



Ref: L39117/BH/15-041

4 December 2017

Quarry Solutions Pty Ltd  
c/- Groundwork Plus  
6 Mayneview Street  
MILTON QLD 4064

**Attention: Mr Jim Lawler**

Dear Jim

**Re: September 2017 Noise Compliance Monitoring – Coraki Quarry, Coraki**

MWA Environmental conducted noise compliance monitoring for the Coraki Quarry in September 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

Quarry Solutions Pty Ltd has advised that no noise complaints have been received in relation to the Coraki Quarry between the previous June 2017 noise monitoring and the September 2017 noise monitoring events.

Noise monitoring was undertaken between 7:00am and 12:00pm on 29 September 2017. Wind speeds increased to above the 3 metres per second threshold for valid compliance monitoring after 12:00pm and no further measurements were obtained.

Weather conditions during the monitoring were fine with wind speeds generally 1.8 to 2.7 metres per second during the monitoring period. Wind directions were generally from the west and southwest during the 7:00am to 10:30am period and from easterly directions between 10:30am and 12:00pm.

For certain locations/measurements, extraneous noise influences included:

- Insect noise (predominantly bees) at residence R1 (refer **Figure 1**), albeit overall levels remained compliant with the noise limit
- Bird calls –able to be reasonably well filtered out through post-processing using audio recordings and did not affect compliance assessment outcomes for any measurements
- Public road traffic noise - filtered out through on-site data exclusion where practical however background noise from Casino-Coraki Road north of Lagoon Road was relatively consistent and dominating during some measurements under easterly wind conditions but did not affect compliance assessment outcomes for any measurements

Coraki Quarry operations during the noise monitoring period were as follows:

- Main crushing and screening plant
- 'Powerscreen' mobile plant – operating 7:00am to 8:35am
- Loading dump trucks by excavator and haulage from pit to plant
- Stockpile management
- Loading and dispatch of product (road) trucks – consistent and frequent trucks throughout the monitoring period
- Rock drill

Noise monitoring was undertaken over minimum 10 minute periods at free-field locations within 30 metres of the following five (5) residential dwellings nearest to the Coraki Quarry (refer **Figure 1**):

- R1
- R2
- R3
- R6
- R7

Observations were also made throughout the day within 30 metres of residence R4 but the quarry noise was inaudible on each occasion so no measurements were taken.

Attended noise monitoring was undertaken using a Bruel & Kjaer Type 2250 frequency analysing sound level meter with current NATA calibration. The sound level meter was calibrated to a reference signal of 94 dB at 1kHz prior to the monitoring and displayed no variance post-monitoring.

Condition 4 of the Development Consent Schedule 3 prescribes a 35 dB(A)  $L_{Aeq,15min}$  noise limit for privately owned residences unless formal written agreements are in place with landowners.

As allowed for by Development Consent Schedule 3 Condition 4 and EPL Condition L4.2, formal written agreements are in place with the following landowners to the effect that the land owners do not hold objections to the operation of the Coraki Quarry exceeding the noise emission criterion by up to 5 dB(A):

- R1: 200 Lagoon Road, Coraki
- R2: 95 Spring Hill Road, Coraki
- R3: 75 Spring Hill Road, Coraki
- R6: 1905 Casino-Coraki Road, Coraki
- R7: 140 Newmans Road, Coraki

A summary of the 29 September 2017 compliance noise monitoring is provided in **Attachment 1**.

The Coraki Quarry was assessed to be compliant with the Development Consent and Environment Protection Licence No. 3397 noise limits during the 29 September 2017 noise monitoring period at residences R1, R6 and R7 for all measurements.

For residences R2 and R3 non-compliance was assessed for measurements undertaken prior to 9:00am. The dominant noise influence was crushing and screening plant noise that was observed to be predominantly steady-state 'screening' type noise with periodic 'surging' of noise levels likely related to fill levels of feed bins/screen decks etc. The screening noise was noted to be significantly louder than had been measured and observed at residences R2 and R3 during previous quarterly noise monitoring events.

MWA Environmental inspected the quarry with the Quarry Manager between 7:45am and 8:15am. Based upon inspection of the quarry floor area it appeared that a mobile 'Powerscreen' plant located towards the eastern corner of the quarry floor was the dominant noise source, although the main crushing and screening plant emitted noise of similar character.

A further noise measurement was undertaken at 8:25am for residence R2 with the 'Powerscreen' plant shut down. The dominant noise remained crushing and screening plant noise but the overall assessed quarry noise level was 4 to 5 dB(A) lower than with the 'Powerscreen' operating at 7:00am. The overall noise level at location R2 remained non-compliant with the noise limit with the 'Powerscreen' plant shut down for the 8:25am measurement.

A further noise measurement was undertaken at 8:45am for residence R3 with the 'Powerscreen' plant shut down but compliance assessment was not valid because wind speeds were above 3.1 metres per second.

