2024
Quarterly Report

July - September

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 Q3
- No stripping and reclamation works took place and none planned for the remainder of 2024.

Figure 1 - Site Aerial 3rd October 2024

1.0 LRMP Update

Summary of actions completed in Q3 below;
General

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

Netgain (NG)

- Chainsaw woody weeds NG Southern section and adjacent areas;
- Planting NG Southern section bottom half using recycled stakes and guards;
- Chainsaw fallen branches on border fences, chainsaw branches impeding site access that have fallen due to recent strong winds (Net Gain North and South);
- Handweed NG Southern Section around sensitive native remnant vegetation.

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

- Completed planting of approximately 3,200 Trees/Grasses/Lillies;
- Tanker spray broadleaf weeds for weed control with selective herbicide.

Extraction and Phase C

- Completed planting of approximately 110 Trees/Grasses/Lillies;
- Pack spray broadleaf weeds Extraction with selective herbicide.

Phase A&B

- Completed planting of approximately 850 Trees/Grasses/Lillies
- Re-staking and guarding plantings from previous years that have been damaged by deer. Predation, removal of guards by deer is severe in some areas;
- Tanker spraying broadleaf weeds with selective herbicide to control weeds around this years plantings;
- Chainsawing fallen trees blocking access to the outer track and away from the Quarry border fence line.

Paddock Replacements, Landslip Plantings, Northern Fence Line, Car Parks, and Southern Hillside

- Planting preparation; brushcut sprayed blackberry stands for future access to regrowth for spraying and brushcut weedy grasses;
- Completed planting of approximately 850 Trees/Grasses/Lillies
- Re-guarding existing plants that have been heavily grazed by deer using recycled stakes and guards

Pest control

- Pest Animal works conducted on 28th August 2024.

2.0 Non-Compliance and Complaints

Non-conformances:

- One breach of EPA discharge licence (OL000000544, condition OL_DW2) during the Q3 reporting period. Testing conducted 25/07/2024 at the licensed discharge point returned a turbidity result of 38.2NTU, the compliance limit is 30NTU. All other results were below the compliance limit; PH8.70, Electrical Conductivity 795. Heavy rainfall resulted in the elevated turbidity at the licenced discharge point. (Minuted in August ERC meeting)

*Airblast result on 6th September at Waterhouse Shed was 116.3dB. This is permitted against the licence limit for only 1 in 20 blasts. "Airblast at sensitive sites must not exceed 115dB (Lin Peak) for 95 per cent and 120dB (Lin Peak) for 100 per cent of all blasts." Result was reported to Earth Resources Regulator and investigated despite being within the licence conditions (see Blasting section for investigation conclusion).

Complaints:

- Nil during Q3 2024

2.1 Air Quality – Dust

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

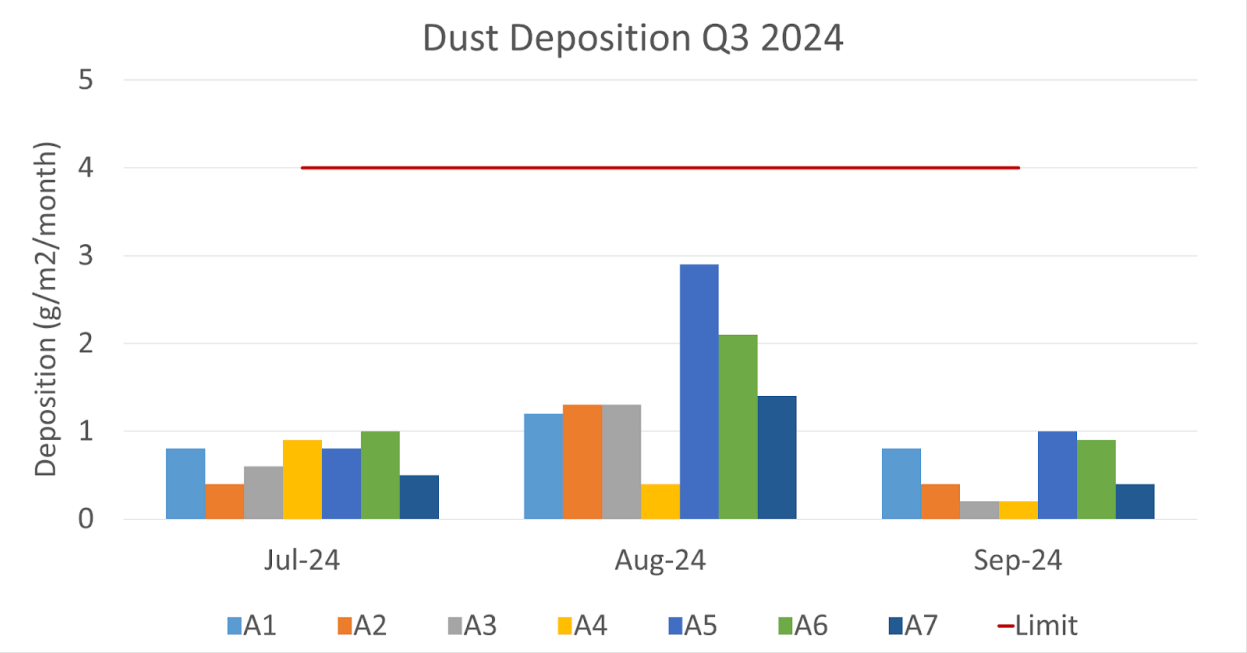


Figure 2 - Dust Deposition Q3 2024. (Limit 4.0g/m2/mth)

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	July	August	September
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 3rd Quarter 2024 are shown below. No exceedances during the reporting period.

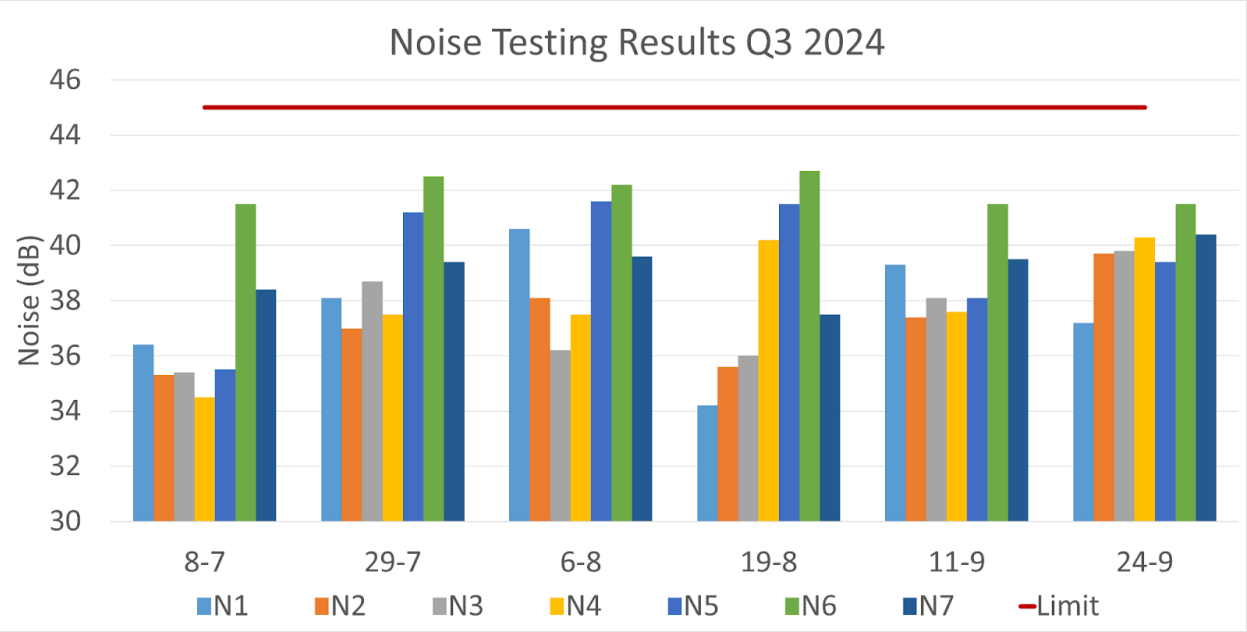


Figure 3 - Noise Testing Results Q3 2024. (Limit is 45dB under normal operating conditions)

2.3 Blasting

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

Ground Vibration

No ground vibration exceedances during the reporting period.

