



# **2024**

# **Quarterly Report**

**January - March**

**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 continuing as Quarry Manager and Nathan Thomas in the Operations Manager role;
- No mobile crushing took place during Q1
- Only minor stripping and reclamation works were conducted early in Q1, mostly shaping existing works. No further stripping and reclamation works planned until Q3/Q4.
- Annual Groundwater/Spring, Rehabilitation and Slope Stability reports have been distributed to ERC.
- Annual EMP audit took place 28 Feb- 1 Mar. Report has been distributed to ERC.



Figure 1 - Site Aerial 3rd May 2024

## 1.0 LRMP Update

Summary of actions completed in Q1 below;

### General

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

### Netgain

- Brush cut perennial weeds at the base of net gain site for biomass control and preparation for future spray works;
- Knapsack sprayed below dam southern section targeting *Ehrharta erecta* revegetation;
- Seed collection of microlean for future direct seeding efforts (Northern Section);
- Spray and hand weed north south broadleaf weeds with selective herbicide. Herbicide spray of grassy weeds top half of the southern section with non selective herbicide.

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

- Brush Cutting weedy grass for biomass and fire risk control, in preparation for future spray works;
- Hand-weeding fleabane;
- Pack/tanker broadleaf weeds and pampas grass with selective herbicide;

### Phase A&B

- Tanker spray high threat broadleaf weeds;

### Extraction and Phase C

- Cut and paint blackberry
- Pack spray broadleaf weeds and Pampus Grass with selective herbicide;

## 2.0 Non-Compliance and Complaints

Non-conformances:

- Two breaches of EPA discharge licence (OL000000544, condition OL\_DW2) during the Q1 reporting period; both exceedances related to the same discharge event. 12th January and 15th January - Testing conducted at the licensed discharge point returned a turbidity result of 95.4NTU and 43.1NTU respectively, the compliance limit is 30NTU. All other results were below the compliance limit. Elevated turbidity was from heavy rain during the week commencing the 8th January. (Minuted in February ERC meeting)

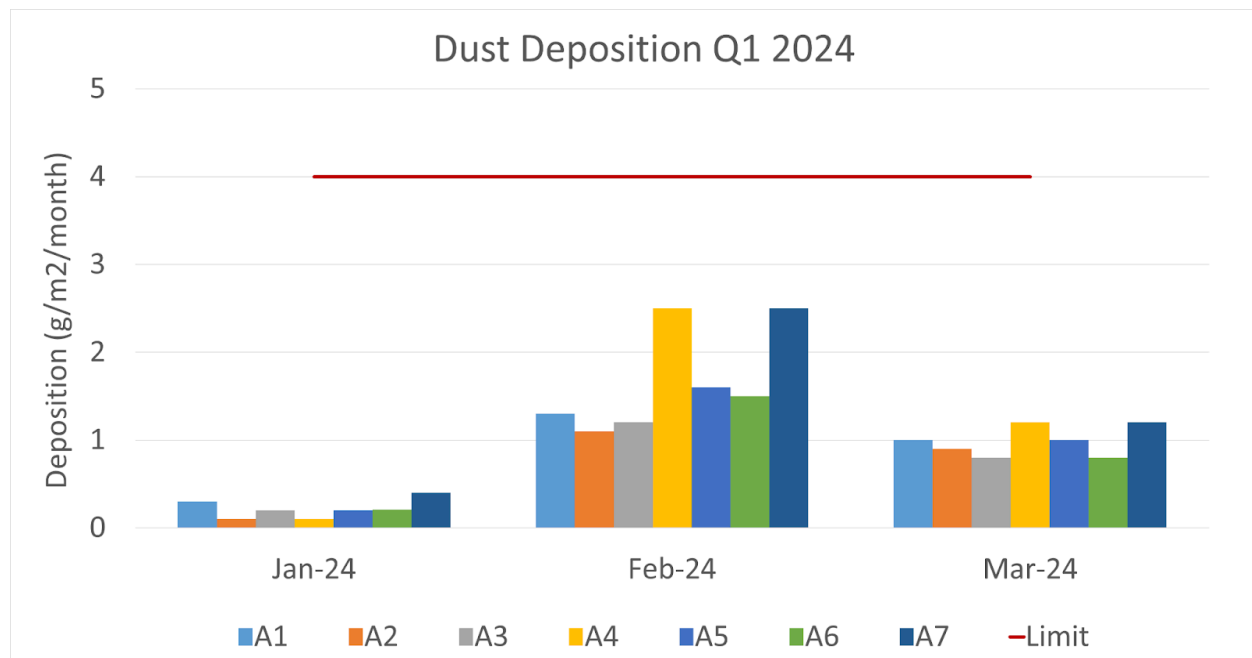
Complaints:

