

CALGA SAND QUARRY
ATTENDED COMPLIANCE NOISE MONITORING
SEPTEMBER 2007

ACOUSTICS AND AIR

REPORT NO. 01127-E
VERSION A

WILKINSON  MURRAY

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PREPARED FOR

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1 INTRODUCTION

This report summarises the results of the quarterly attended noise monitoring carried out in accordance with Condition 3(7) of Development Consent DA 94-4-2004. The Noise Monitoring Program (NMP) prepared by R.W. Corkery & Co. Pty. Ltd summarises all relevant criteria, monitoring locations, and frequency / timing of monitoring.

2 ATTENDED NOISE MONITORING

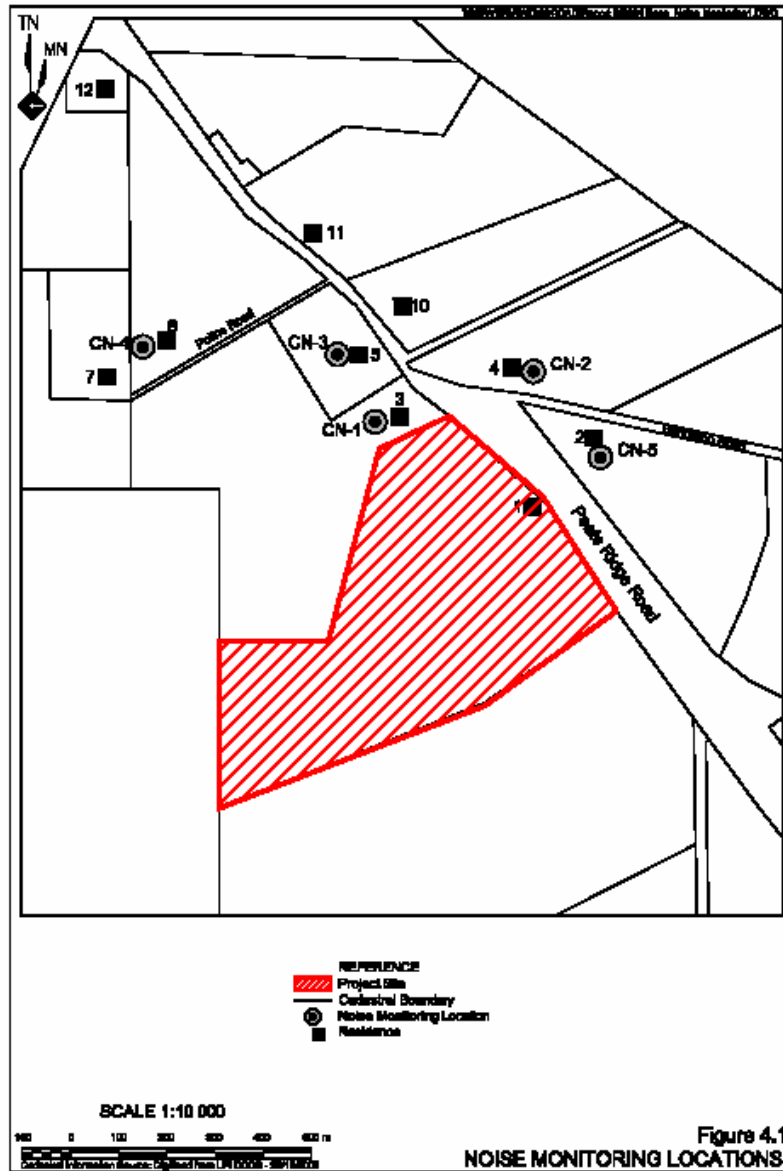
Attended noise monitoring was conducted in the afternoon of Tuesday, 25 September 2007. Measurements were made at each of the following locations (shown in Figure 2-1):

- CN-1 Gazzana Residence
- CN-2 King Residence
- CN-3 Kashouli Residence
- CN-4 Townsend Residence

Noise levels were measured with a Bruel & Kjaer Type 2231 Sound Level Meter. This Sound Level Meter conforms to Australian Standard 1259 "Acoustics – Sound Level Meters" as Type 1 Precision Sound Level Meter which has an accuracy suitable for laboratory use. The A-Weighting filter of the meter was selected and the time weighting was set to 'fast'. The meter was field calibrated both before and after the measurements with a Bruel & Kjaer Sound Level Calibrator Type 4230. No significant system drift was noted.

