2024
Quarterly Report

October - December

Mt Shamrock
Environmental Management Plan
3 Monthly Progress Update

Prepared for Mt Shamrock Quarry Environmental Review Committee

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Introduction and History

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;
- Management is unchanged with Leigh Elliott as Quarry Manager and Nathan Thomas in the Operations Manager role;
- No mobile crushing took place during Q4
- No stripping and reclamation works took place during the reporting period.
- The 2024 annual greenhouse gas (GHG) emissions result is 0.00386t/t, representing a 3.04% reduction (0.00398t/t in 2023).

Figure 1 - Site Aerial 13th January 2025

1.0 LRMP Update

Summary of actions completed in Q4 below;
General

- General Weed treatment and fence maintenance around Quarry;
- Chainsaw large fallen branches around the property;

Netgain (NG)

- Pack spray broadleaf and woody weeds in Northern and Southern Sections with selective herbicides.

Southern Extraction/ SE Extraction/0.8Ha/1.2 Ha/ 2023 Reveg area

- Tanker spray broadleaf weeds for weed control with selective herbicide;
- Pack spray Pampus Grass with high rate glyphosate and perennial weedy grass species with non selective herbicide;
- Collection of native grass seed for future direct seeding;
- Brushcutting large weedy grass species for biomass control and fire risk reduction;
- Handweeding mature Chilean needle grass. Infestation locations marked with pink flagging tape wrapped around a stake. Larger infestations sprayed.

Extraction and Phase C

- Pack spray broadleaf weeds Extraction with selective herbicide;
- Handweed one serrated tussock with immature seed and small outbreak of Chilean needle grass.

Phase A&B

- Spray broadleaf and woody weeds for weed control with selective herbicide;
- Chilean Needle Grass observed in locations previously identified, some plants were in early stages of seeding;
- Pack spray Chilean needle grass with non selective herbicide in Phase A&B and adjacent paddocks.

Southern Hillside

- Spray broadleaf and woody weeds for weed control with selective herbicide;
- Pack spray grassy weeds with non selective herbicide;
- Brushcutting and clearing woody debris/bark under blue gums to reduce fire risk.

2.0 Non-Compliance and Complaints

Non-conformances:

- Nil during Q4 2024

Complaints:

- Nil during Q4 2024

2.1 Air Quality – Dust

Dust depositional results have been graphed below for the reporting period. No exceedances during the reporting period.

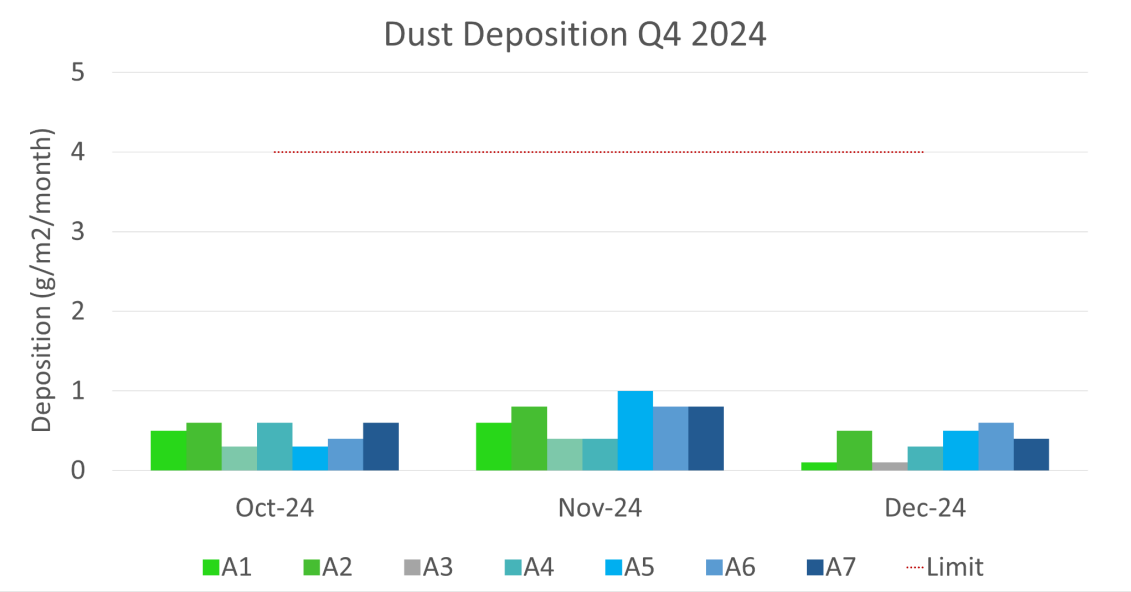


Figure 2 - Dust Deposition Q4 2024. (Limit 4.0g/m2/mth)

