

Mt Shamrock Environmental Management Plan - 3

Monthly Progress Update

October 2021 - December 2021



Prepared by Leigh Elliott 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
- Quarry Manager change from Matt Dodd to Leigh Elliott in early December. Nathan Thomas continues to support in the Operations Manager role. No other staff changes of note.
- 2021 EMP review is still in Cardinia Shire's approvals process.
- Revised Bushfire Management plan issued to CFA and approved in December 2021
- Bushfire preparations underway
- 2021 Annual consultant reports are currently going through Holcim's internal review process
- Done survey picture from October 2021 shown below.



1.0 LRMP Update

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

- General Broad Leaf, Blackberry, Pampas Grass and grassy weed treatment around property
- Fence maintenance around property
- Planting landslip area with Eucalyptus and Acacias in November
- Brush Cutting around previous plantings in Southern Rehabilitation areas
- Guard and stake collection for reuse
- Netgain maintenance - hand Weeding, pack spraying of perannual grasses,
- Slash around all perimeter fencing for fire prevention and weed control

2.0 Non-Compliance and Complaints

Non-conformances:

- Holcim Pakenham Quarry did not meet its annual greenhouse gas emission reduction target during the 2021 period. Site did however increase its renewable use by a further 5% from 2020 to 2021. Actions planned for 2022 to optimise the “load and haul” circuit are currently underway.

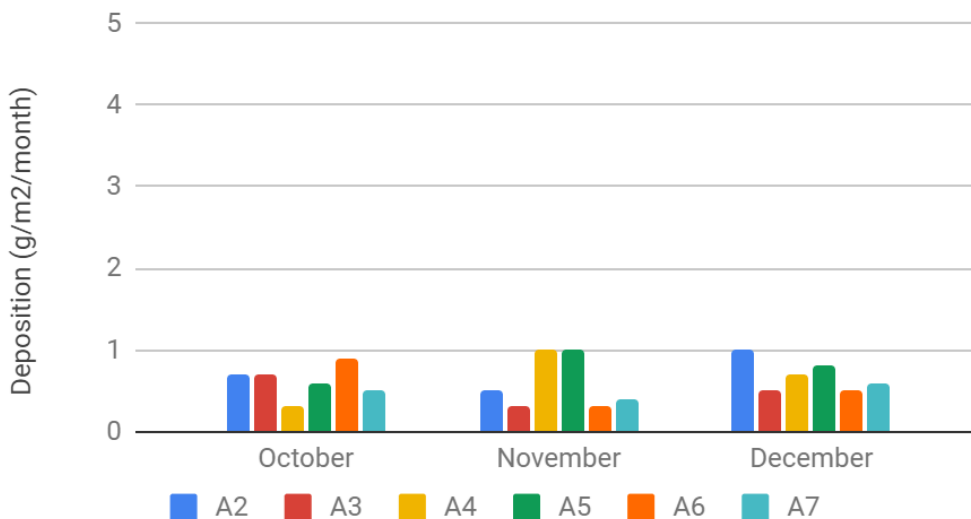
Complaints:

- Nil

2.1 Air Quality – Dust

Depositional results have indicated the dust emissions tabulated below. No exceedances during the reporting period.