- Nil during Q1 2024

Two community contacts in Q2 regarding behaviour of external truck driver behaviour on local roads.

## 2.1 Air Quality – Dust

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



**Figure 2 - Dust Deposition Q1 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.

## 2.2 Noise

Average noise levels for the 1st Quarter 2024 are shown below. No exceedances during the reporting period.

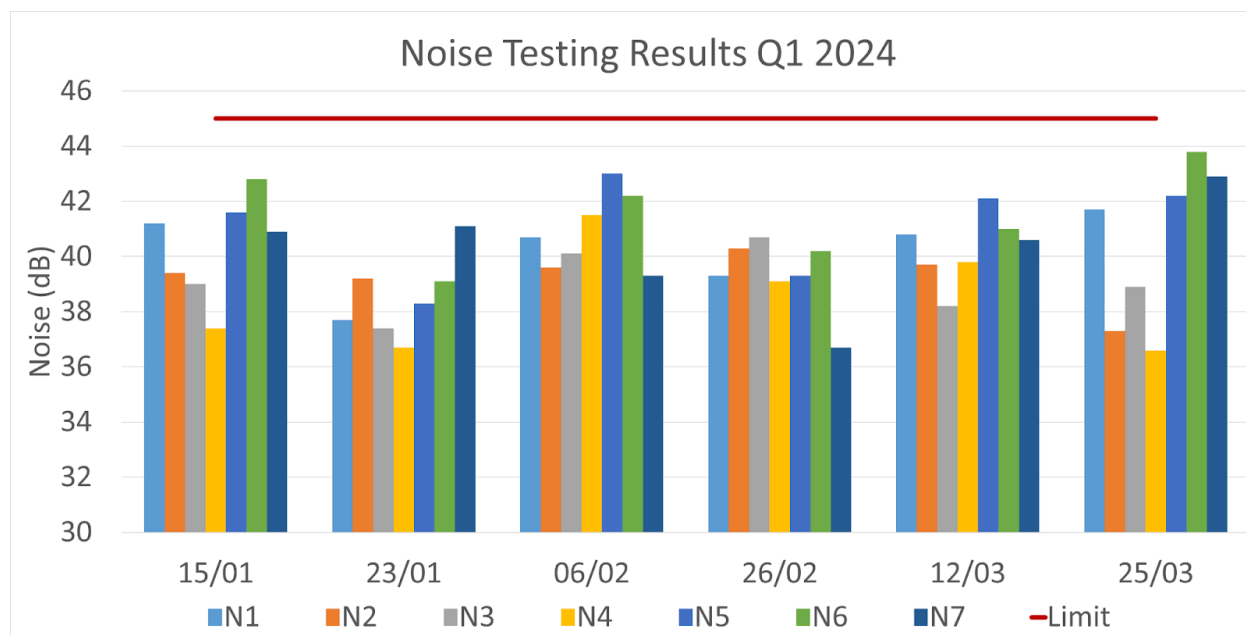


Figure 3 - Noise Testing Results Q1 2024. (Limit is 45dB under normal operating conditions)

