Mt Shamrock Environmental Management Plan 3 Monthly Progress Update

January 19 - March 19

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 reasons for the deviance explained. A summary of quantifiable monitoring outcomes is also included. Figure 1.12 details all monitoring locations.

Operational Update

- Operational hours unchanged

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.

- 2018 EMP audit
- Recertification of contractors on site & standardisation of reporting (i.e. use of maps)
- Updated blasting checklist to include Toomac Valley landslip areas
- Timber waste in graveyard area cleaned up and sorted for recycling
- Weed spraying in netgain and rehabilitation areas
- Watering of plantations in rehab area
- Fence repairs around property
- Tidy-up around buffer properties
- Netgain area maintenance

2.0 Non-Compliance and Complaints

Non Compliances to EMP Requirements were registered during this monitoring period

Non-conformances:

- Nil

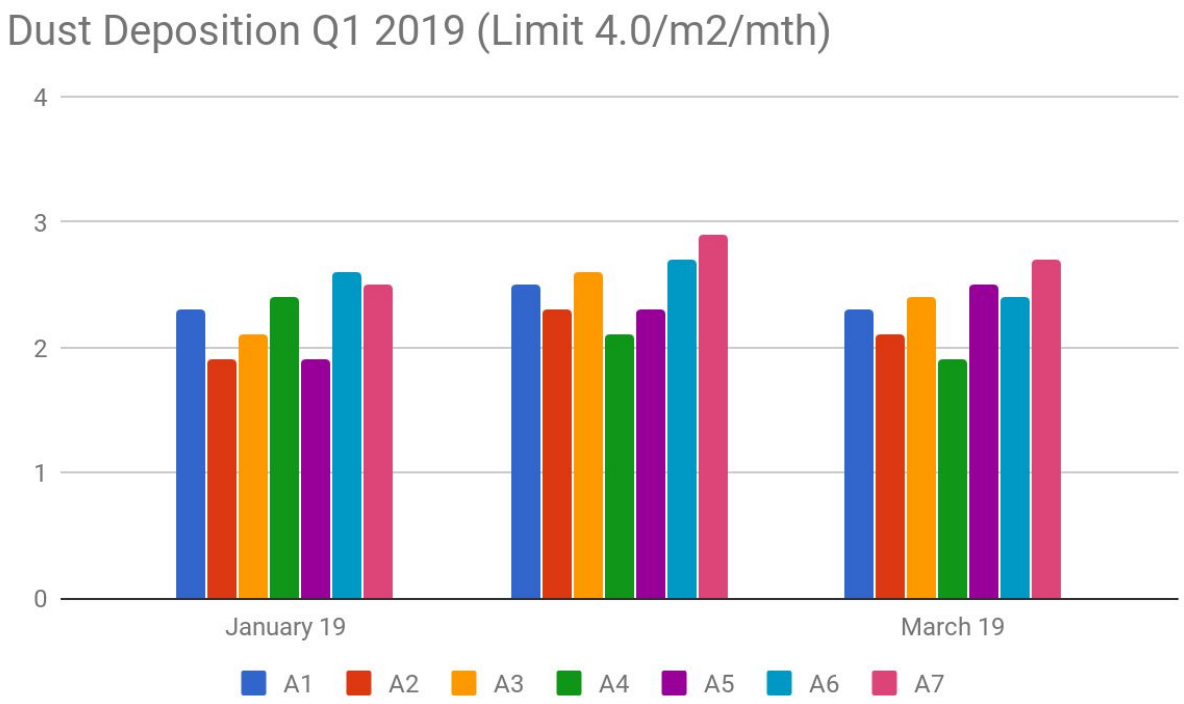
Complaints:

- Nil

2.1 Air Quality – Dust

DEPOSITIONAL results have indicated the dust emissions tabulated below

Limit 4.0g/m2/mth

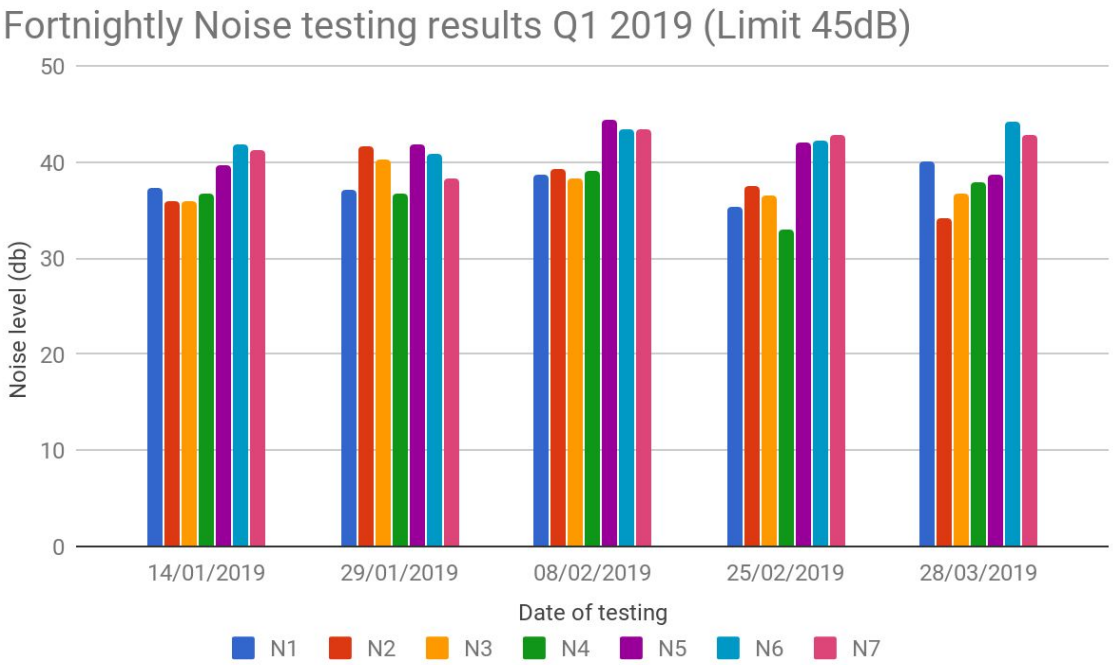


2.2 Noise

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

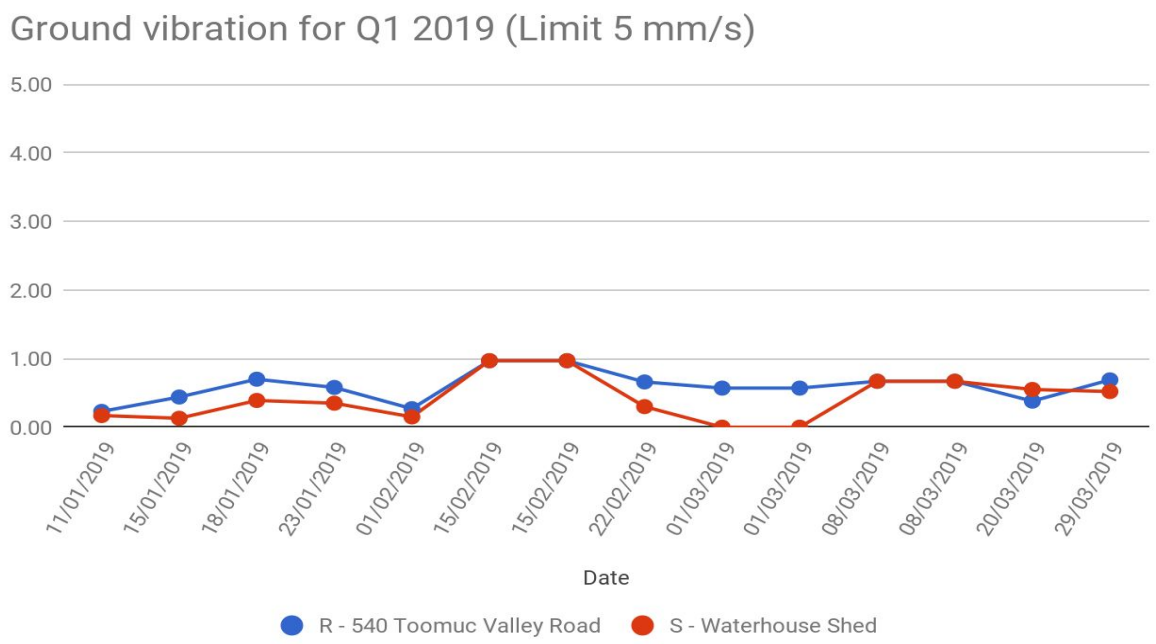