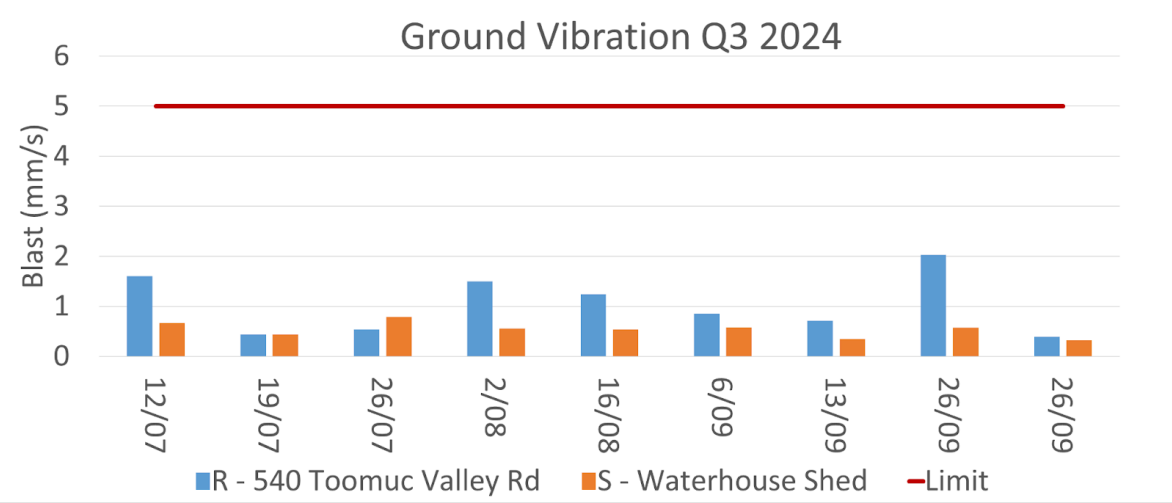


Figure 4 - Blasting; Ground Vibration Results Q3 2024 (Limit is 5mm/s for 95% of blasts in a 12 month period)

Air Blast

Airblast result on 6th September at Waterhouse Shed was 116.3dB. This is permitted against the licence limit for only 1 in 20 blasts. *"Airblast at sensitive sites must not exceed 115dB (Lin Peak) for 95 per cent and 120dB (Lin Peak) for 100 per cent of all blasts."* Result was reported to Earth Resources Regulator and investigated although being within the licence limit.

Investigation Conclusion

"The elevated airblast reading recorded at the Waterhouse monitor was not a result of improper blast design or hole loading. The most plausible explanation is wind speed and direction, and turbulent atmospheric conditions over the quarry at blast time. Face direction and the location of the blast on an upper bench would have somewhat contributed to the reading but were not primary causes." - HVP-2423_AOP Investigation (Terrock Consulting Engineers)