Further noise measurements undertaken at residences R2 and R3 between 10:15am and 10:40am were compliant with the Development Consent and Environment Protection Licence No. 3397 noise limits.

**On this basis, the compliance status for the Coraki Quarry in respect of the Development Consent and Environment Protection Licence No. 3397 noise limits was assessed as follows on 29 September 2017:**

- **Compliant during the noise monitoring period at R1, R4, R6 and R7 for all measurements during valid meteorological conditions.**
- **Compliant for one of three measurements at R2, with crushing and screening plant noise being the dominant noise influence during the non-compliant measurements.**
- **Compliant for one of two measurements during valid meteorological conditions at R2, with crushing and screening plant noise being the dominant noise influence during the non-compliant measurement.**

Further noise compliance monitoring is required by 31 December 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

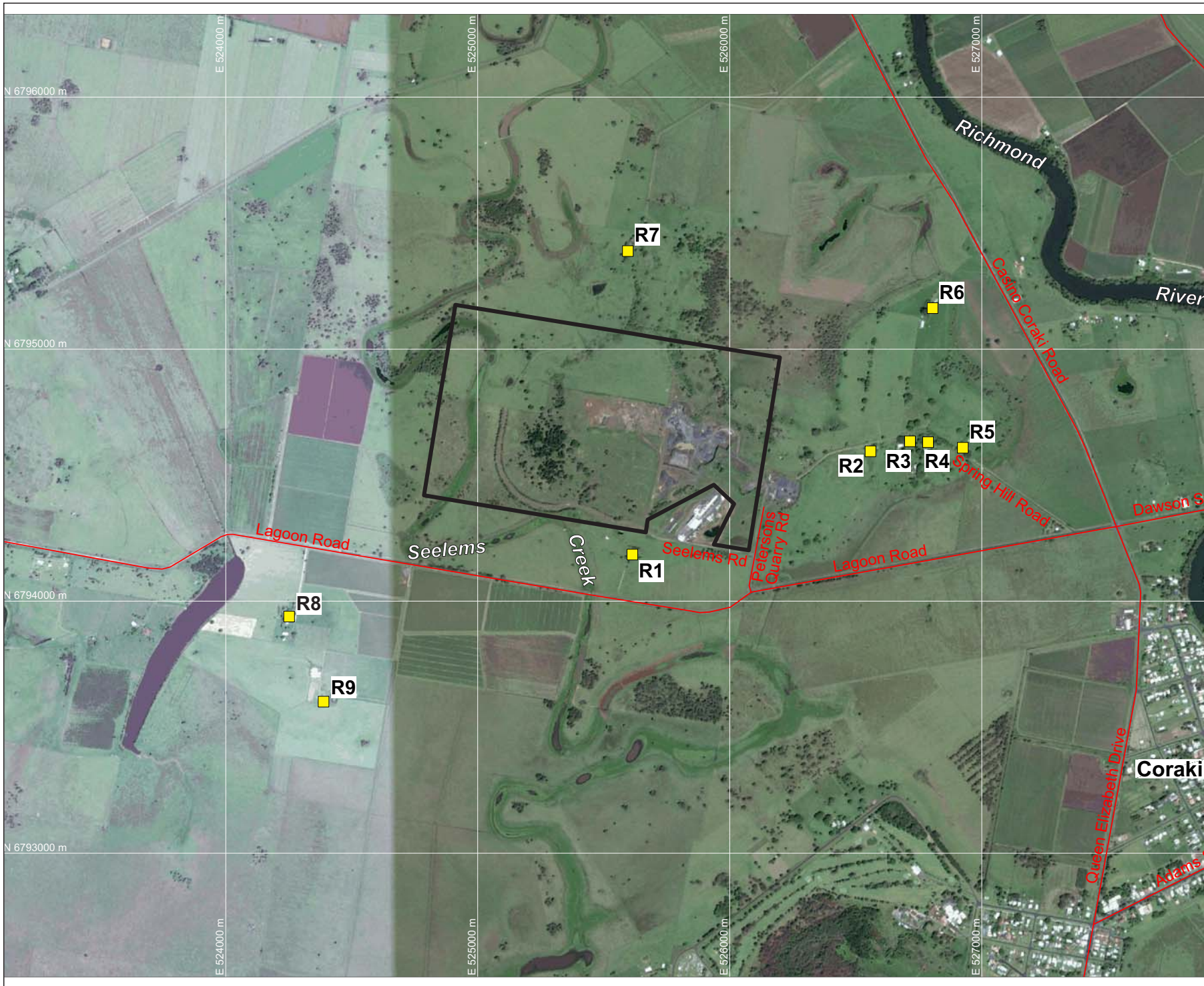
If you require any clarification or additional information please contact the undersigned.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ben Hyde', written in a cursive style.

