

Appendix 9

NOISE MONITORING RESULTS

Attended Noise Monitoring**September 2010**

Noise Monitoring Results – 21 st and 22 September 2010 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey (22/9)	7:37 AM	44	2.4m/s - SSE	Birds & insects (43), wind (35), RCM (25)
Costa Vale (21/9)	2:36 PM	33	1.6m/s - SSE	Wind in trees (31), birds (27), RCM (25)

Noise Monitoring Results – 21 st September 2010 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	9:21 PM	47	<0.5 m/s, N	Crickets (47), RCM (25)
Costa Vale	8:51 PM	35	<0.2 m/s, N	RCM (34) , insects (29)

Noise Monitoring Results – 21 st September 2010 (Night)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	11:23 PM	31	2m/s - S	Wind (30), frogs (25), RCM (<20)
Costa Vale	12:04 AM	36	2m/s - S	Wind in trees (36), RCM (<20)

December 2010

RCM Noise Monitoring Results – 14 December 2010 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	11:20 am	38	1.5 m/s - ESE	Birds & insects (38), RCM (<20)
Costa Vale	11:56 am	39	1.5 m/s - ESE	Birds & insects (39), RCM (30)

RCM Noise Monitoring Results – 14 December 2010 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	9:35 pm	50	3 m/s, E	Wind in trees (48), insects (47), RCM inaudible
Costa Vale	9:10 pm	51	3 m/s, E	Birds & insects (51), RCM inaudible

RCM Noise Monitoring Results – 14 December 2010 (Night)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	10:31 pm	47	3 m/s - NE	Wind (46), insects (40), RCM inaudible
Costa Vale	10:05 am	46	3.5m/s - NE	Insects & frogs (46), RCM inaudible

March/April 2011

Noise Monitoring Results – 15 March 2011 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	8:01 am	48	1.5 m/s - SE	Birds & insects (46), cattle (43), RCM (34)
Costa Vale	7:32 am	60	1 m/s - SE	Birds & insects (60), RCM (35)

Noise Monitoring Results – 14 April 2011 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	8:44 pm	24	0.4 m/s, SE	Insects & domestic noise (24), RCM inaudible
Costa Vale	9:18 pm	35	0.4 m/s, SE	Insects (32), RCM (32)

Noise Monitoring Results – 14 April 2011 (Night)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	10:20 pm	22	3 m/s - SE	RCM inaudible
Costa Vale	10:42 am	31	Calm	RCM (31) , insects (<20)

June 2011

Noise Monitoring Results – 24 June 2011 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	9:30 am	42	Calm	Birds (41), RCM (34)
Costa Vale	9:57 am	33	Calm	Birds (32), RCM (26)

Noise Monitoring Results – 23 June 2011 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	7:42pm	31	0.4 m/s, SE	Farm animals (31), RCM (20)
Costa Vale	7:20pm	35	<0.5m/s, SE	RCM (35)

Noise Monitoring Results – 23 June 2011 (Night)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey	11:25pm	27	Calm	Farm animals (27), RCM inaudible
Costa Vale	11:05pm	35	Calm	RCM (35)

Additional Attended Noise Monitoring**August 2010**

Table 1 RCM Noise Monitoring Results – August 2010				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Surrey 30/8/10	10:35 pm	33	0.5 m/s, NW	RCM (32), birds & frogs (25)
Surrey 31/8/10	7:15 am	46	Calm	Birds (44), RCM (40), rooster (37)

September 2010

Table 1 RCM Noise Monitoring Results – 21 September 2010 (“Penryn”)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Penryn	3:01 pm	44	1.6m/s - SSE	Dogs & sheep (44), RCM (<25)
Penryn	8:30 pm	45	>0.2m/s - N	Frogs (45), RCM (32)
Penryn	12.25 am	28	2.2m/s - S	Wind in trees (28), RCM (<20)

Unattended Noise Monitoring**September 2010****Costa Vale**

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
18-Sep-10	45.3	35.2	37.8	21.5	19.1	19.1
19-Sep-10	43.6	33.8	38.4	19.4	19.1	19.1
20-Sep-10	48.4	33.9	43.7	22.5	25.5	19.1
Laeq	46	34	41			
L90				22	19	19

Surrey

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
18-Sep-10	46.1	33.7	37.5	24.4	18.1	17.1
19-Sep-10	40.7	40.1	34.4	21.5	20.9	17.1
20-Sep-10	40	39.5	38.1	24.3	24.8	20.2
Laeq	43	39	37			
L90				24	21	17