Dust Deposition Q4 2021



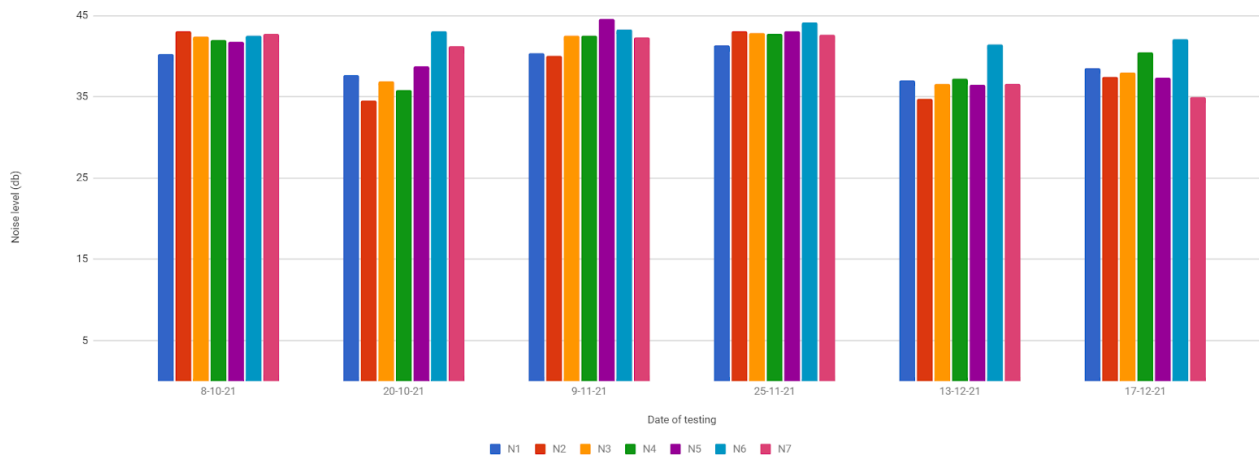
Limit 4.0g/m2/mth

Note that the deposition results presented are Ash analysis test, rather than Total Solids, representing true mineral dust deposition generated by quarry activities.

2.2 Noise

Average noise levels for the 4th quarter are shown below. No exceedances during the reporting period.

Fortnightly Noise testing results Q4 2021 (Limit 45dB)



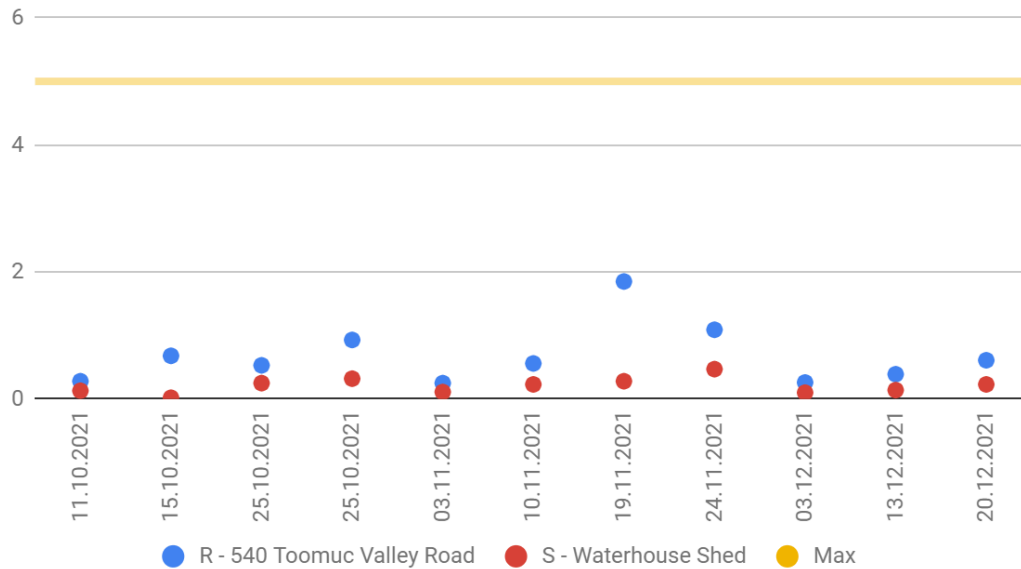
Limit is 45dB under normal operating conditions

2.3 Blasting

All blasting operations have been carried out in accordance with guidelines. No exceedances during the reporting period.