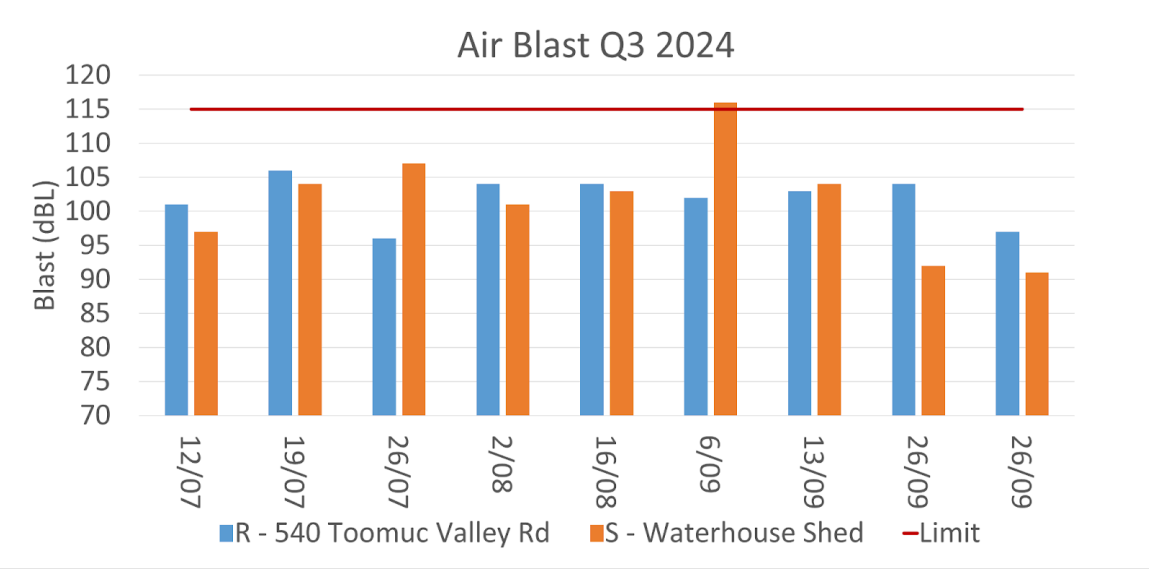


Figure 5 - Blasting; Air Blast Results Q3 2024 (Limit is 115 dBL for 95% of blasts in a 12 month period)

2.4 Surface Water, Drainage and Groundwater

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

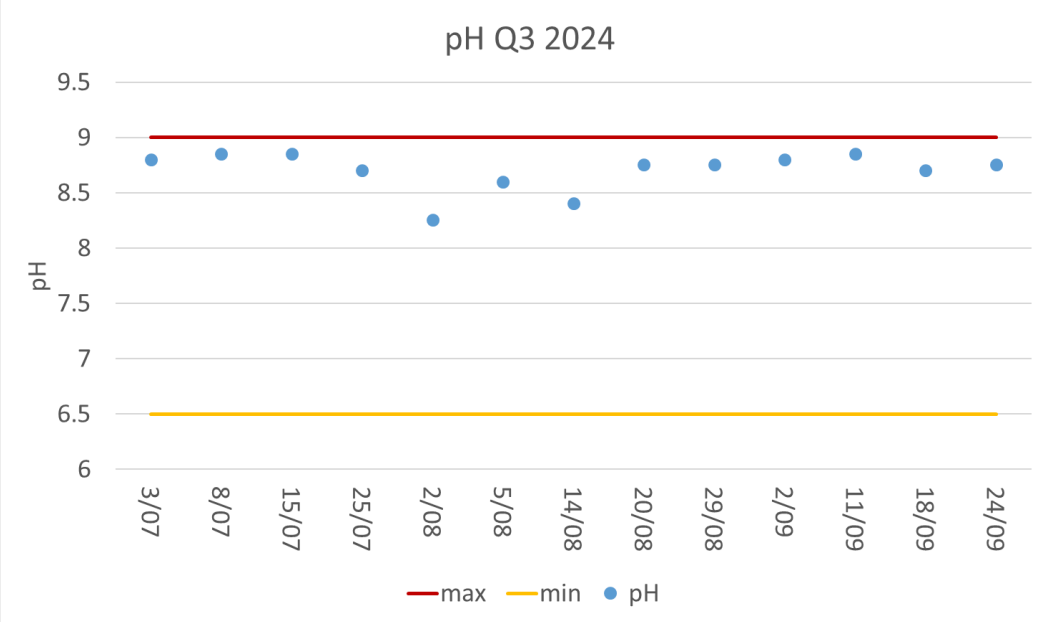


Figure 6 - Discharge Water pH results Q3 2024

Turbidity – Clarity of water Maximum 30NTU.