December 2010**Costa Vale**

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
10-Dec-10	52.8	61.0	57.0	35.2	41.7	38.0
11-Dec-10	50.1	57.0	50.1	33.0	34.7	33.5
12-Dec-10	48.3	49.4	43.1	34.0	35.2	32.3
LAeq	51	58	53			
L90				34	35	34

Surrey

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
10-Dec-10	57.6	46.8	43.3	32.5	31.2	32.3
11-Dec-10	44.5	43.8	46.6	31.0	31.0	31.3
12-Dec-10	46.4	42.1	49.0	31.5	27.2	32.5
LAeq	53	45	47			
L90				32	31	32

March 2011**Costa Vale**

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
12-Mar-11	51.8	51.8	39.4	29.7	30.8	30.5
13-Mar-11	53.0	50.6	36.9	31.2	30.5	29.5
14-Mar-11	54.8	64.4	49.4	35.0	38.8	29.0
LAeq	53	60	45			
L90				31	31	30

Surrey

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
12-Mar-11	42.7	44.2	40.7	29.0	30.8	27
13-Mar-11	46.6	43.7	39.5	29.2	28.8	27
14-Mar-11	41.3	52.7	43.4	29.0	33.5	27
LAeq	44	49	42			
L90				29	31	27

June 2011**Costa Vale**

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
23-Jun-11	53.0	47.0	50.1	44.1	39.2	36.4
24-Jun-11	55.6	52.7	51.7	46.1	40.5	37.6
25-Jun-11	55.3	52.8	50.5	42.6	39.7	37.3
LAeq	55	52	51			
L90				43	40	37

Surrey

Date	Leq(day)	Leq(eve)	Leq(night)	L90(day)	L90(eve)	L90(night)
23-Jun-11	59.8	48.0	47.4	46.0	40.4	36.5
24-Jun-11	57.5	53.2	47.3	40.0	43.2	36.7
25-Jun-11	51.3	51.9	46.1	39.4	43.6	32.4
LAeq	57	52	47			
L90				40	42	36

Cumulative Road Noise Monitoring



24 March 2011

Ref: 06259/3914

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RE: WHITEHAVEN COAL – ROAD TRAFFIC NOISE MONITORING, MARCH 2011

This letter report presents the results of a road noise measurements conducted for the Tarrawonga Coal Mine (TCM) and Rocglen Coal Mine (RCM). The measurements were conducted at “Brooklyn” and “Werona” on Blue Vale Road with the intention of determining the $L_{Aeq(1\text{ hour})}$ noise contribution from mine-related vehicles, particularly coal haul trucks. There are two separate residences on “Brooklyn” and simultaneous noise measurements were made at the front of both residences. Residence 1 is closest to Blue Vale Road (approximately 90m) whilst Residence 2 is approximately 480m from the road.

The approvals granted for TCM and RCM state that the cumulative noise level from traffic generated by the two mines must not exceed 60 dB(A), $L_{eq(1\text{ hour})}$ during the day and 55 dB(A), $L_{eq(1\text{ hour})}$ during the night at these locations. For the purposes of traffic noise assessment the DECCW *Environmental Criteria for Road Traffic Noise* (ECRTN) defines day as 7am – 10pm and night as 10pm – 7am. On Sundays and public holidays the daytime transition changes to 8am.

The noise measurements were made adjacent to the front (eastern) facade of both residences at “Brooklyn” between 9:23am and 10:23am and at “Werona” between 8:03am and 9:03am on Tuesday March 15 22 with third-octave band Bruel & Kjaer Observer sound level meters (IEC Type 1). The sound level meters were placed on tripods and recorded continuously at 1-second statistical intervals while notes on passing vehicles were written down.

Over the course of the measurement period at “Brooklyn” there were 46 coal truck movements related to TCM and RCM. Other significant noise sources observed throughout the monitoring period included a contribution from birds and insects. The total measured noise level for the measurement period as dB(A), L_{eq} , therefore, represents that from the trucks, birds, wind and other sources.

Due to the discrete nature of the coal truck movements the sound level as each truck past the measurement point (that is from when each truck became audible until it was inaudible again) was readily discernable and the contribution of truck noise could be accurately determined. A breakdown of the heavy vehicle movements for “Brooklyn” is summarised in **Table 1**.