## 2.3 Blasting

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

### Ground Vibration

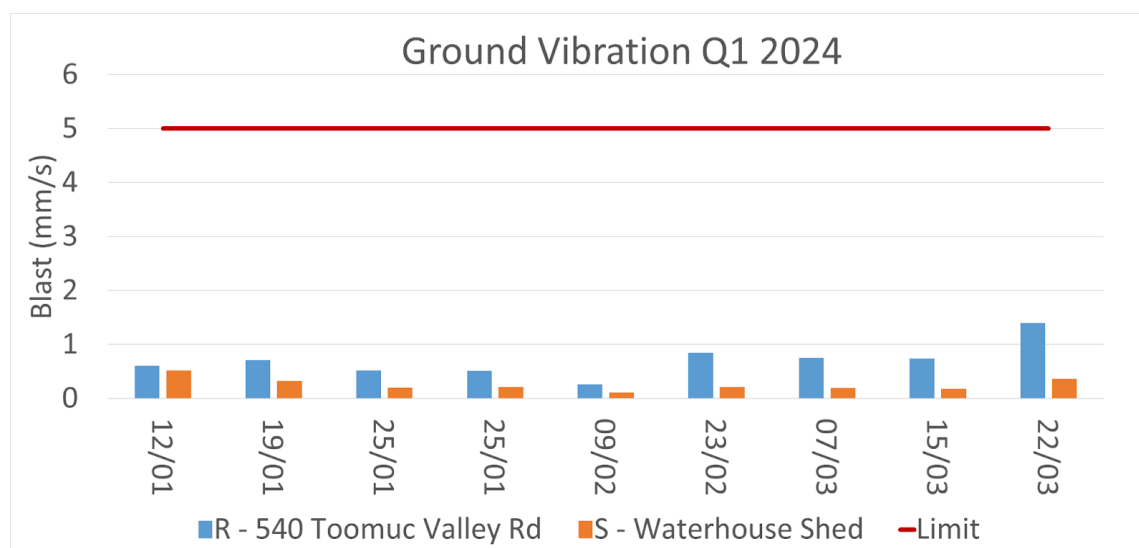
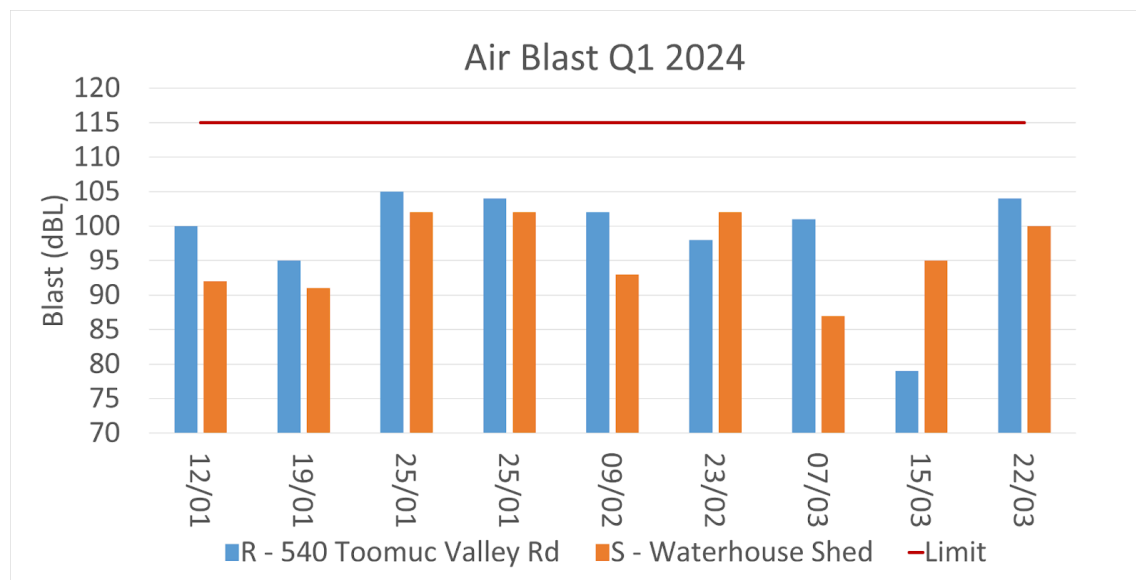