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

Reactive monitor results with a PM 10 - 1-hour average concentration greater than 64 µg/m3 have been tabulated below. No exceedances during the reporting period.

Reactive Monitoring Station	October	November	December
A6 – Waterhouse Property	Nil	Nil	Nil
A3 - Farm House	Nil	Nil	Nil
A1 - Petty House	Nil	Nil	Nil
A4 - Pony Club	Nil	Nil	Nil

Table 1 - Reactive monitor results with a PM 10 - 1-hour Ave concentration >64 µg/m3

2.2 Noise

Average noise levels for the 4th Quarter 2024 are shown below. No exceedances during the reporting period.

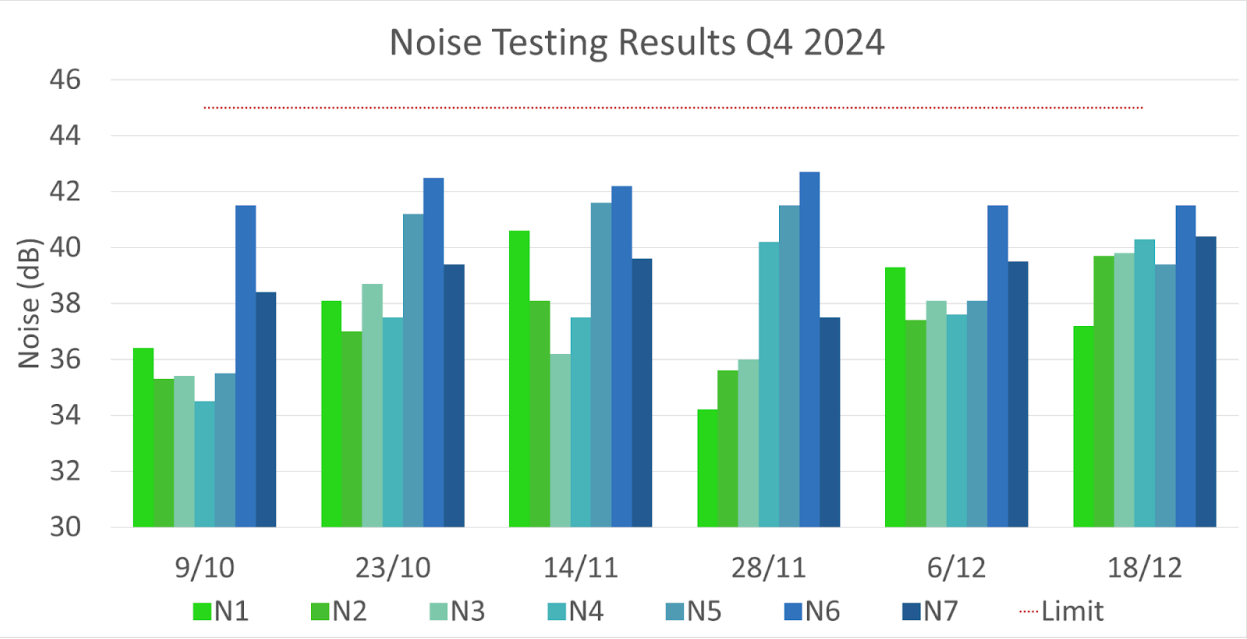


Figure 3 - Noise Testing Results Q4 2024. (Limit is 45dB under normal operating conditions)

2.3 Blasting

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

Ground Vibration

No ground vibration exceedances during the reporting period.

