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Cleary Bros (Bombo) Pty Ltd
39 Five Islands Road
Port Kembla NSW 2505

SLR Project No.: 610.031293.00002

**RE: Albion Park Quarry
June 2024 Noise Compliance Measurements**

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Cleary Bros (Bombo) Pty Ltd to conduct noise compliance monitoring of its Albion Park Quarry (APQ) operations.

The APQ Environment Management Strategy (Cleary Bros 2024) summarises the project approval (Development Consent SSD10369) noise conditions and sets out the Noise Monitoring Program for operation of the quarry. This letter details the biannual independent noise compliance measurements undertaken by SLR on 13 June 2024 which are required as part of the Noise Monitoring Program, reproduced below:

Operator-attended noise compliance monitoring will be conducted twice each financial year, once during the winter months, and once at another time of the year and to include the “short-term activities” if they are undertaken during the year.

Independent operator-attended noise monitoring locations and criteria are reproduced from the Noise Monitoring Program and shown in **Table 1**.

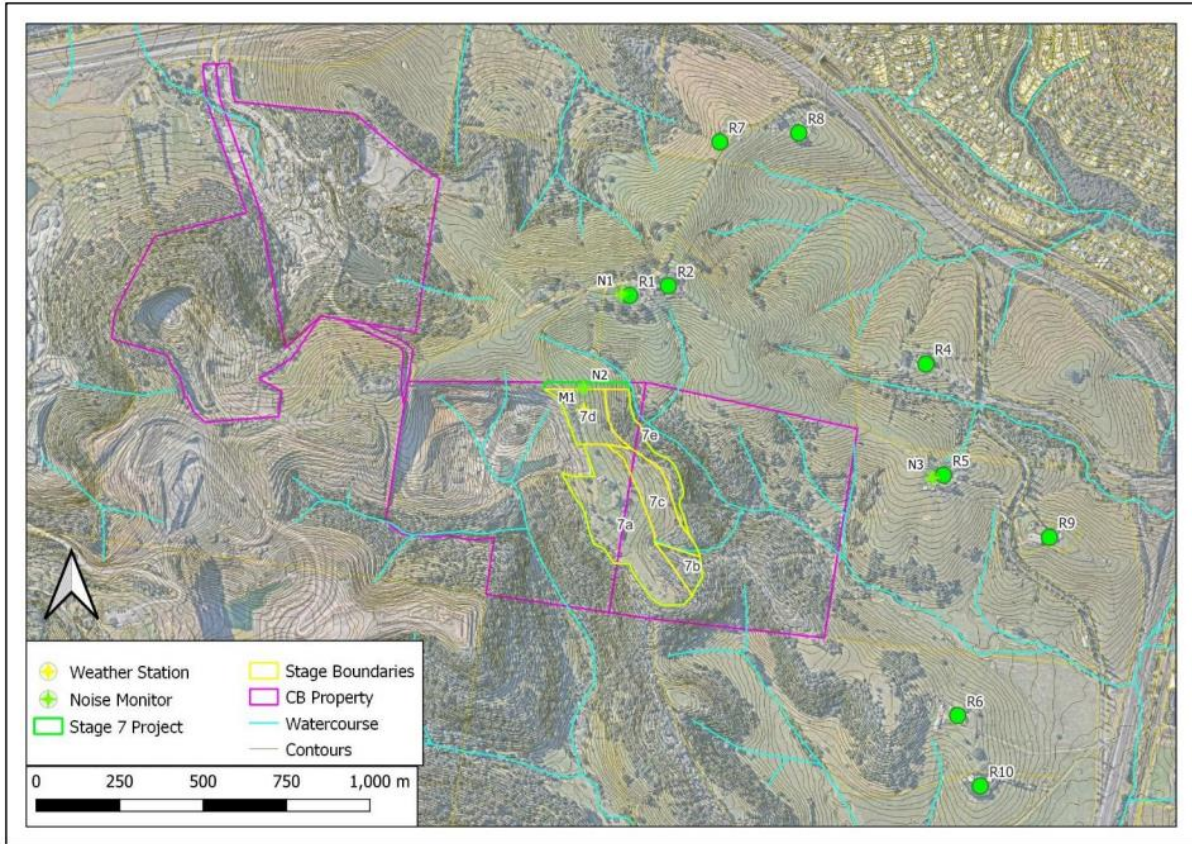
Table 1: Noise Monitoring Locations and Criteria

| Location ID | Monitoring Location | Stage 7a criteria (LAeq (15minute)) dB |
|-------------|---|--|
| N1 | R1 – “The Cottage” nearest residence to the north of stage 7 extraction area | 48 |
| N2 | Real time noise monitoring location, at the northern boundary of stage 7 extraction area | To be determined ¹ |
| N3 | R5 – “Deer Farm”, 42 James Road Croom, nearest residence to the east of the stage 7 extraction area | 40 |

Note: 1 Noise criteria at N2 are based on the relative difference between N2 and N1 at the time of monitoring

The noise measurement locations in **Figure 1** are reproduced from the Noise Monitoring Program.