2.3 Blasting

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

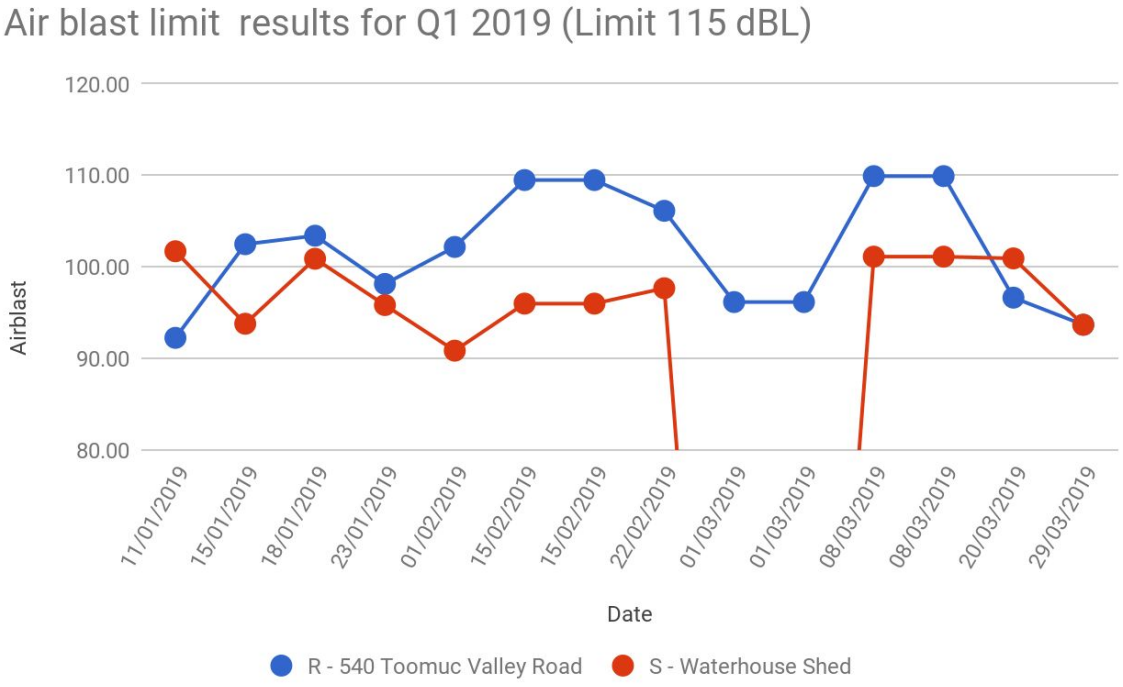
Ground Vibration

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



Air Blast

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