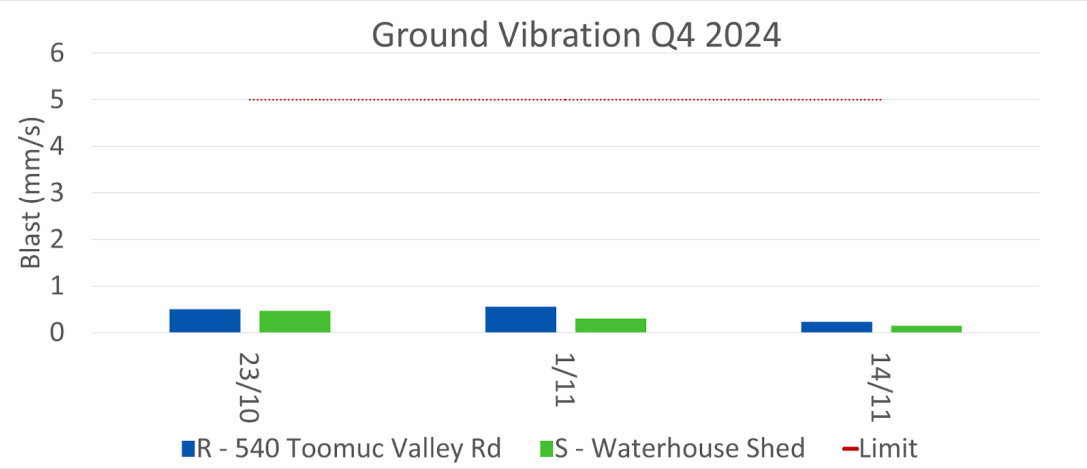


Figure 4 - Blasting; Ground Vibration Results Q4 2024 (Limit is 5mm/s for 95% of blasts in a 12 month period)

Air Blast

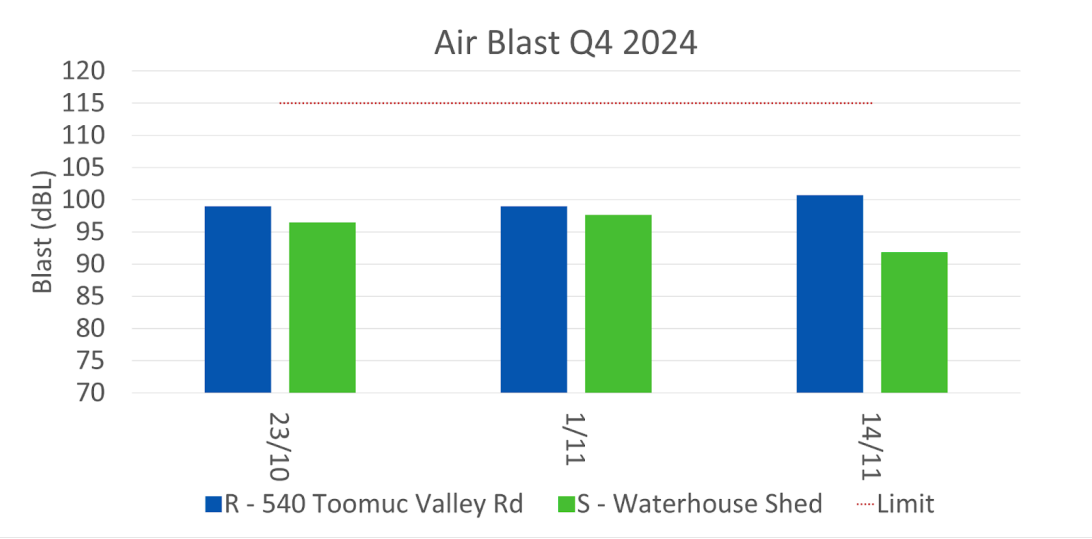


Figure 5 - Blasting; Air Blast Results Q4 2024 (Limit is 115 dBL for 95% of blasts in a 12 month period)