Figure 1 Extraction area and monitoring locations



Note: Locations of monitoring equipment are approximate only.

2.0 Measurement Methodology

Noise measurements were undertaken with a Brüel & Kjær 2250 Precision Sound Level Meter (serial # 3004636) with the instrument calibration checked with a G.R.A.S 42 AG acoustic calibration instrument. The instrumentation used during the monitoring programme was designed to comply with the requirements of AS IEC 61672.1-2004 “Electroacoustics - Sound Level Meters” and carried current NATA or manufacturer calibration certificates.

Attended noise measurements were undertaken in the free field with consideration to AS1055:2018 Acoustics – Description and measurement of environmental noise. The sound level meter was programmed to record statistical noise level indices in 15-minute intervals, including the L_{Amax}, LA₁, LA₁₀, LA₉₀ and LA_{eq} descriptors. During attended measurements observations were made of contributing noise sources from APQ and any extraneous noise sources influencing the measurements.

3.0 Results

Results of noise monitoring are presented in **Table 2**.



Table 2: Measured Noise Levels, 15 minute dBA

| Loc | Time | Weather | Leq | L10 | L90 | Criteria | APQ contribution | Observations |
|--|-------|--|-----|-----|-----|----------|------------------|---|
| N1 | 11:52 | Light SW breeze ¹ gusts to 2m/s. AWS ² 3m/s 206deg | 51 | 53 | 48 | 48 | 48-50 | APQ 7a, + pit crushing + Holcim ³ mobile plant noise levels combined 50 - 51 with noise enhancing wind. Holcim estimated at 43-46 (visible D11 dozer). APQ + Holcim 47-48 lull in wind (pit crushing not audible). Aircraft noise 55-62 (1minute) Birds 52-54 |
| N2 | 13:00 | Light SW breeze ¹ . AWS ² 3m/s 213deg | 55 | 58 | 49 | - | 55 | Quarrying noise 49-53, typically 49-51 Dozer in 7a pushing overburden line of sight 58-60. |
| N3 | 11:16 | SW breeze ¹ 2-3m/s, gusts to 4m/s. AWS ² 3m/s 220deg | 49 | 49 | 43 | 40 | <34 | APQ 7a faintly audible (Articulated dump truck) reversing alarm) in background for 60 seconds. Distant traffic 41-43 Aircraft 51-65. |
| Notes: 1. Observed wind at microphone level. 2. Measured at automatic weather station (AWS) 10m above ground level. 3. The Holcim quarry is located to the south west and directly adjacent to APQ | | | | | | | | |

Weather conditions during noise monitoring included southwesterly winds of 2 – 3m/s. These wind conditions caused noise levels to increase at downwind locations N1 and N2 with noise levels increasing by approximately 3 dB with wind gusts at location N1.

4.0 Assessment of Measured Noise Levels

Location N1

Quarry noise at location N1 was estimated at 48 - 50dB LAeq 15minute during 2-3m/s south westerly noise enhancing wind conditions. This was estimated excluding contribution from a D11 dozer and Excavator working in line of sight at the Holcim Quarry adjacent APQ.

The Environment Management Strategy references the project conditions of approval with regard to noise enhancing conditions as follows.

The noise enhancing meteorological conditions determined by monitoring at the meteorological station required under condition B30 and as defined in Part D of the NSW Noise Policy for Industry (EPA, 2017) apply to the Noise Criteria in Table 2.

Part D of *Noise Policy for Industry* (NPfI) states that under noise enhancing meteorological conditions:



a limit is set based on the limit derived under standard or noise-enhancing conditions (whichever is adopted in the assessment) plus 5 dB.

Based on the meteorological conditions adopted in the *Albion Park Quarry Extraction Area Stage 7 Extension Noise and Blasting Assessment* (SLR 2022) and the NPfI Part D, the noise limits for location N1 under noise enhancing weather conditions would equal $48+5=53$ dB LAeq 15minute. The estimated APQ noise levels comply with the NPfI Part D noise enhancing weather conditions adjusted criteria level.

Location N2

Based on the noise levels measured at Location N2 time synchronised with the Site Hive real time noise monitor, it is recommended that the Site Hive monitor is adjusted by +2 dB.

During down wind southerly to south westerly conditions the difference between N2 and N1 was estimated as 2 dB, which indicates that the noise trigger level at N2 can be set 2 dB above the N1 limit. During standard weather conditions, a higher limit at N2 may be applicable. Future noise monitoring would confirm the N2 noise limit under differing meteorological conditions.

Location N3

At Location N3 quarry operations were typically inaudible. An articulated dump truck engine revving and reversing alarm were faintly audible working in Area 7a for 1 minute. APQ site contribution was estimated at less than 34 dB LAeq 15minute which is below the 40 dB LAeq 15minute noise criterion at this location.