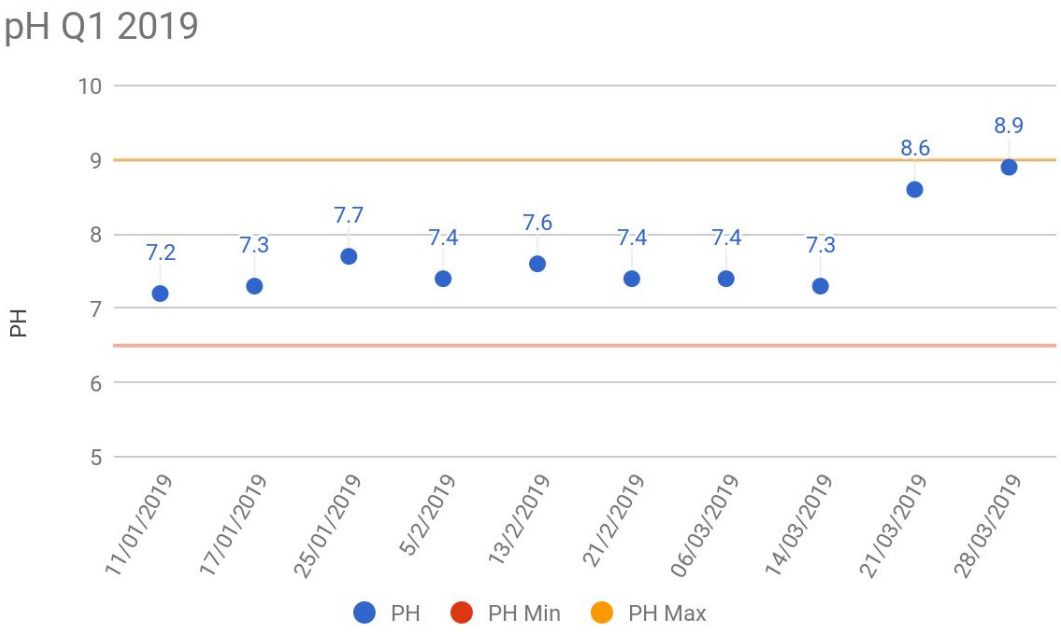


The water house shed monitor did not trigger on blasts 1904 and 1909; conducted on the first of March 2019 and fired together.

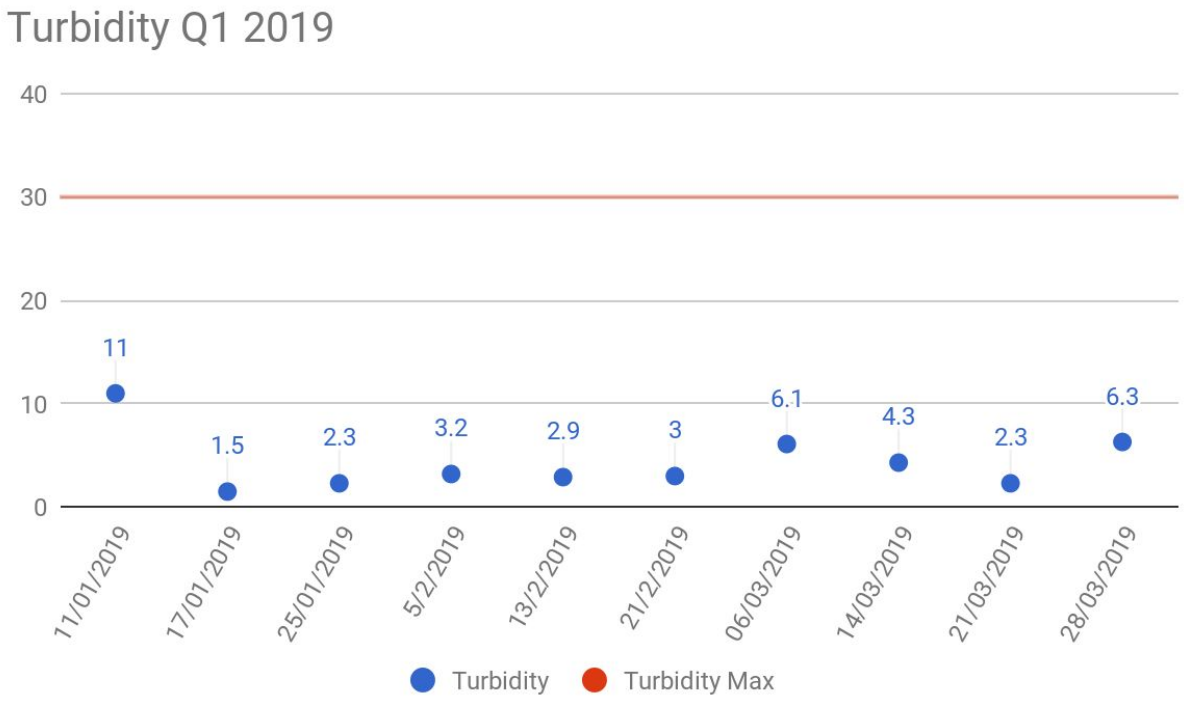
2.4 Surface Water, Drainage and Groundwater