Ground Vibration

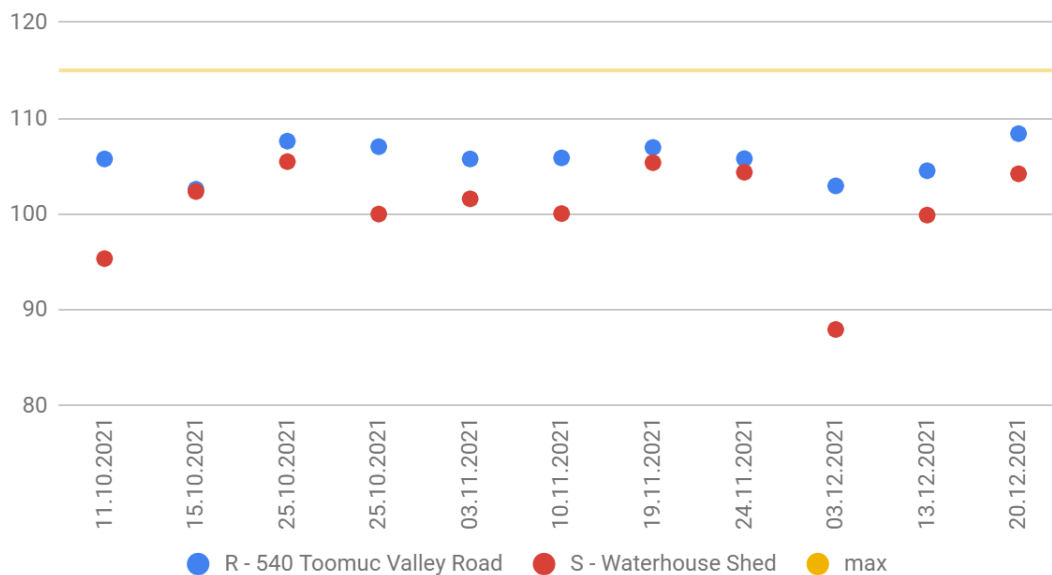
Ground Vibration Q4 2021(max 5mm/s)



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

Air Blast

Air Blast Q4 2021 (max 115dBL)



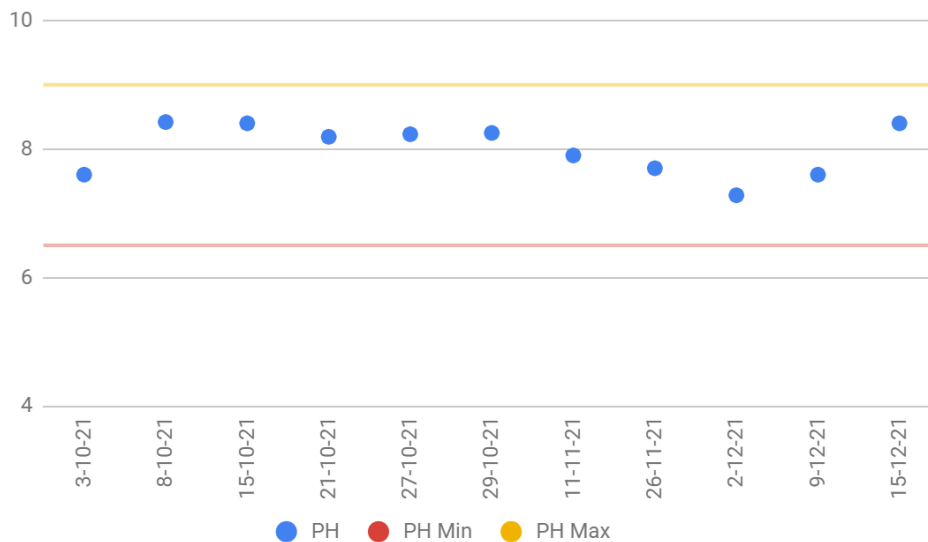
Limit is 115 dBL for 95% of blasts in a 12 month period.