Figure 4 - Blasting; Ground Vibration Results Q1 2024 (Limit is 5mm/s for 95% of blasts in a 12 month period)

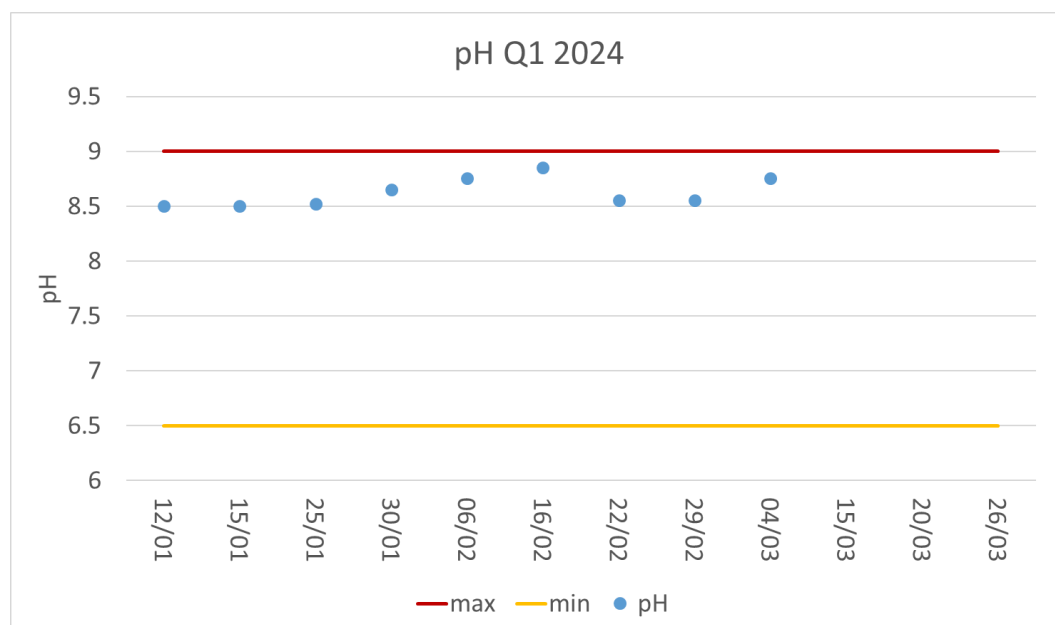
## Air Blast



**Figure 5 - Blasting; Air Blast Results Q1 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.

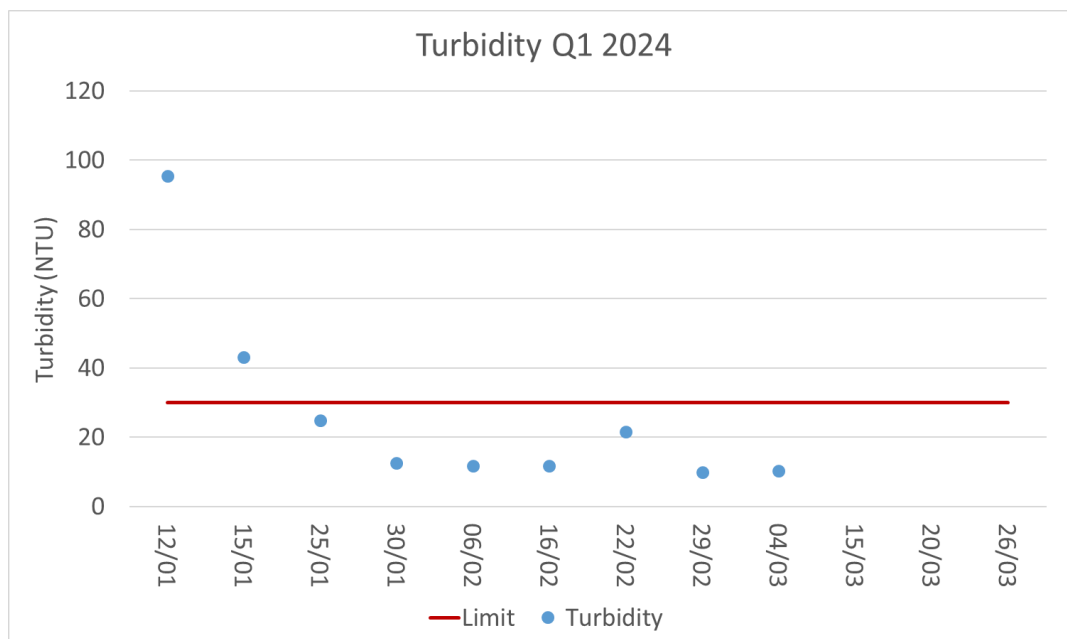


**Figure 6 - Discharge Water pH results Q1 2024**

Note: V-notch (EPA discharge point) was dry from 12th March to 1st April 2024

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