Table 1	
Coal Truck pass bys - “Brooklyn”, Blue Vale Road 15/03/11	
Time (am)	Vehicle direction of travel
9:23	Empty coal truck to mine
9:25	Empty coal truck to mine
9:26	Laden coal truck to CPP
9:27	Empty coal truck to mine
9:27	Empty coal truck to mine
9:29	Laden coal truck to CPP
9:30	Laden coal truck to CPP
9:30	Laden coal truck to CPP
9:32	Empty coal truck to mine
9:35	Laden coal truck to CPP
9:36	Empty coal truck to mine
9:38	Laden coal truck to CPP
9:38	Empty coal truck to mine
9:41	Empty coal truck to mine
9:42	Laden coal truck to CPP
9:43	Empty coal truck to mine
9:44	Laden coal truck to CPP
9:44	Empty coal truck to mine
9:48	Empty coal truck to mine
9:49	Laden coal truck to CPP
9:49	Empty coal truck to mine
9:49	Laden coal truck to CPP
9:51	Empty coal truck to mine
9:51	Laden coal truck to CPP
9:53	Laden coal truck to CPP
9:56	Laden coal truck to CPP
9:57	Empty coal truck to mine
9:58	Laden coal truck to CPP
9:59	Laden coal truck to CPP
9:59	Empty coal truck to mine
10:00	Laden coal truck to CPP
10:01	Laden coal truck to CPP
10:03	Empty coal truck to mine
10:05	Laden coal truck to CPP
10:06	Empty coal truck to mine
10:06	Empty coal truck to mine
10:07	Empty coal truck to mine
10:08	Laden coal truck to CPP
10:12	Empty coal truck to mine
10:15	Empty coal truck to mine
10:16	Empty coal truck to mine
10:17	Empty coal truck to mine
10:18	Empty coal truck to mine
10:19	Laden coal truck to CPP
10:21	Laden coal truck to CPP

The total measured noise level at Residence 1 at “Brooklyn was 56 dB(A) L_{eq} (1 hour), and the calculated contribution from mine-related vehicles was **54 dB(A), L_{eq} (1 hour)**. This is below the daytime criterion of **60 dB(A) L_{eq} (1 hour)**.

The calculated contribution from mine-related vehicles at Residence 2 was **49 dB(A), L_{eq} (1 hour)**. This is below the daytime criterion of **60 dB(A) L_{eq} (1 hour)**.

Over the course of the measurement period at “Werona” there were 46 coal truck movements related to TCM and RCM. A breakdown of the heavy vehicle movements for “Werona” is summarised in **Table 2**.

Table 2	
Coal Truck pass bys - “Werona”, Blue Vale Road 15/03/11	
Time (am)	Vehicle direction of travel
8:03	Laden coal truck to CPP
8:05	Empty coal truck to mine
8:05	Empty coal truck to mine
8:06	Laden coal truck to CPP
8:07	Empty coal truck to mine
8:07	Empty coal truck to mine
8:09	Laden coal truck to CPP
8:12	Empty coal truck to mine
8:12	Empty coal truck to mine
8:12	Laden coal truck to CPP
8:15	Empty coal truck to mine
8:15	Laden coal truck to CPP
8:17	Empty coal truck to mine
8:18	Empty coal truck to mine
8:20	Laden coal truck to CPP
8:20	Empty coal truck to mine
8:21	Laden coal truck to CPP
8:22	Laden coal truck to CPP
8:24	Laden coal truck to CPP
8:26	Laden coal truck to CPP
8:26	Empty coal truck to mine
8:28	Empty coal truck to mine
8:30	Laden coal truck to CPP
8:32	Empty coal truck to mine
8:32	Empty coal truck to mine
8:38	Laden coal truck to CPP
8:40	Empty coal truck to mine
8:40	Empty coal truck to mine
8:43	Empty coal truck to mine
8:45	Laden coal truck to CPP
8:45	Empty coal truck to mine
8:50	Laden coal truck to CPP
8:51	Empty coal truck to mine
8:53	Laden coal truck to CPP
8:55	Empty coal truck to mine
8:56	Empty coal truck to mine
8:58	Empty coal truck to mine

8:59	Laden coal truck to CPP
8:59	Empty coal truck to mine
9:00	Laden coal truck to CPP
9:00	Laden coal truck to CPP
9:01	Empty coal truck to mine
9:01	Laden coal truck to CPP
9:02	Empty coal truck to mine
9:02	Laden coal truck to CPP
9:03	Empty coal truck to mine

The total measured contribution from mine-related vehicles at "Werona" was **49 dB(A), L_{eq} (1 hour)**. This is below the daytime criterion of **60 dB(A) L_{eq} (1 hour)**.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

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