2.4 Surface Water, Drainage and Groundwater

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

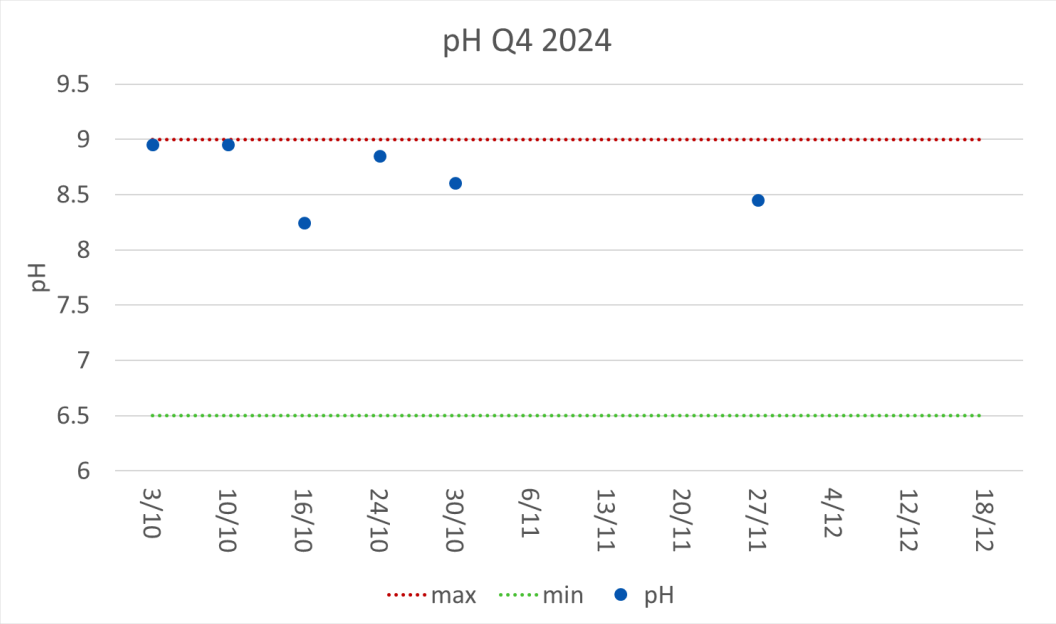


Figure 6 - Discharge Water pH results Q4 2024

V-Notch was dry for a large part of November and December 2024

Turbidity – Clarity of water Maximum 30NTU.

