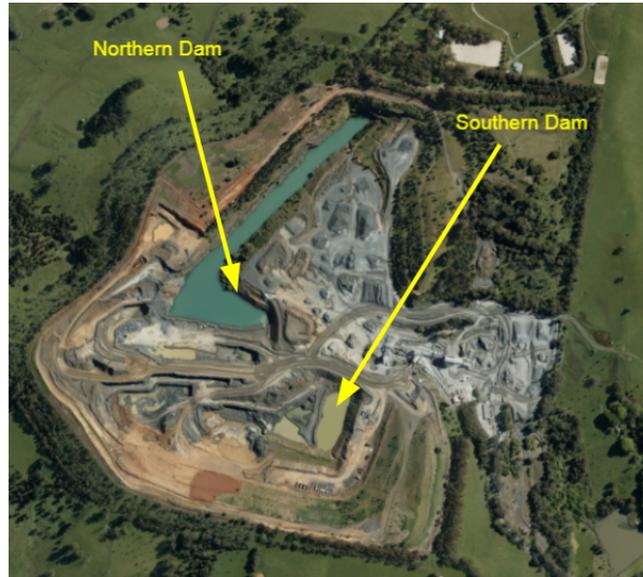
Table showing rolling 12 month GWL.

#### RWL of ground monitoring bores rolling 12 months

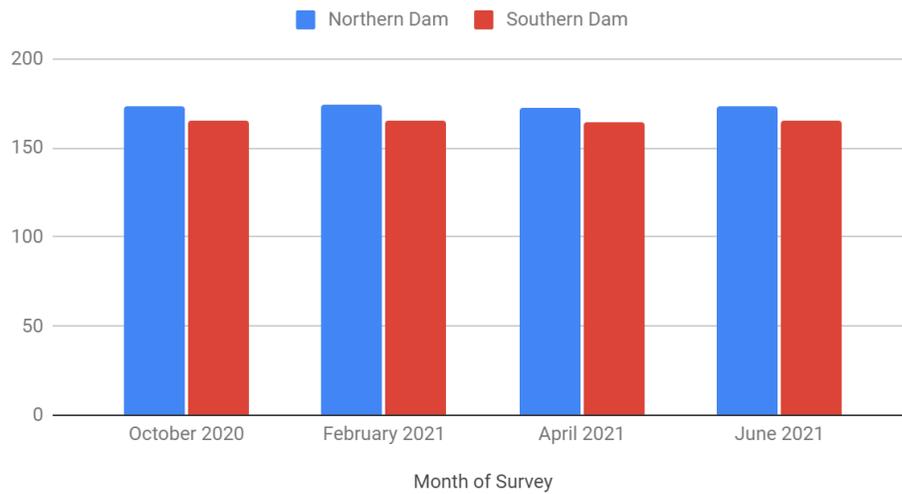


### In Pit water levels

In 2020, Holcim committed to begin and report quarterly the in pit water dam levels to aid in the annual beneficial use analysis. This was formed as part of the revised EMP submission. Location and naming conventions are shown in the map for reference. All measurements are in RL's (the same unit as ground water levels)



### In Pit storage water levels



WASTE

## Quarry Waste Generation

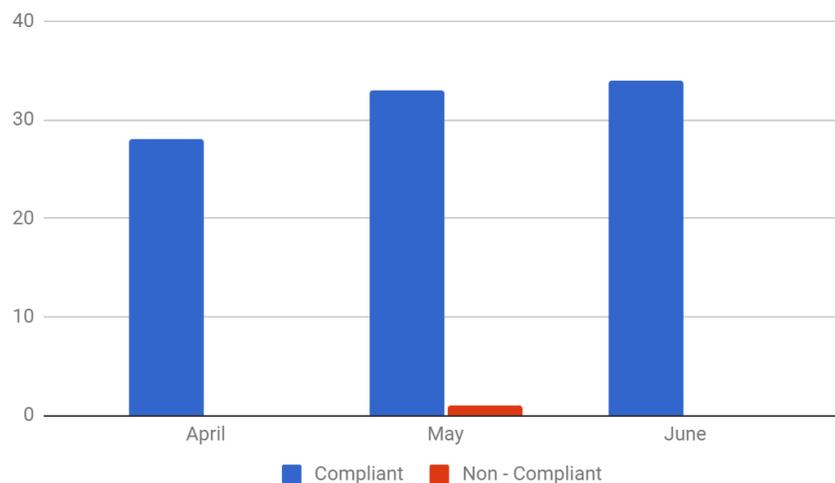
| Categories        | Rolling 12 Month Tonnes | Av / month |
|-------------------|-------------------------|------------|
| Landfill          | 6.78                    | 0.57       |
|                   |                         |            |
| Category          | YTD                     |            |
| Steel             | 15.00                   | T          |
| Recycled Oil      | 5,800                   | L          |
| Prescribed        | 1,435                   | L          |
| Interceptor waste | 27,000                  | L          |
| Other             |                         |            |
| Conveyor belt     | 6T                      | repurposed |

## 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 2021



In May, 1 truck went down Mt Shamrock Road with its tarp only partially on, This was corrected immediately by the driver.

## 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



### 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</li> </ul> | Open - WIP |

|  |  |  |   |  |
|--|--|--|---|--|
|  |  |  | <p>workshop ceases, by removing bins from sites</p> <ul style="list-style-type: none"> <li>- Cardboard waste is compacted in the cardboard recycling skip</li> <li>- Make sure all chemicals are stored properly</li> </ul> |  |
|--|--|--|---|--|

### 2021 EMP audit Non conformances

| EMP reference | Rating | Non Conformance  | recommendation   | Status      |
|---------------|--------|--|--|-------------|
| 6.3           | Major  | Non compliant water data was not reported to the EPA   | Report to the EPA and take measures to prevent this reoccurring  | Complete    |
| 2.1.3         | Minor  | Dust deposition bottles were not collected for 3 consecutive months  | Determine process to prevent this reoccurring  | complete    |
| 2.4.2         | Minor  | A small number of PH and turbidity exceedances were recorded in samples taken at the EPA licence discharge point during discharge of surface water from site | Undertake investigation into the cause of the turbidity and pH exceedances measured at the EPA license discharge during discharge of surface water from the premises. Implement necessary controls and other measures as necessary to ensure licence discharge limits are met at all times | Complete    |
| 2.4.2         | Minor  | Turbidity meter was almost 12monts overdue for calibration and pH solutions are not being routinely used prior to conducting water quality monitoring        | Document and implement a water quality monitoring procedure that includes instructions on the correct use and field calibration of water quality monitoring instruments  | Complete    |
| 2.6.2         | Minor  | The site did not meet its annual greenhouse gas emission reduction target  | Investigate further measures that can be taken to achieve annual greenhouse gas emission target. Include consideration of offsets such as carbon offset purchasing, and the sourcing of electricity from renewable generation  | In progress |

|             |              |   |
|-------------|--------------|---|
| description | <b>Minor</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. |
|             | <b>Major</b> | A potential or actual significant off site impact to the environment and or legal compliance issue including non conformance with prescribed limits of the EMP                    |