2.4 Surface Water, Drainage and Groundwater

Graphs showing the Q3 water results

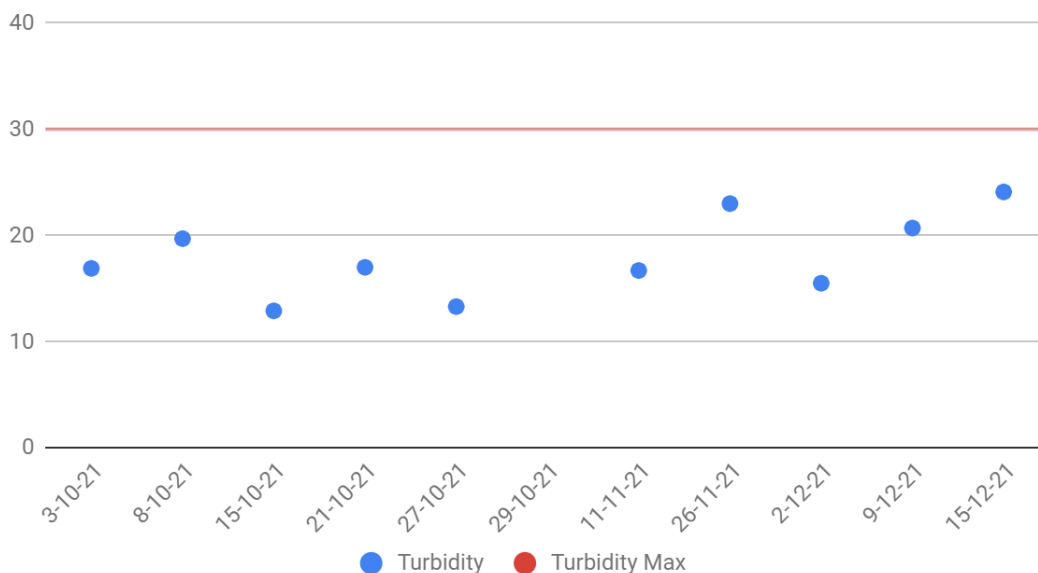
pH – A measure of the Acidity or Alkalinity of the water limit 6.5 to 9.0. No exceedances during the reporting period.

pH Q4 2021



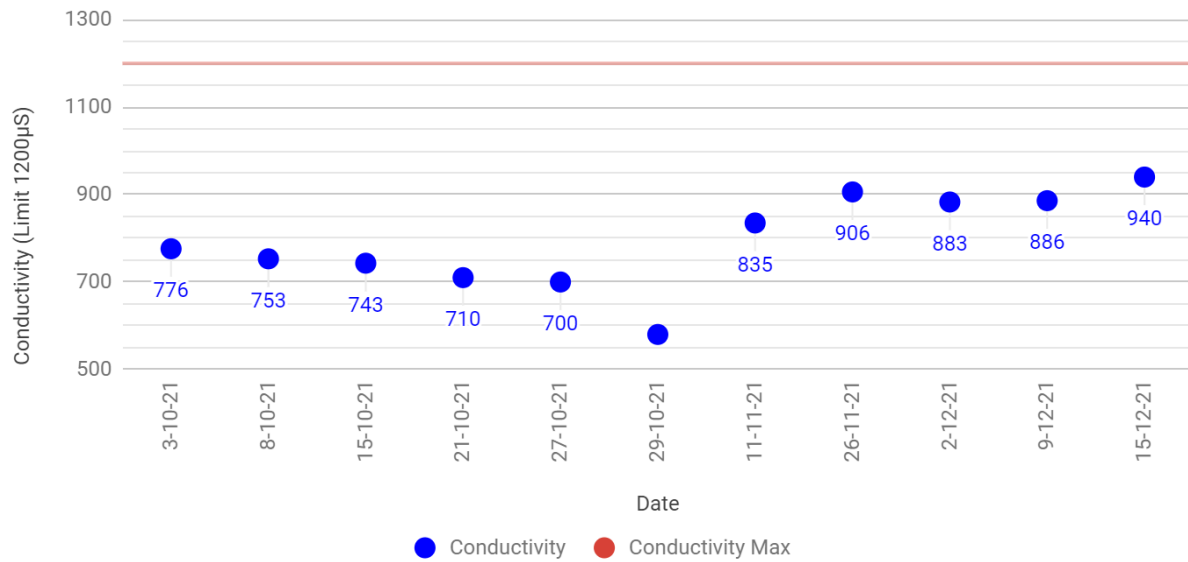
Turbidity – Clarity of water Maximum 30NTU. No exceedances during the reporting period.