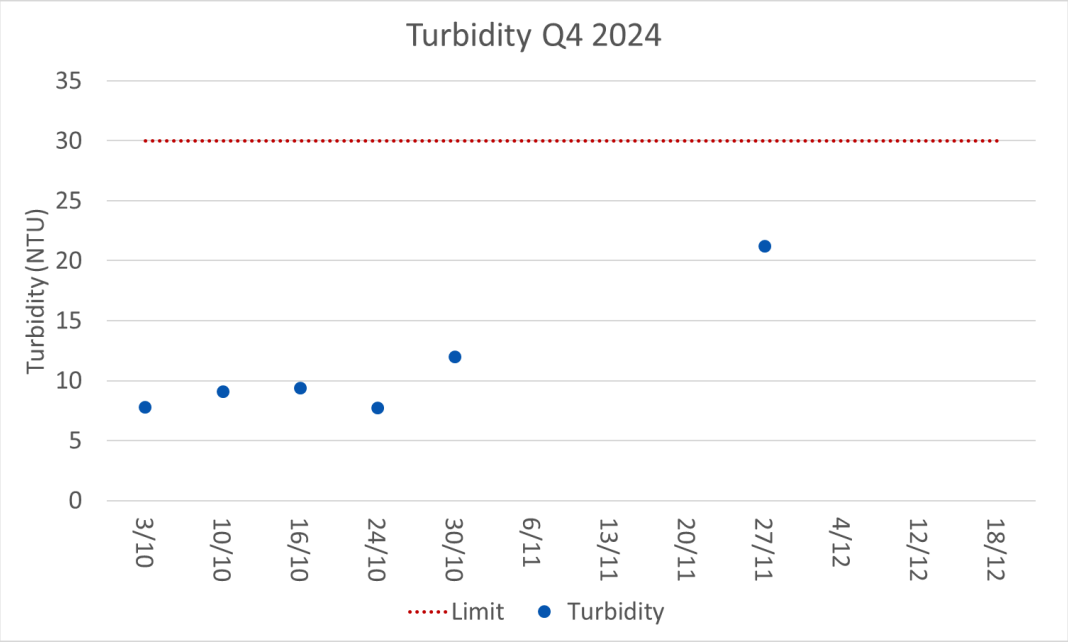


Figure 7 - Discharge Water Turbidity results Q4 2024

V-Notch was dry for a large part of November and December 2024

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

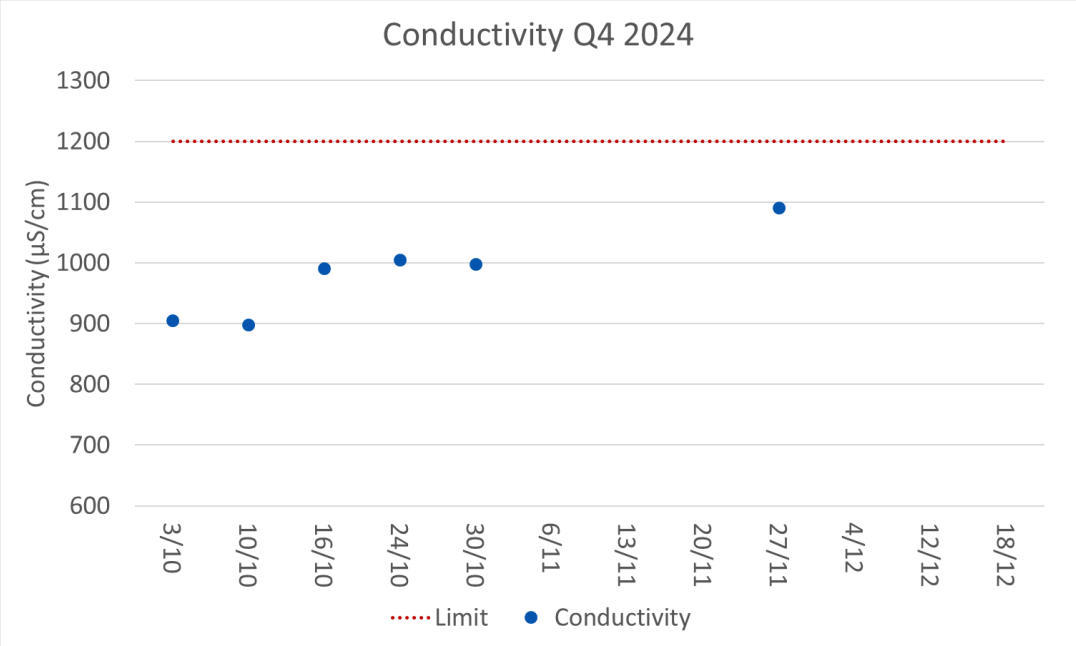


Figure 8 - Discharge Water Conductivity results Q4 2024

V-Notch was dry for a large part of November and December 2024

Bore Water Measurements

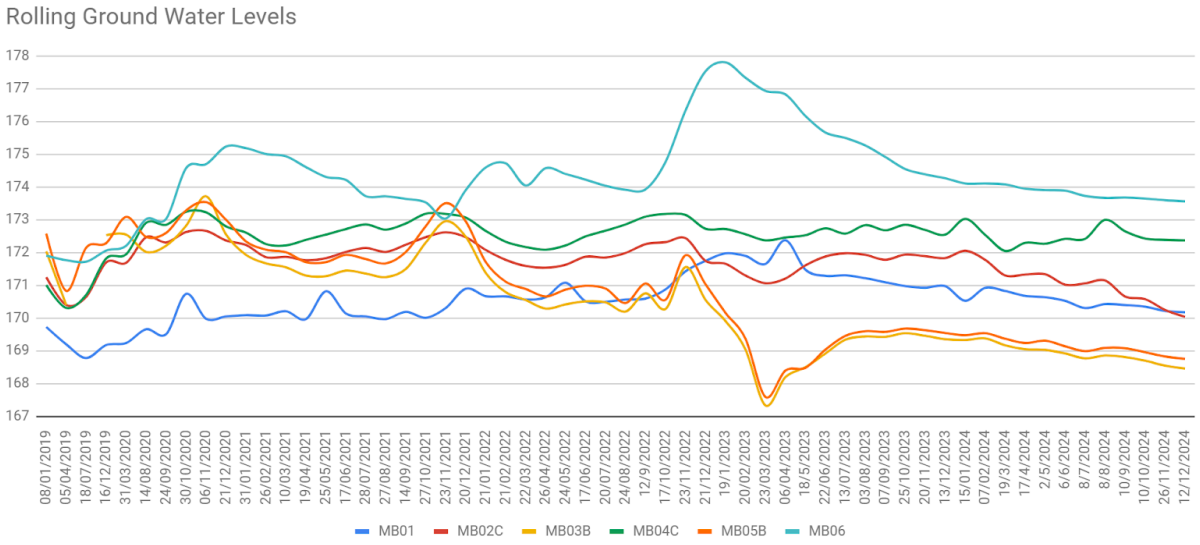


Figure 9 - Groundwater levels 2019 to present.

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)