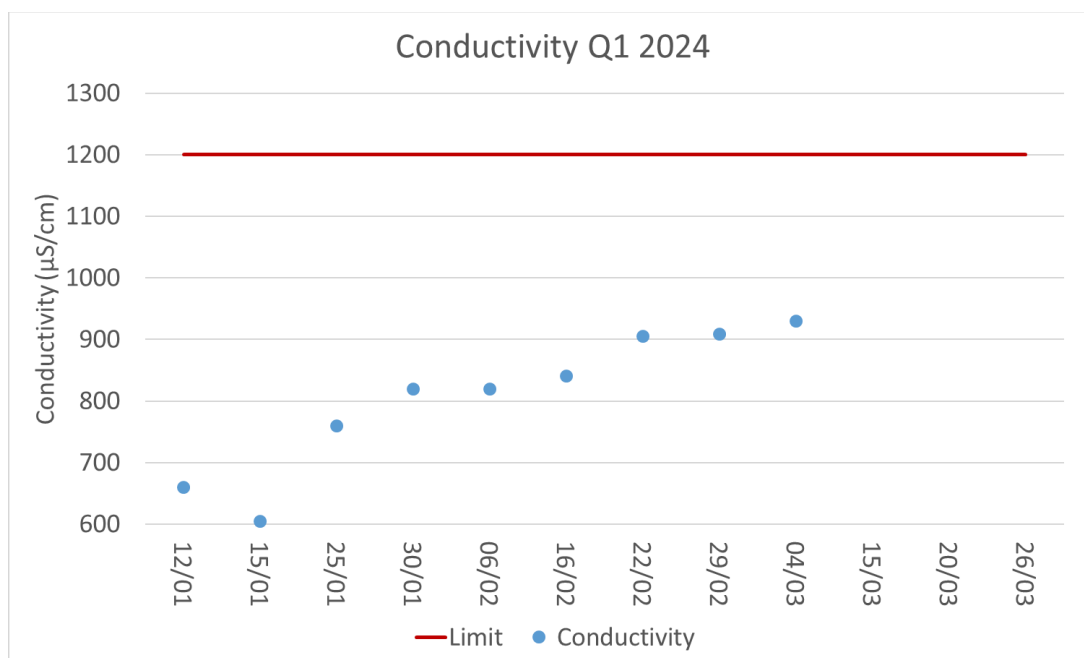


**Figure 7 Discharge Water Turbidity results Q1 2024**

Note: V-notch (EPA discharge point) was dry from 12th March to 1st April 2024

12th January and 15th January - Testing conducted at the licensed discharge point returned a turbidity result of 95.4NTU and 43.1NTU respectively, the compliance limit is 30NTU. All other results were below the compliance limit. Elevated turbidity was from heavy rain during the week commencing the 8th January.