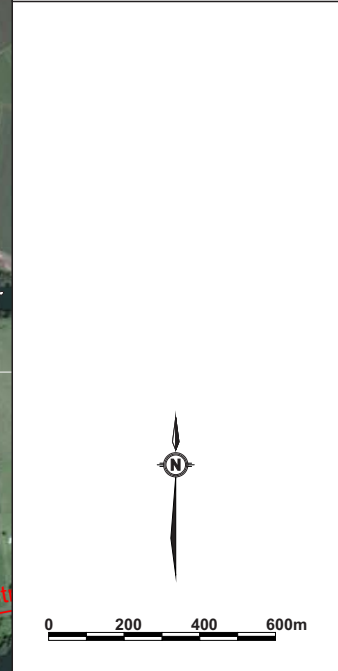
Ben Hyde  
Environmental Engineer

## FIGURES



**LEGEND**  
 — SITE BOUNDARY  
 ■ R9 SURROUNDING RESIDENCES (R1-R9)

**DRAWING REFERENCE**  
 GROUNDWATER PLUS SITE LOCATION PLAN  
 1837.DRG.002, 13/04/15.



CLIENT  
**QUARRY SOLUTIONS PTY LTD**

PROJECT  
**CORAKI  
 NOISE COMPLIANCE  
 ASSESSMENT  
 CORAKI QUARRY**  
 Petersons Quarry Rd Coraki NSW

TITLE  
**AERIAL PHOTOGRAPH  
 SHOWING SURROUNDING  
 RESIDENCES**

JOB	CORAKI	<b>FIGURE 1</b>
JOB NO.	15-041	
DATE	16/12/16	DRAWING NUMBER
SCALE	1:20,000 (A4)	<b>15-041-1</b>
REV.		

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# **ATTACHMENT 1**

*Summary of Compliance Noise Monitoring*

MONITORING LOCATION	TIME	WIND	OVERALL MEASURED Leq INCLUDING EXTRANEOUS UNABLE TO BE FILTERED-dB(A)	ASSESSED QUARRY NOISE Leq - dB(A)	OPERATIONS	NOISE LIMIT LAeq dB(A)	COMPLIANCE STATUS	MONITORING NOTES
R2	700	2.2m/s S	54.4	50.6	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 10dBA	Louder than usual steady-state plant (screening) noise, birds, occasional dump truck and road truck audible, but within plant overall noise
R3	715	2+m/s W	50.8	46.8	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 7dBA	Plant (screening) steady-state noise, plant seemed to get quieter at 731 (part way through measurement)
Inspected quarry and identified Powerscreen operating at SE corner of Petersens pit as a dominant noise source, weather station adjustment as signal had been lost								
R2	825	1.8m/s WSW=>2.7m/s SW	49.5	46.0	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 6dBA	Powerscreen on initially >50dBA (excluded), Powerscreen shut off at 835 plant <45dBA when no birds
R3	845	3.1m/s WSW	49.9	45.8	Crushing plant, rock drill, load and haul, product sales	40	Invalid wind conditions	Plant noise, Powerscreen not running
R6	902	3.6m/s W=>2.7m/s WSW	37.7	<37	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant audible but quiet <40dBA approx. 36dBA with <3m/s wind, wind / tress noise and birds, early period >3m/s wind excluded
R1	920	2.2m/s WSW	36	<36	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Lot of birds and bees, some wind/tree noise (minor), plant not audible, tonal alarm / beep just audible, occasional trucks and FEL audible, quarry <40dBA
R7	945	1.8m/s SSE=>3.6m/s SSE	34.4	<34	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Casino-Coraki Rd traffic noise, quarry inaudible aside from occasional tip, some dog barking, quarry <low 30s when less wind/dog/bird noise, later period >3m/s wind excluded
R2	1015	3.1m/s SSW=>1.3m/s E=>2.2m/s E	37.8	<38	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant audible <40dBA approx. 37 dBA, lots of birds, traffic, occasional dump truck <40dBA, initial period >3m/s wind excluded
R4	1025	Inaudible				35	Compliant	Inaudible
R3	1030	2.2m/s E=>2.2m/s SE	37.9	<38	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant <37dBA when less wind/traffic, drill just audible maybe, birds, Lagoon Rd traffic excluded as far as practical
R1	1045	3.1m/s SE=>1.8m/s ESE	37.2	<37	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Bees, some birds, plant just audible, tonal alarms audible at times, insects at times, quarry <40dBA, estimate mid 30s or lower
R6	1100	2.7m/s ENE	38.7	Inaudible, <35	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Casino-Coraki Rd traffic noise too consistent in easterly wind to exclude, quarry inaudible, some wind/tree noise
R7	1125	3.1m/s ESE=>4.5m/s NNE	Invalid Wind Conditions			40	Invalid wind conditions	Wind/tree noise, Casino-Coraki Rd traffic noise, plant just audible in higher winds but >3m/s - too windy