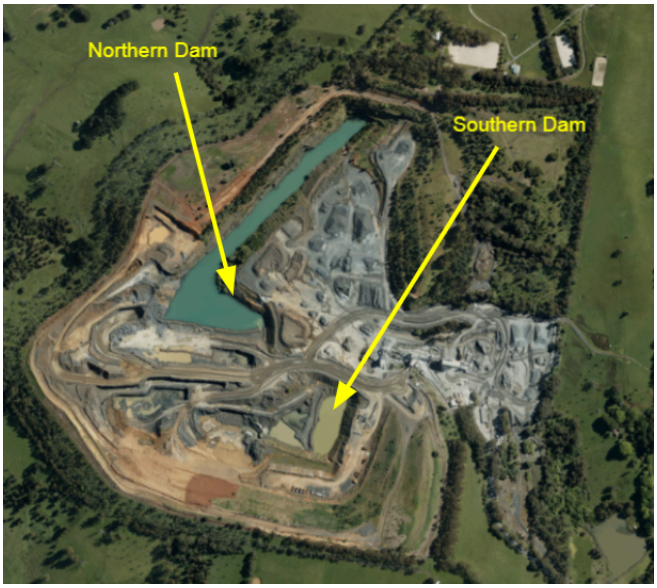


Figure 10 - In Pit Water Identification

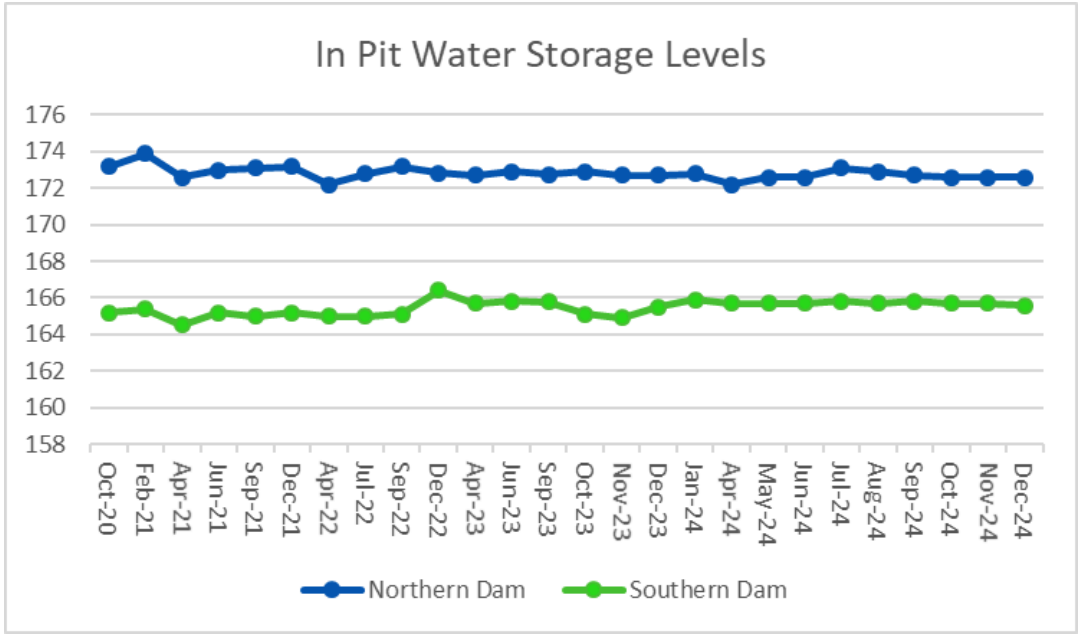


Figure 11 - In Pit Storage Levels October 2020 - Present

2.5 Waste

2024 Q4			
Categories	**YTD**	**Av / month**	**Landfill Target**
Landfill	6.04t	0.503t	<0.508t 5% reduction on 2023 Landfill. 6.42t FY
Category	**YTD**		
Steel	7.0t		
Recycled Oil	10,900L		
Prescribed	0.81t		
Interceptor waste/ Hydrocarbon contaminated water	14,000L		
Other			
Waste Grease	0.33t		
Oil filter recycling	2000L IBC (QTY 2)		
Grease Cartridges recycling	1000L IBC (QTY 1)		

Table 2 - Quarry Waste Generation Summary of Q4 2024

2.6 Truck Tarping

Figure 12 - Tarping visual checks of Q4 2024

2.7 Greenhouse Gas Emissions