**Conductivity** – A measure of the water’s capability to pass electrical current. Limit 1200 $\mu$ S.



**Figure 8 - Discharge Water Conductivity results Q1 2024**

Note: V-notch (EPA discharge point) was dry from 12th March to 1st April 2024

## Bore Water Measurements

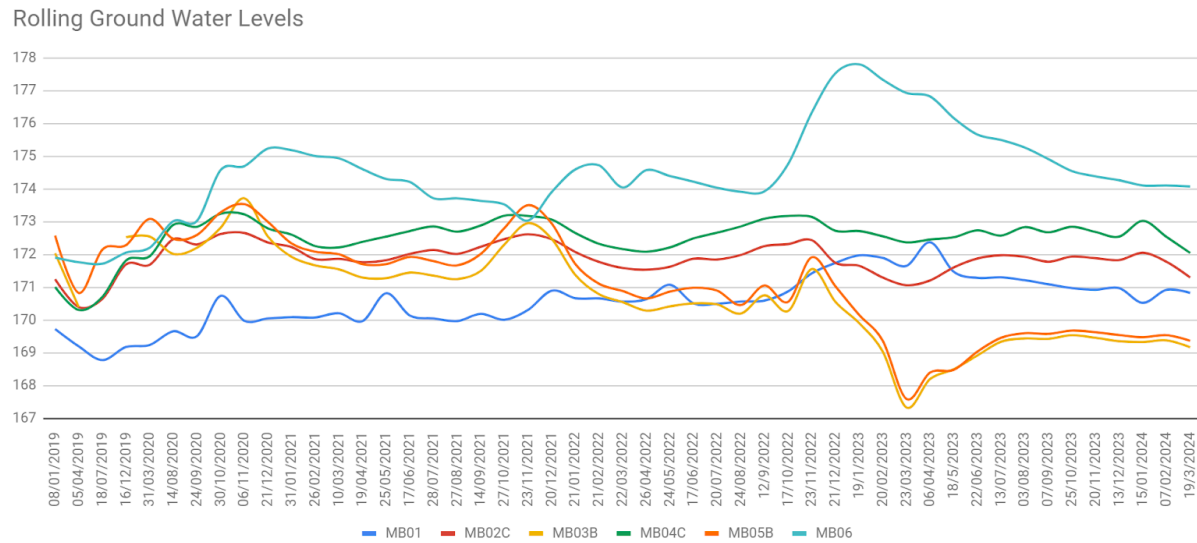
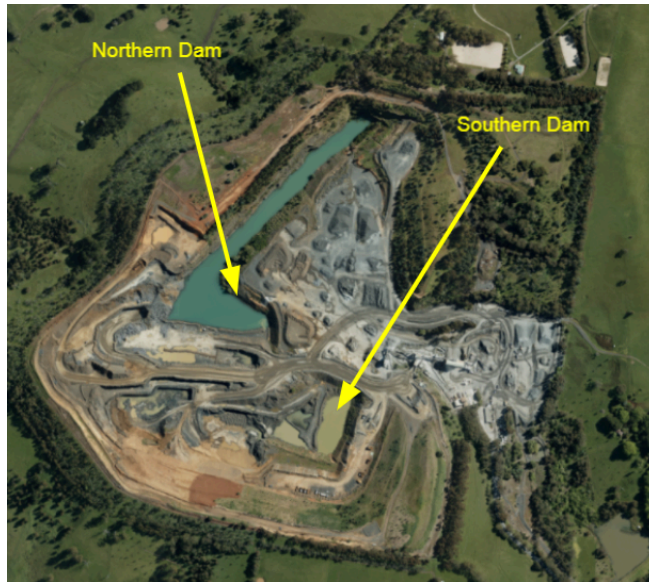