Turbidity Q4 2021



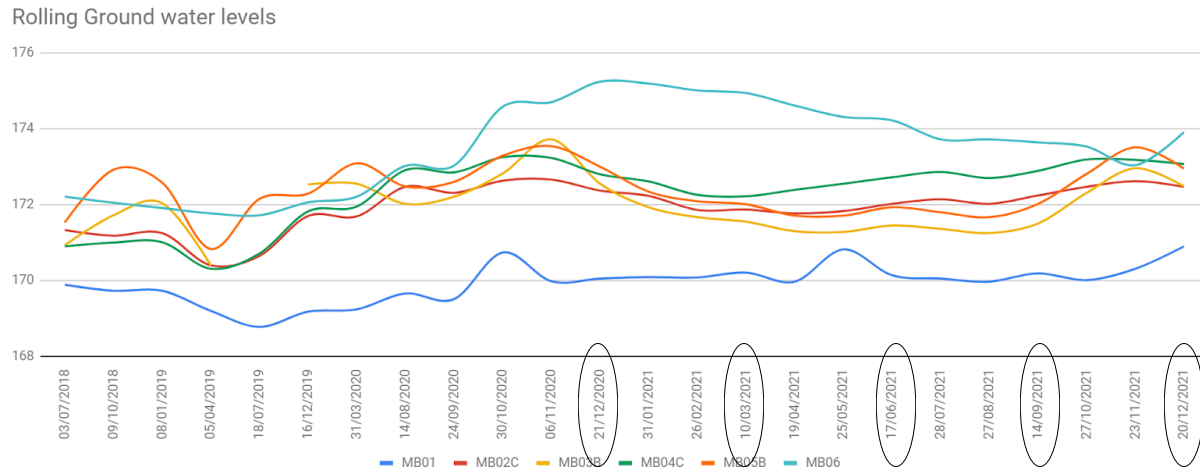
Conductivity – A measure of the water’s capability to pass electrical current. Limit 1200µS. No exceedances during the reporting period.

Conductivity Q4 2021



Bore Water Measurements –

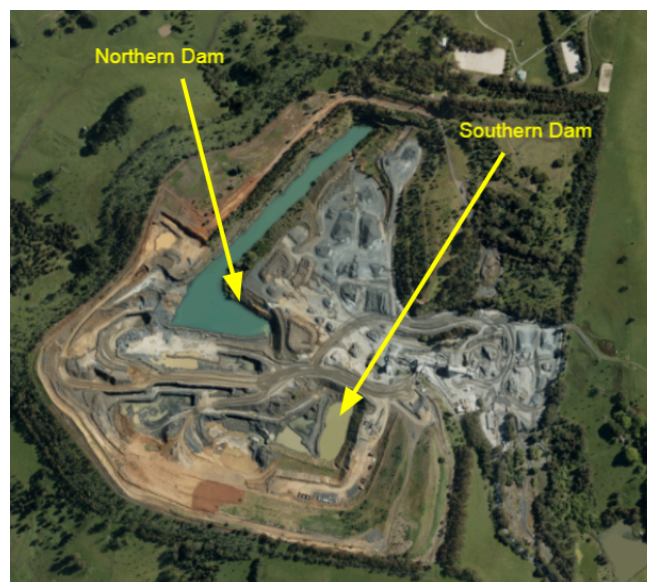
Table showing rolling GWL



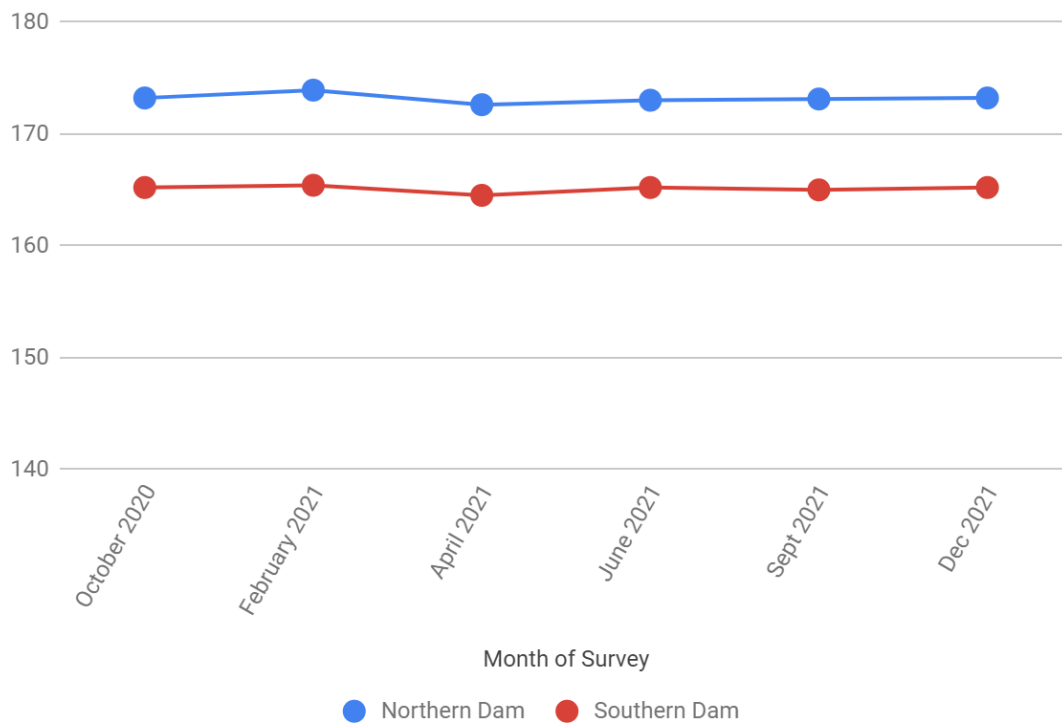
Circled dates indicate from Dec 2020 the quarterly readings conducted by AECOM. All readings prior to August 2020 were taken by AECOM.