At the end of each year Pakenham Quarry calculates the annual greenhouse gas (GHG) emissions resulting from quarry works and operations with an aim to reduce GHG emissions. The target is to achieve an overall reduction target of 3% in CO2– e (t) for combined fuel, electricity and explosives usage year on year.

The 2024 result is 0.00386t/t, representing a 3.04% reduction against 0.00398t/t in 2023.

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 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

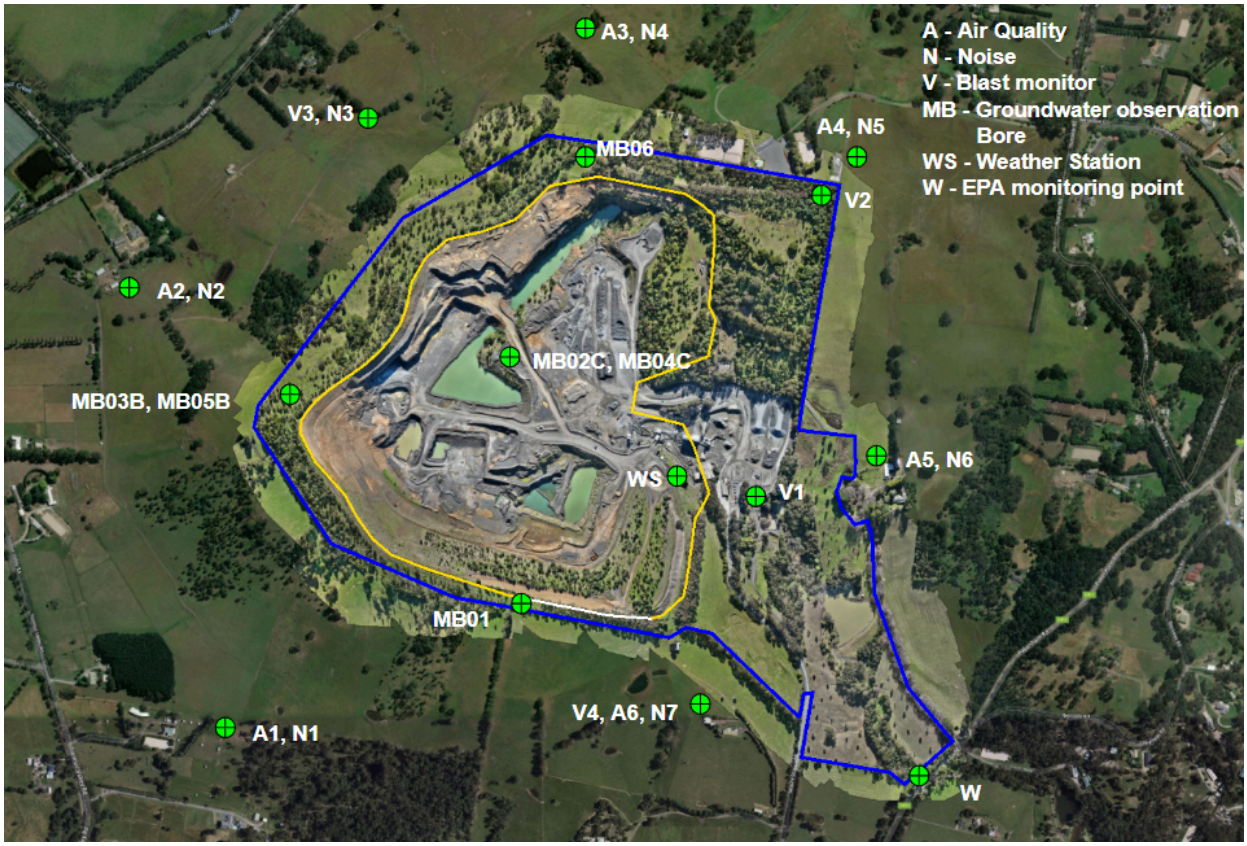
During discharge, water is monitored at the V Notch located at the bottom of the Donnazon property spillway. A solar powered flow meter logs flow data and the water is sampled manually by trained and certified employees. Water is tested for Turbidity, pH and conductivity. Water is monitored at Donnazzons 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