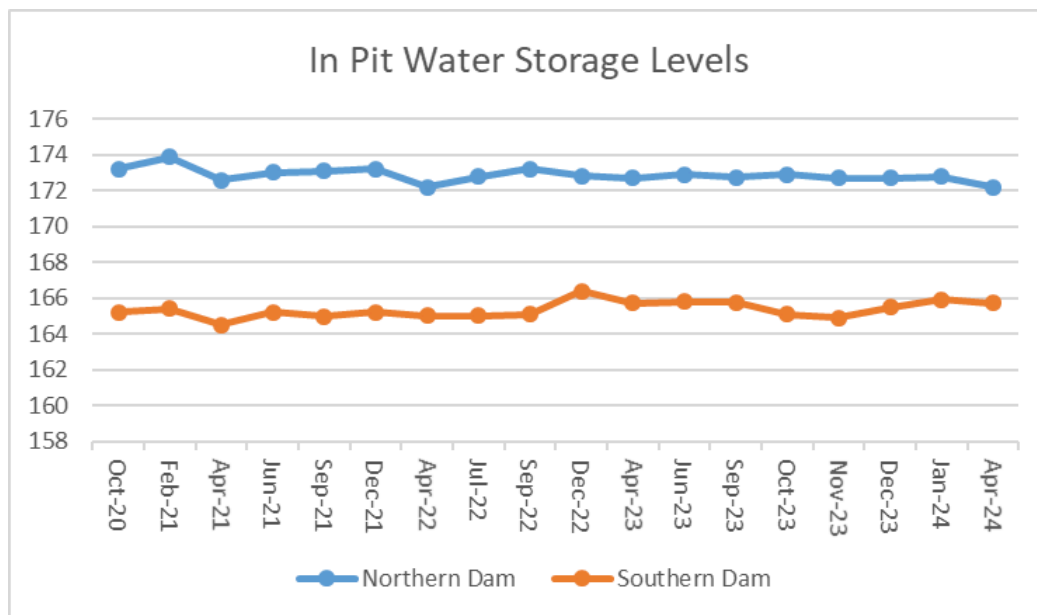
Figure 9 - Groundwater levels 2019 to present.

## 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 Q1		
Categories	Rolling 12 Month Tonnes	Av / month
Landfill	5.16t	0.43t
Category	YTD	
Steel	7.0t	
Recycled Oil	4,600L	
Prescribed	NIL	
Interceptor waste/ Hydrocarbon contaminated water	NIL	
Other		
Waste Grease	0.3t	

Figure 12 - Quarry Waste Generation Summary of Q1 2024

## 2.6 Truck Tarping

Tarping compliance Q1 2024

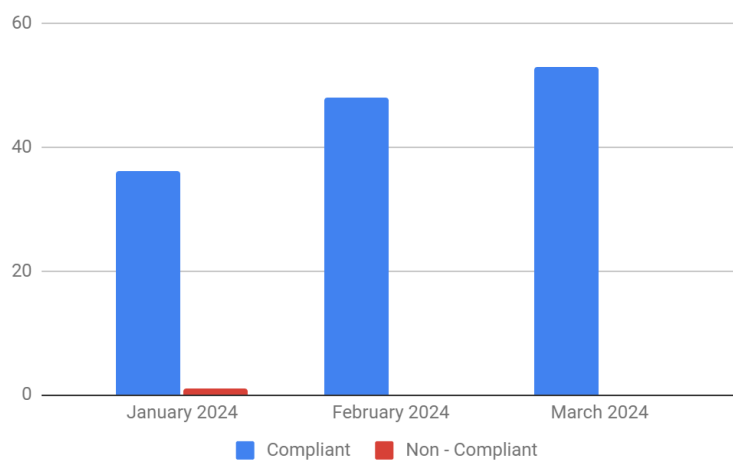


Figure 13 - Tarping visual checks of Q1 2024

January - Tandem observed during tarping audit on Mt Shamrock road without tarped load (iCare - HAZID 0763117)

## **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 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



### Appendix 3 - EMP Audit action list

**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 EP 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** - Agreed. To be actioned.

**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.

**Status** - Agreed. To be actioned.

**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** - Flow data from the v-notch discharge point (during turbidity exceedance events) will be used to investigate the feasibility of installing a larger pump at Donnazan's Dam, before proceeding to any Hydrological Assessment.