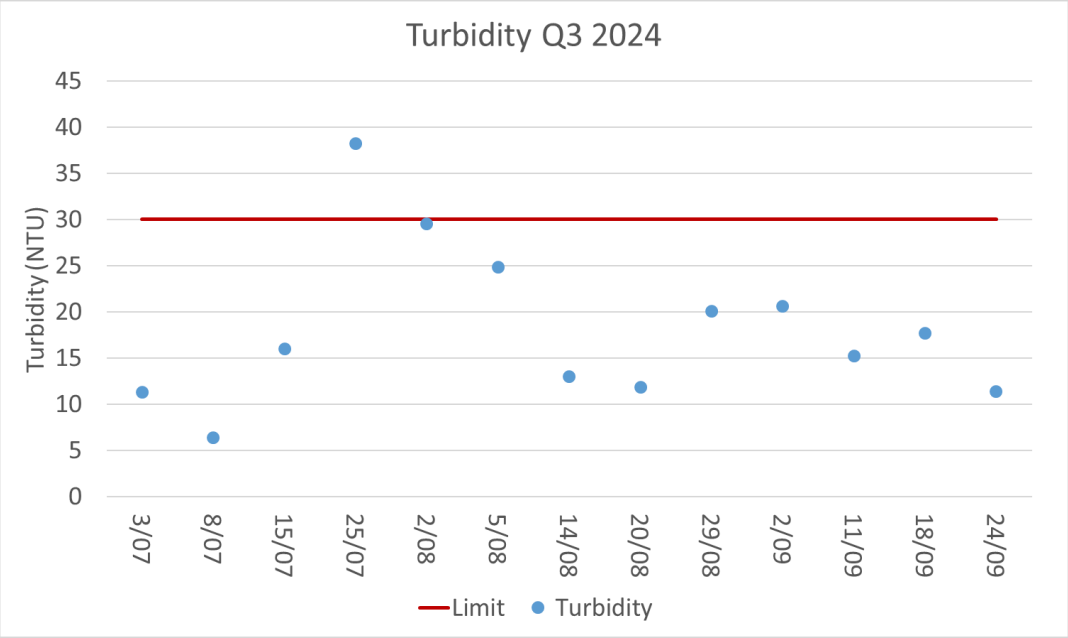


Figure 7 - Discharge Water Turbidity results Q3 2024

Testing conducted 25/07/2024 at the licensed discharge point returned a turbidity result of 38.2NTU, the compliance limit is 30NTU. All other results were below the compliance limit; PH8.70, Electrical Conductivity 795. Heavy rainfall resulted in the elevated turbidity at the licenced discharge point.