Monitoring Locations



EMP Audit action list

(Actions are removed from this table once shown as complete)

EMP Audit Year - 2023 **EMP Reference** - B-1 **Rating -** Minor non conformance **Non Conformance -** The latest version of the Environmental Management Plan (dated 3 July 2021 and approved by the Cardinia Shire Council on 24 August 2022) needs to be updated to be in line with current legislation, particularly the Environment Protection Act 2017 and associated Environment Reference Standard 2021 which came into force in July 2021. The applicable State Environment Protection Policies (SEPP) referenced in the EMP have now been revoked and as such all references to the SEPP's need to be removed from the EMP and targets will need to be updated to protect environmental values **Recommendation -** EMP needs to be updated to be in line with EPA Act 2017 (came into force in July 2021) and the Environment Reference Standard 2021 as SEPPs are now redundant and as such some targets will need to be updated to protect environmental values **Status** - A revised EMP has been submitted to Cardinia Shire Council in December 2024 to address legislation updates.
EMP Audit Year - 2023 **EMP Reference -** B-2.4.2 **Rating -** Minor non conformance **Non Conformance -** Two (2) turbidity exceedances were recorded during the audit period, the highest being approx. 95 NTU (Licence Limit 30). Exceedances were associated with significant rainfall events. All were reported to EPA with explanation of likely cause. The site is considering opportunity to install a larger pump in Donnazan's dam to allow for larger recirculation of water up to quarry pit and allow for larger freeboard availability in Donnazan's dam to prepare for significant rain events **Recommendation#1-** Progress the feasibility investigation for the installing of the larger pump including an assessment on what impacts that would have on the integrity of Donnazan's Dam. **Recommendation #2** - Undertake a Hydrological Assessment to better understand catchments volumes within the quarry and capacity needed to allow for capture and recycle of surface run-off in a significant rain event (i.e. 1:20 year event, 1:50 year event, 1:100 year event). **Status - Completed**. Engeny has completed an assessment of the catchment runoff volumes within the quarry and determined high-level options for drawdown of Donnazans dam and pump rates to contain various AEP storm events. Holcim will proceed to work through the detail design stages of this project (geotechnical risks, potential clean/dirty water diversions, costs, etc) Action to be closed based the EPA Site Entry Report FAR-00016636. "Licence Conditions: OL_G5, OL_G7 and OL_DW2 - compliant."
EMP Audit Year - 2022 **EMP Reference** - B-2.4.2 **Rating -** Minor non conformance **Non Conformance -** Three (3) turbidity exceedances were recorded during the audit period, the highest being approx. 80 NTU (Licence Limit 30).

Recommendation- Investigate and then implement effective measures to cease the discharge from the site of sediment and/or colloid- contaminated water that causes exceedance of Licence limits.
Status - Completed. Engeny has completed an assessment of the catchment runoff volumes within the quarry and determined high-level options for drawdown of Donnazans dam and pump rates to contain various AEP storm events. Holcim will proceed to work through the detail design stages of this project (geotechnical risks, potential clean/dirty water diversions, costs, etc)
Action to be closed based the EPA Site Entry Report FAR-00016636. “Licence Conditions: OL_G5, OL_G7 and OL_DW2 - compliant.”

Description	**Minor**	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.
	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