In Pit water levels

In 2020, Holcim committed to begin and report the in pit water dam levels quarterly, 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

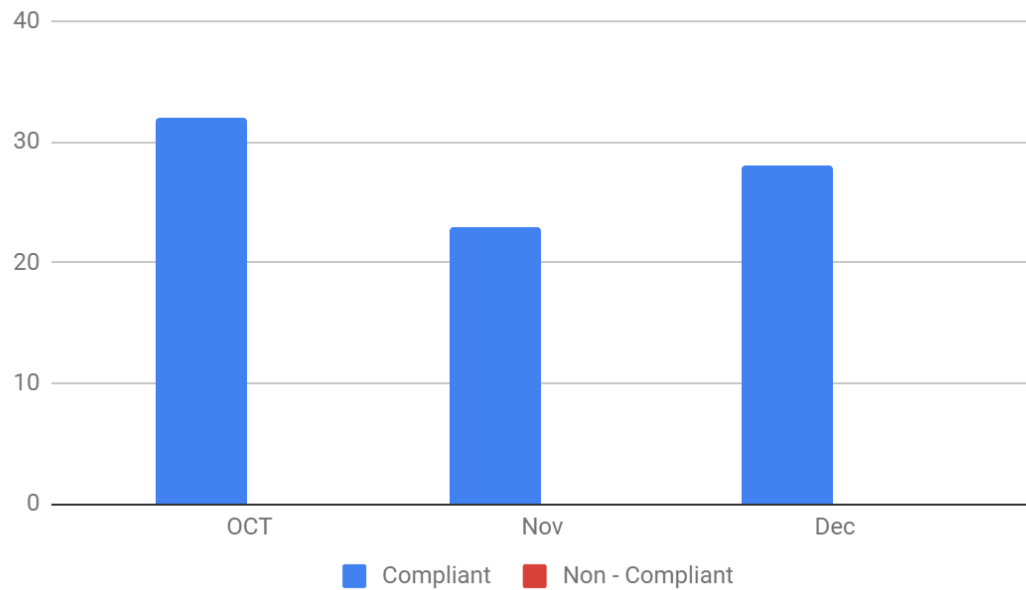
Categories	Rolling 12 Month Tonnes	Av / month
Landfill	6.66	0.56
Category	YTD	
Steel	46.70	T
Recycled Oil	9,000	L
Prescribed	820	L
Interceptor waste	17,500	L
Other		
Conveyor belt	6T	repurposed
Earthmoving Tyres	8	Recycled

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 2021



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/m² 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/m³ (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 Limits – Peak Air Blast of 115 dBL at sensitive locations for 95% of blasts in a 12 month period

Ground Vibration Limits – 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



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"> - Co-mingling of recyclable and regulated waste in landfill skip ceases - Use of inappropriate or improperly labelled waste bins within workshop ceases, by 	Closed

			removing bins from sites - Cardboard waste is compacted in the cardboard recycling skip - Make sure all chemicals are stored properly	
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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 12 months 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	Minor	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.
	Major	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