**EMP Audit Year - 2023**

**EMP Reference - EPA License OL\_G5 and OL\_G7**

**Rating - Minor non conformance**

**Non Conformance** - Under conditions OL\_G5 and OL\_G7 of EPA Operating licence OL000000544 the quarry is required to:

OL\_G5 1. You must develop a risk management and monitoring program for your activities which:  
a) identifies all the risks of harm to human health and the environment which may arise from the



activities you are engaging in at your activity site; b) clearly defines your environmental performance objectives; c) clearly defines your risk control performance objectives; d) describes how the environmental and risk control performance objectives are being achieved; e) identifies and describes how you will continue to eliminate or minimise the risks in 1(a) (above) so far as reasonably practicable (SFARP); and f) describes how the information collated in compliance with this clause, is or will be disseminated, used or otherwise considered by you or any other entity. 2. The risk management and monitoring program must be: a) documented in writing; b) signed by a duly authorised officer of the licensed entity; and c) made available to the Authority on request.

OL\_G7 You must: a) develop and maintain a decommissioning plan that is in accordance with the current decommissioning guidelines published by the Authority; b) provide the decommissioning plan to the Authority upon request; c) supply to the Authority an updated detailed decommissioning plan 40 business days prior to commencement of decommissioning, if you propose to divest a section of the licensed site, cease part or all of the licensed activity or reduce the basis upon which the licence was granted to a point where licensing is no longer required; and d) decommission the licensed site in accordance with the detailed decommissioning plan, to the satisfaction of the Authority and within any reasonable timeframe which may be specified by the Authority.

In relation to the above licence conditions, Holcim management have advised that they have taken the position that the EMP issued in accordance with the aspects and impacts identified under the Environment Impact Statement (the 3 volume document) meets the intent of condition OL\_G5 and as such have determined that they meet this licence condition.

However, given the current version of the EMP does not reflect current legislation and it is not clear that it describes how Holcim will continue to eliminate and minimise the risks so far as reasonably practicable it is recommended that Holcim update the EMP to meet the current guidelines for the development of a RMMP<sup>1</sup>

Holcim management have also advised that they have taken the position that condition OL\_G7 is triggered once they commence (or intend to commence) a decommissioning process and in the case of the Pakenham Quarry that it would be linked to a quarry closure plan. They have taken the position that at this point in time condition OL\_G7 has not been triggered.

However condition OL\_G7 asks for a decommissioning plan to be developed and maintained in accordance with the current decommissioning guidelines and this requirement is not linked to commencing decommissioning activities. While it is acknowledged that the Pakenham Quarry has prepared a quarry rehabilitation plan, it is recommended that Holcim confirm with the EPA if this rehabilitation plan meets the specific guidelines for development of a decommissioning plan<sup>2</sup> and if not update the rehabilitation plan or develop a separate decommissioning plan that meets the current decommissioning guidelines.

**Recommendation #1** - Given the current version of the EMP does not reflect current legislation and it is not clear that it describes how Holcim will continue to eliminate and minimise the risks so far as reasonably practicable it is recommended that Holcim update the EMP to meet the current guidelines for the development of a RMMP.

**Status** - This position has been communicated during EPA site inspection 10th May 2024. Pending EPA Entry report.

**Recommendation #2** - While it is acknowledged that the Pakenham quarry has prepared a

quarry rehabilitation plan, it is recommended that Holcim confirm with the EPA if this rehabilitation plan meets the specific guidelines for development of a decommissioning plan and, if not, update the rehabilitation plan or develop a separate decommissioning plan that meets the current decommissioning guidelines.

**Status** - This position has been communicated during EPA site inspection 10th May 2024. Pending EPA Entry report.

**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** - The site is investigating feasibility of a larger pump in Donnazan's Dam to recirculate water back to the quarry pit to create increased freeboard in the dam and avoid sediment contaminated discharges

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