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

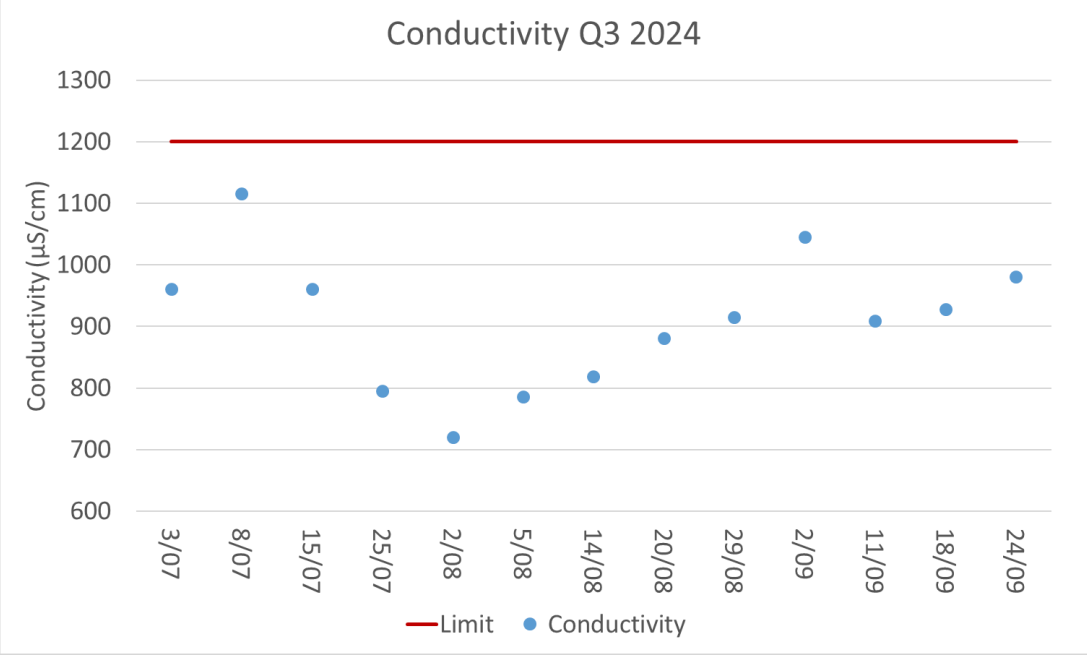


Figure 8 - Discharge Water Conductivity results Q3 2024

Bore Water Measurements

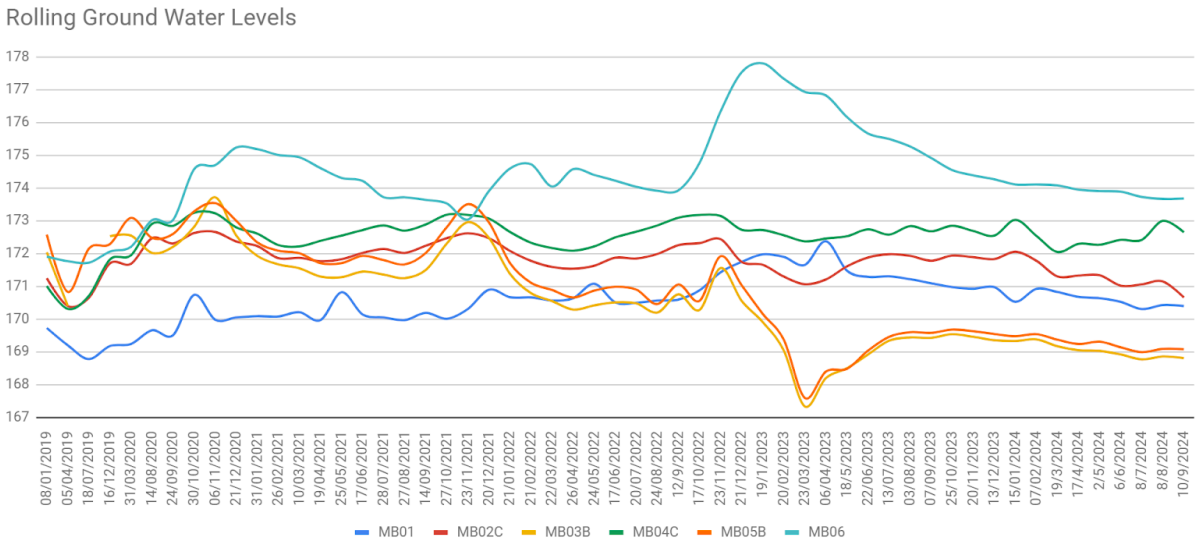


Figure 9 - Groundwater levels 2019 to present.

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)