Graphs showing the Q1 water results

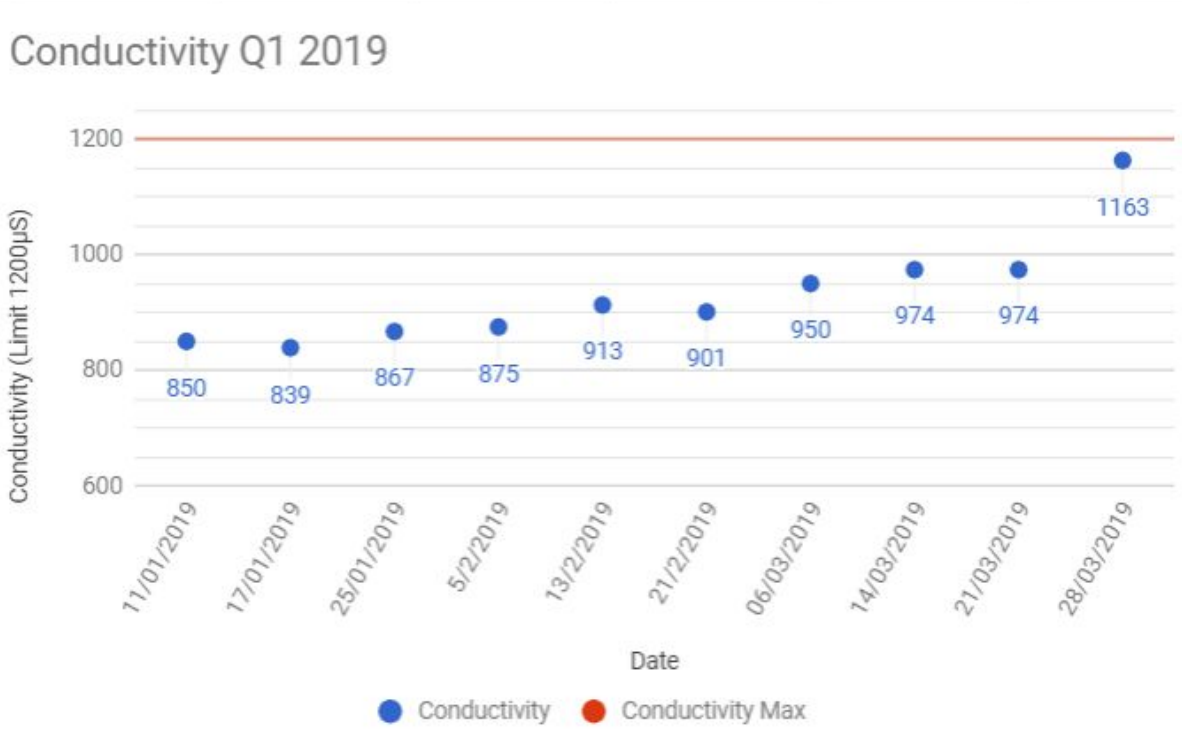
pH – A measure of the Acidity or Alkalinity of the water limit 6.5 to 9.0



Turbidity – Clarity of water Maximum 30NTU



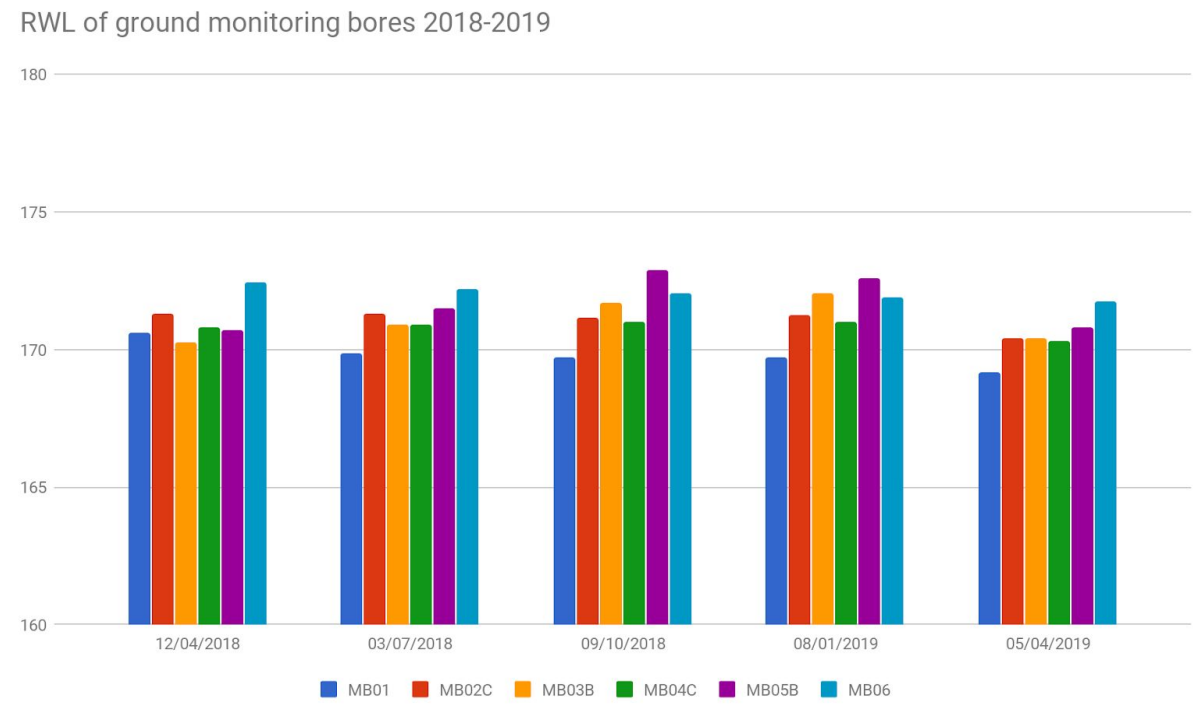
Conductivity – A measure of the water's capability to pass electrical current. Limit 1200µS



