

CALGA SAND QUARRY  
ATTENDED COMPLIANCE NOISE MONITORING  
OCTOBER 2009

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 conducted in October 2009 and 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 morning of Wednesday, 21 October 2009. 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

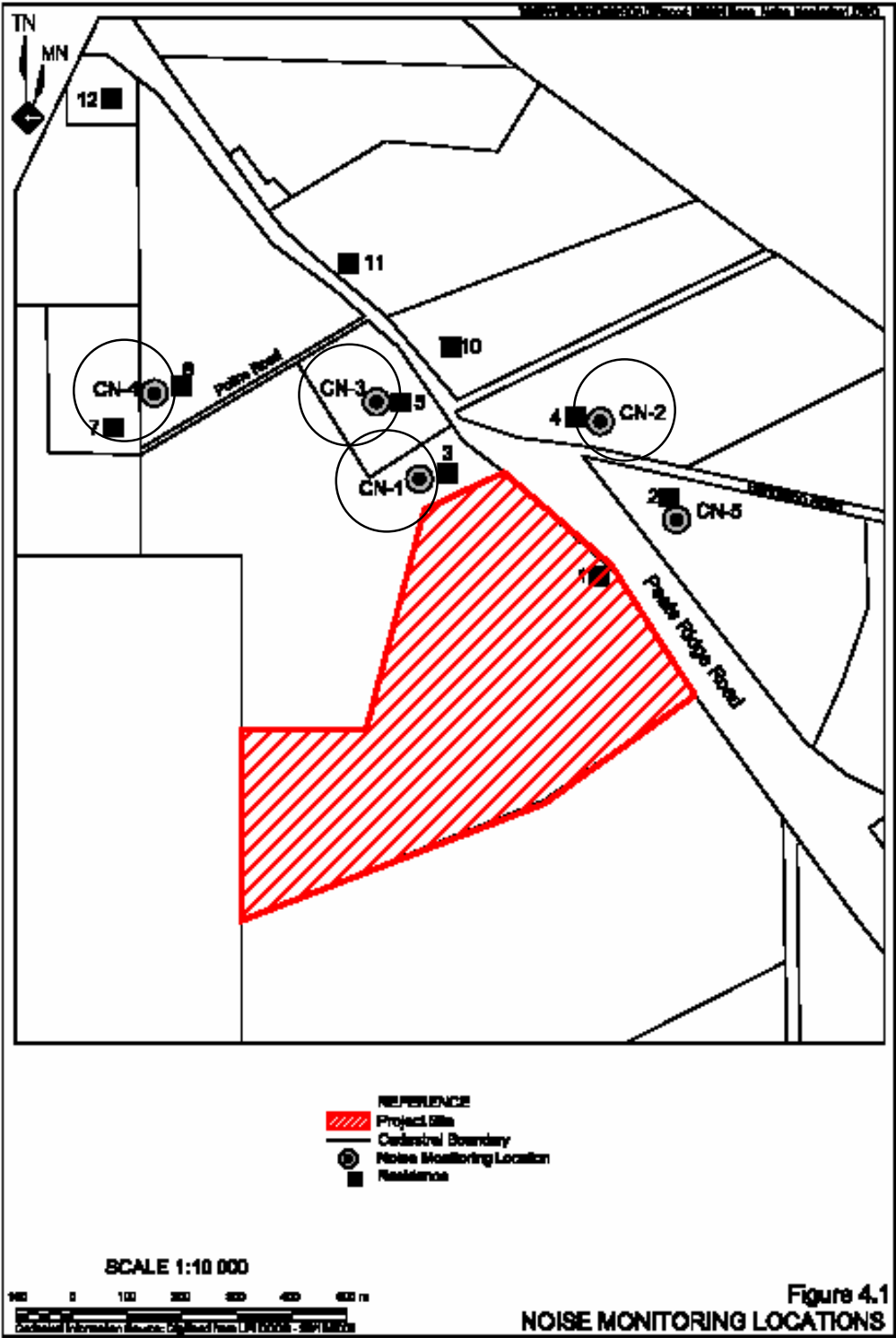


Figure 4.1

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 *Department of Environment, Climate Change and Water (DECCW)* 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

Weather conditions were appropriate for conducting environmental noise measurements during the day of survey. Figure 4-1 presents an aerial of the quarry site.

**Figure 4-1 Locality Aerial**



The following mobile plant and equipment were in operation during the time of survey:

- Dozer ripping sandstone in Cell 3/2A;
- Front end loader (FEL) loading dump truck with raw material to go to wash plant;
- Dump truck taking raw feed from Cell 3/2A to the wash plant;
- Excavator loading dump truck with overburden from 3/2B to go to stockpile;
- Dump truck taking overburden from 3/2B to go to stockpile;
- FEL producing brickies sand, loading sales trucks and loading dump truck with oversize to be taken to oversize stockpile;
- Water truck was in operation to suppress dust on designated haul roads;
- Cummins transfer pump was in constant operation; and
- Wash plant and dry screening plant were in full production.

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

**Table 4-1 Attended Noise Measurement Results (Wednesday, 21 October 2009)**

<b>Location</b>	<b>Time</b>	<b>L<sub>Aeq,15min</sub> due to Quarry Operations (dBA)</b>	<b>Daytime Criteria L<sub>Aeq,15min</sub> (dBA)</b>	<b>Comments</b>
CN-1	12.00pm – 12.15pm	37	41	Constant washery noise from quarry just audible, est. range of sound pressure level (SPL) 35-37dBA. Typical and heavy traffic on Peats Ridge Road 53-58dBA and 65-70dBA respectively.
CN-3	12.15pm – 12.30pm	32	39	Constant washery noise from quarry just audible, est. range of SPL 31-32dBA. Typical and heavy traffic on Peats Ridge Road 50-53dBA and 54-60dBA respectively.
CN-4	12.35pm – 12.50pm	n/a	35	Quarry operations inaudible throughout whole measurement.
CN-2	1.30pm – 1.45pm	40	40	Constant washery noise and mobile plant noise from quarry audible est. 38-40dBA. Typical and heavy traffic on Peats Ridge Road 48-53dBA and 54-60dBA respectively.

Table 4-1 shows that all measured L<sub>Aeq,15min</sub> noise levels due to quarry operations comply with the relevant daytime noise criteria.

## 5 CONCLUSION

Attended compliance noise monitoring was conducted in October 2009. 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	5 November 2009	Jimi Ang	-