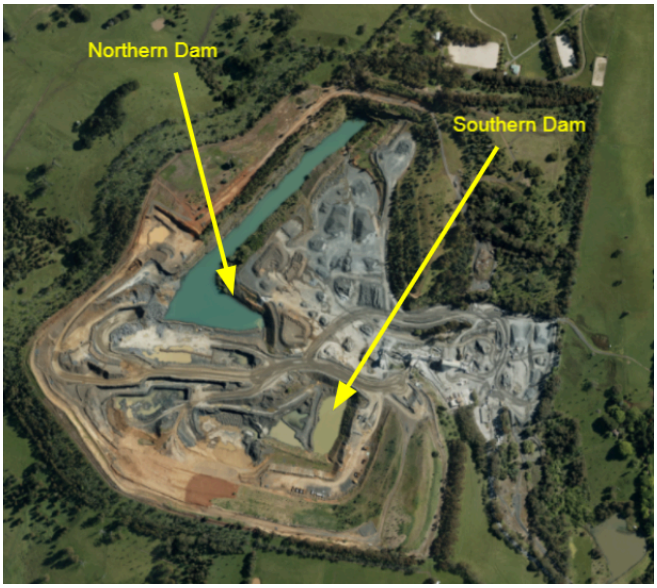


Figure 10 - In Pit Water Identification

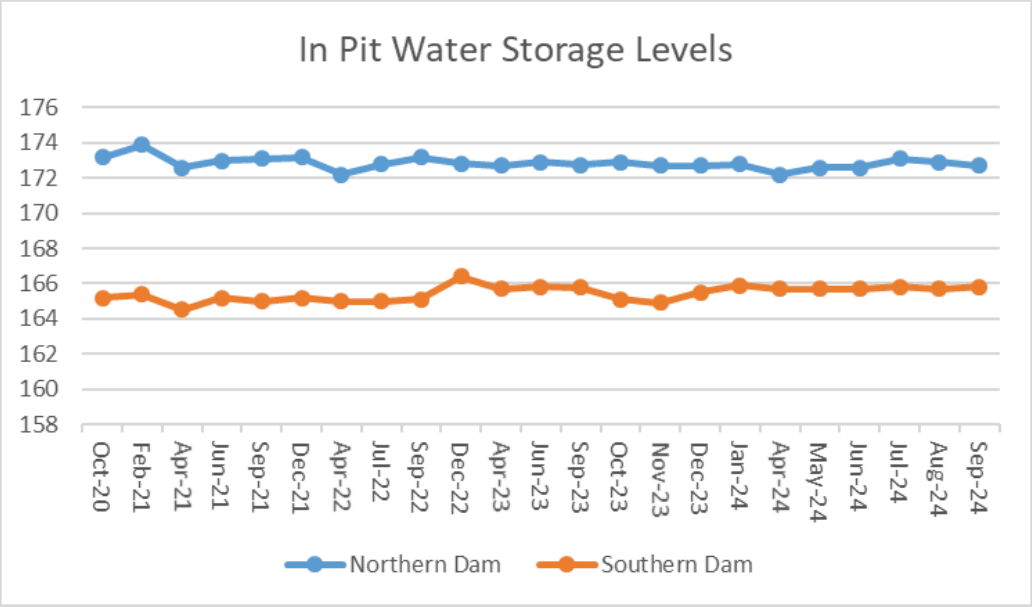


Figure 11 - In Pit Storage Levels October 2020 - Present

2.5 Waste

2024 Q3			
Categories	**YTD**	**Av / month**	**Landfill Target**
Landfill	4.34t	0.48t	<0.50t 5% reduction on 2023 Landfill. 6.42t FY
Category	**YTD**		
Steel	7.0t		
Recycled Oil	5,800L		
Prescribed	0.81t		
Interceptor waste/ Hydrocarbon contaminated water	7,000L		
Other			
Waste Grease	0.33t		
Oil filter recycling	1000L IBC (QTY 1)		