No discharge from site from mid-January onwards. Measurement results from due diligence testing only.

Bore Water Measurements –

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



WASTE

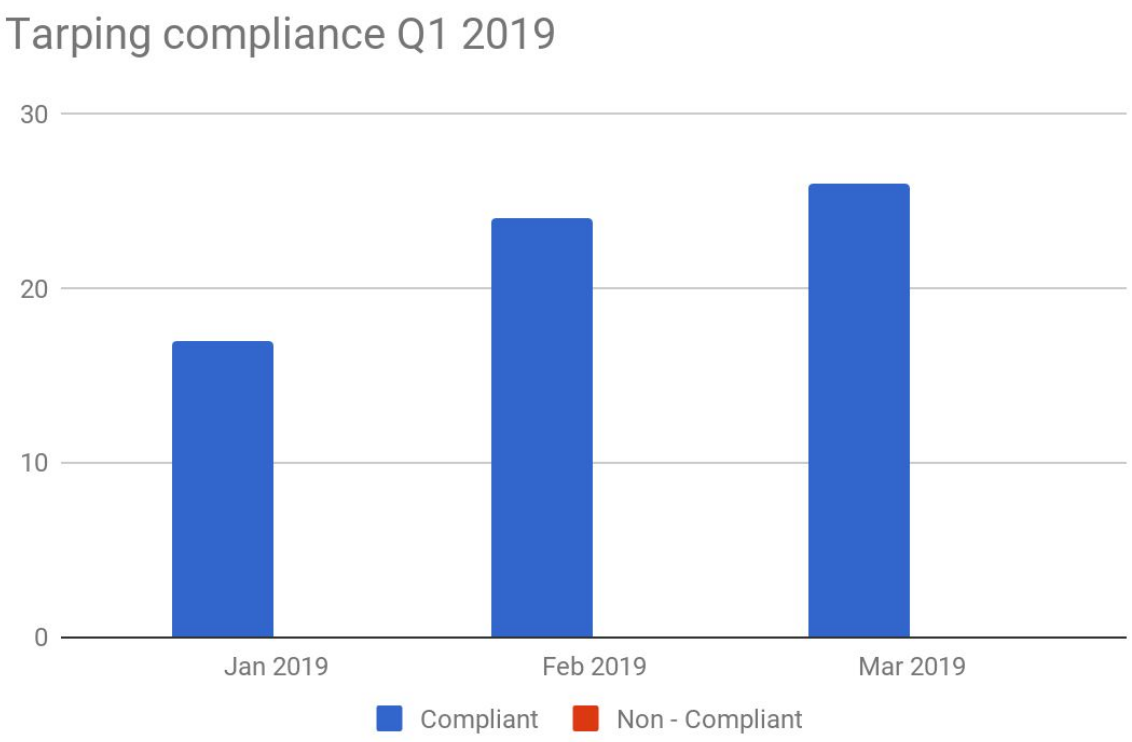
Quarry Waste Generation

Categories	Rolling 12 Month Tonnes	Av / month
Landfill	6.80	0.57
Category	**YTD**	
Steel	55.09	T
Recycled Oil	7,200	L
Prescribed	615	L
Interceptor waste	9,000	L

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



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^2 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^3 (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.