The B&K 2231 and the B&K 4230 have been laboratory calibrated within the previous two years in accordance with Wilkinson Murray Quality Assurance procedures.

Figure 2-1 Noise Monitoring Locations



3 OPERATIONAL NOISE CRITERIA

The Noise Monitoring Program presents noise criteria for the operation of plant or equipment on the premises as required by the DEC licence. It states that noise levels emanating from the premises must not exceed the relevant criteria when measured within 30m of the residences or noise sensitive areas. Daytime operational noise is assessed as an $L_{Aeq,15min}$ noise level. The L_{Aeq} level is the Equivalent Continuous Sound Level and has the same sound energy average over the sampling period as the actual noise environment with its fluctuating sound levels.

Table 3-1 summarises the daytime noise criteria.

Table 3-1 Operational Daytime Noise Criteria

Location	Daytime Criteria $L_{Aeq,15min}$ (dBA)
CN-1	41
CN-2	40
CN-3	39
CN-4	35

4 ASSESSMENT OF NOISE LEVELS

Apart from occasional high wind speeds exceeding 5m/s, weather conditions were appropriate for conducting environmental noise measurements. Strong ground winds affecting the measured levels were excluded from all measurements.

Table 4-1 summarises the measurement results and compares them against the relevant daytime noise criteria.

Table 4-1 Attended Noise Measurement Results (Tuesday, 25 September 2007)

Location	Time	$L_{Aeq,15min}$ due to Quarry Operations (dBA)	Daytime Criteria $L_{Aeq,15min}$ (dBA)	Comments
CN-1	1.09pm - 1.24pm	36	41	Peats Ridge Road heavy traffic L_{Amax} 62-65dBA and light traffic L_{Amax} 54-58dBA, distant engine noise audible from quarry est. 34-38dBA
CN-3	1.32pm - 1.47pm	29	39	Peats Ridge Road heavy traffic L_{Amax} 55-60dBA and light traffic L_{Amax} 43-55dBA, distant engine noise audible from quarry est. 27-30dBA
CN-2	2.08pm - 2.23pm	n/a	40	Peats Ridge Road heavy traffic L_{Amax} 56-58dBA and light traffic L_{Amax} 54-55dBA, quarry operations inaudible throughout whole measurement due to masking from traffic noise
CN-4	2.30pm - 2.45pm	34	35	Peats Ridge Road heavy traffic L_{Amax} 49-51dBA and light traffic L_{Amax} 39-40dBA, distant engine noise audible from quarry est. 30-35dBA

Table 4-1 shows that all measured $L_{Aeq,15min}$ noise levels due to quarry operations comply with the relevant daytime noise criteria.

5 CONCLUSION

A compliance attended noise monitoring survey was conducted during September 2007. The results of the survey indicated that noise emissions from the Calga Sand Quarry plant were within the limits set in the Noise Monitoring Program at all of the monitored residences.

Note

All materials specified by Wilkinson Murray Pty Limited have been selected solely on the basis of acoustic performance. Any other properties of these materials, such as fire rating, chemical properties etc. should be checked with the suppliers or other specialised bodies for fitness for a given purpose.

Quality Assurance

We are committed to and have implemented AS/NZS ISO 9001:2000 "Quality Management Systems – Requirements". This management system has been externally certified and Licence No. QEC 13457 has been issued.

AAAC

This firm is a member firm of the Association of Australian Acoustical Consultants and the work here reported has been carried out in accordance with the terms of that membership.

Version	Status	Date	Prepared by	Checked by
A	Final	26/9/2007	Roman Haverkamp	John Wassermann