Table 2 - Quarry Waste Generation Summary of Q3 2024

2.6 Truck Tarping

Figure 12 - Tarping visual checks of Q3 2024

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

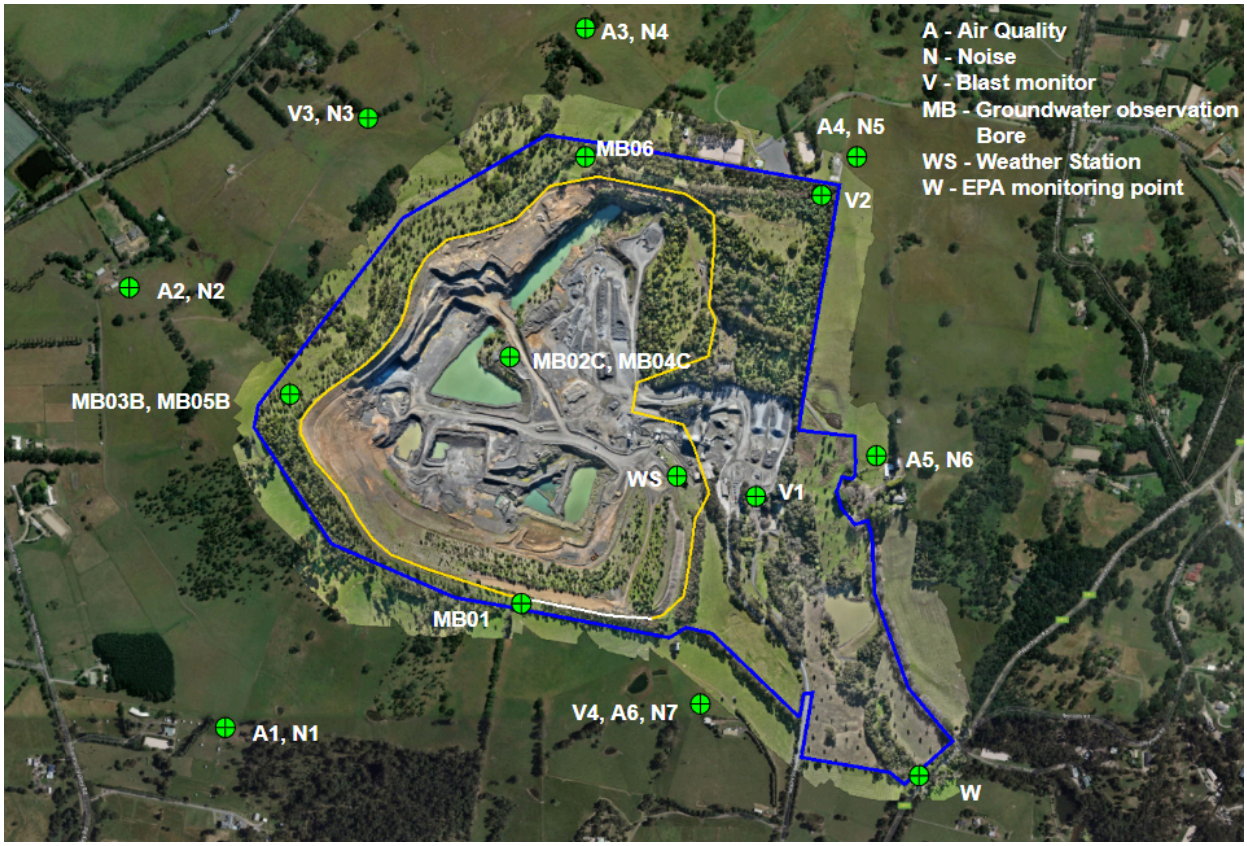
During discharge, water is monitored at the V Notch located at the bottom of the Donnazon property spillway. A solar powered flow meter logs flow data and the water is sampled manually by trained and certified employees. Water is tested for Turbidity, pH and conductivity. Water is monitored at Donnazzons 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 drafted and submitted to ERC for review in November 2024.
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 -** Consultant "Engeny" has been engaged to undertake a project to better understand catchment runoff volumes within the quarry and the capacity / pump configuration to contain surface run-off in a significant rain event. The outcome of the assessment will be graphs showing the combination of dam drawdown and pump rates to contain various AEP storm events which can be used to determine the feasibility of a pump / drawdown arrangement.
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 - Consultant "Engeny" has been engaged to undertake a project to better understand catchment runoff volumes within the quarry and the capacity / pump configuration to contain surface run-off in a significant rain event. The outcome of the assessment will be graphs showing the combination of dam drawdown and pump rates to contain various AEP storm events which can be used to determine the feasibility of a pump / drawdown arrangement.

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