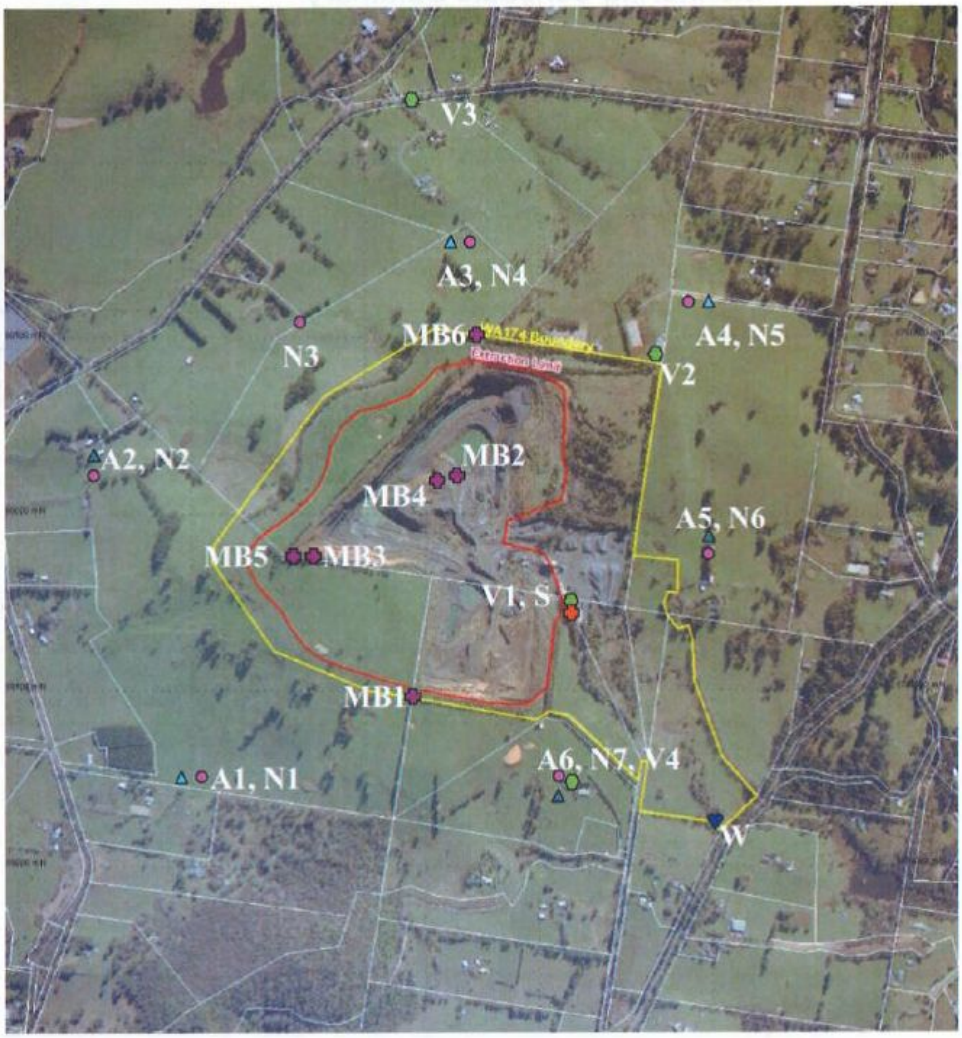
pH – A measure of the Acidity or Alkalinity of the water. Limit 6.5-9.0

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_{10} 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

New bore locations

EMP audit action list 2019

EMP ref.	Rating	Non-conformance	Recommendation	Status
2.1.3	MNC	Functional weather monitoring station on site.	Install weather monitoring station in QMs office.	Complete
	MNC	Slope stability inspections to be reported with blast documentation.	Add slope stability inspection to blasting checklist. Inspection report to be included in blast documentation.	Complete
	MNC	Diesel AST at quarry pit pump not bunded.	Repair bunding	Complete
	MNC	Not known whether target met for housekeeping non-conformances.	Site needs to start scoring NCs for each inspection to accurately measure this metric.	
	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.