

Appendix 7

NOISE MONITORING DATA



February 10 2011

Ref: 06248/3869

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: FEBRUARY 2011 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Tuesday 8th and Wednesday 9th February 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq}(15 \text{ minute})$	$L_{Aeq}(15 \text{ minute})$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the $L_{Aeq}(15 \text{ minute})$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe ¹
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

¹ Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the evening of 8th February and a second during the morning of 9th February, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for

comparison but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 8 February 2011 (Evening)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	8:23 pm	52	5m/s ESE	Birds & insects (52), wind in trees (48), SCM (est. <30)
Ferndale	9:05 pm	52	3.5m/s ESE	Birds & insects (52), wind (40), SCM (30)
Plain View	8:03 pm	50	4m/s SE	Birds & insects (50), wind in trees (40), SCM inaudible
Lilydale	7:45 pm	45	4m/s SE	Birds & insects (42), wind in trees (40), traffic (38), SCM inaudible

Table 3 SCM Noise Monitoring Results – 9 February 2011 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	9:45 am	45	3m/s E	Birds (45), traffic (35), SCM (<30)
Ferndale	10:03 am	55	3m/s E	Traffic (55), birds & insects (41), SCM inaudible
Plain View	10:22 am	47	2.5m/s E	Birds (47), traffic (35), SCM inaudible
Lilydale	10:40 am	43	2.5m/s E	Traffic (40), birds & insects (39), wind (30), SCM inaudible

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) Leq (15 min) at any monitoring location at any time.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah.

In addition to the site noise monitoring, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CPP. The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The monitoring was carried out over a one hour period from 11.05 am on Wednesday 9th February. A total of 19 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 7 full and 7 empty coal haulage trucks and 5 other heavy vehicles entering and leaving the CPP site.

The measured Leq noise level from all vehicles on Torrens Lane was of **54 dB(A) Leq (1 hour)**. This is in compliance with the noise criterion for a local road of 55 dB(A) Leq (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

Author:

Review:



Ross Hodge
Acoustical Consultant



Neil Pennington
Acoustical Consultant

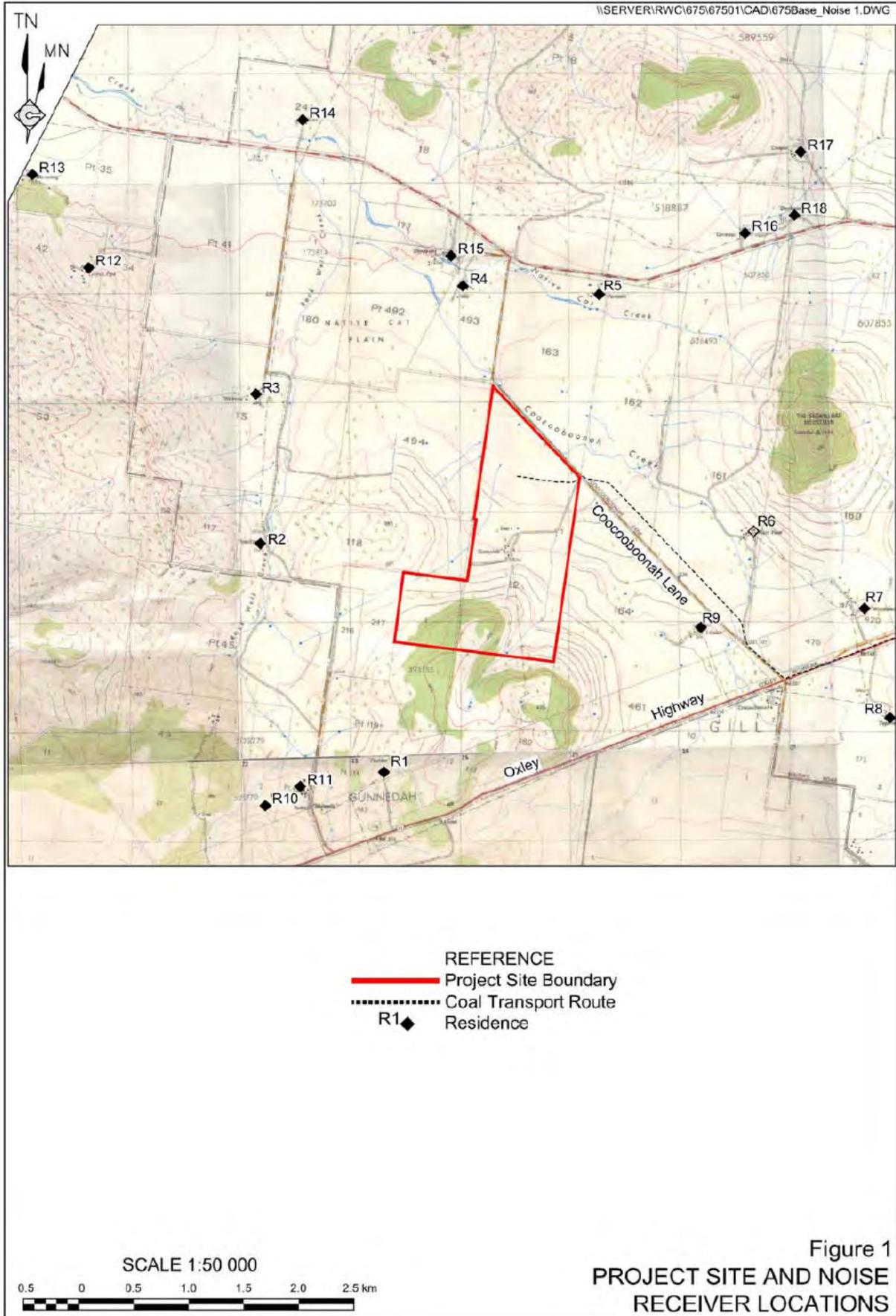


Figure 1
PROJECT SITE AND NOISE
RECEIVER LOCATIONS

Figure Prepared by R.W. Corkery & Co. Pty Ltd



10 February 2011

Ref: 06248/3870

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: FEBRUARY ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENOWER”

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” property on behalf of Sunnyside Coal Mine (SCM) on Wednesday 8th and Thursday 9th February 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

The noise measurement location for the attended noise survey is listed below (and shown in the attached figure):

Location R15: Glendower

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the evening of 8th February and a second during the day of 9th February, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L_1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2				
SCM Noise Monitoring Results – 8 & 9 February 2011 - Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
8 February	8:45 pm	46	3.5m/s ESE	Birds & insects (44), wind (40), SCM (34) , traffic (30)
9 February	9:20 am	46	3m/s E	Birds (45), traffic (40), SCM (<30)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

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

Author:



Ross Hodge
Acoustical Consultant

Review:



Neil Pennington
Acoustical Consultant

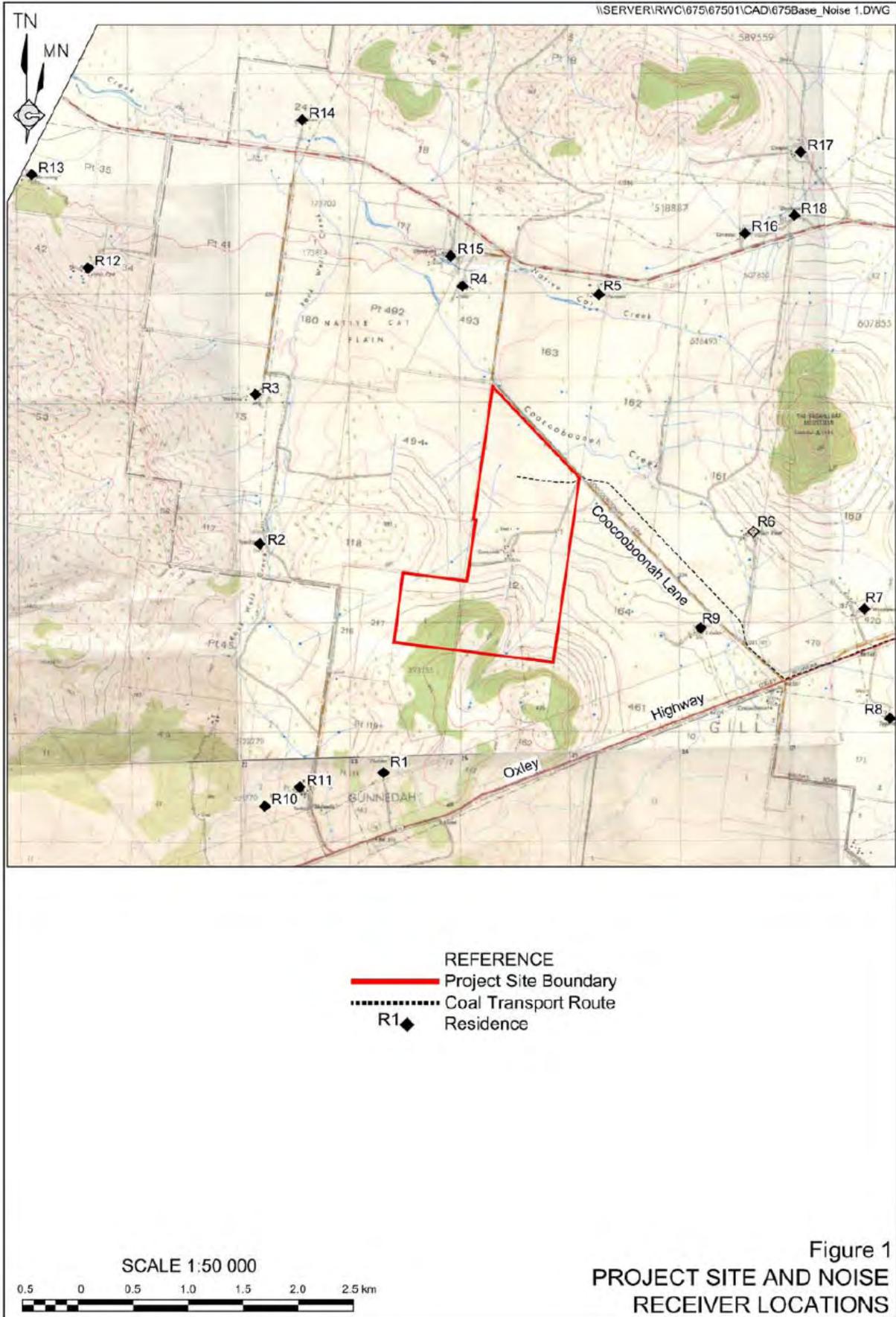


Figure 1
PROJECT SITE AND NOISE
RECEIVER LOCATIONS

Figure Prepared by R.W. Corkery & Co. Pty Ltd



May 20 2011

Ref: 06248/3979

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: MAY 2011 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Thursday 19th May 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe ¹
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

¹ Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 19th May, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for

comparison but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply. Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the background level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 19 May 2011 (Day)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:19 pm	41	1.2m/s S	Birds & insects (40), SCM (33)
Ferndale	4:55 pm	43	1m/s S	Birds & insects (40), traffic (39), SCM (30)
Plain View	4:00 pm	40	2m/s SSW	Birds & insects (38), traffic (36), SCM inaudible
Lilydale	3:40 pm	40	2m/s SSW	Traffic (39), birds (32), SCM inaudible

Table 3 SCM Noise Monitoring Results – 19 May 2011 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	8:24 pm	34	0.3m/s S	Birds (30), SCM (29) , traffic (28)
Ferndale	9:05 pm	32	Calm	SCM (32) , insects (23)
Plain View	7:58 pm	35	0.8m/s S	Traffic (33), insects (30), SCM (<25)
Lilydale	7:40 pm	26	0.8m/s S	Insects (26), SCM inaudible

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) Leq (15 min) at any monitoring location at any time. Data for the 15 minute Leq noise levels were analysed using the “Evaluator” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah. The transport of coal is on a campaign type basis. There was no coal transport carried out on 19 or 20 May, 2011.

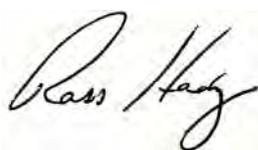
We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

Review:



Ross Hodge



Neil Pennington

Acoustical Consultant

Acoustical Consultant

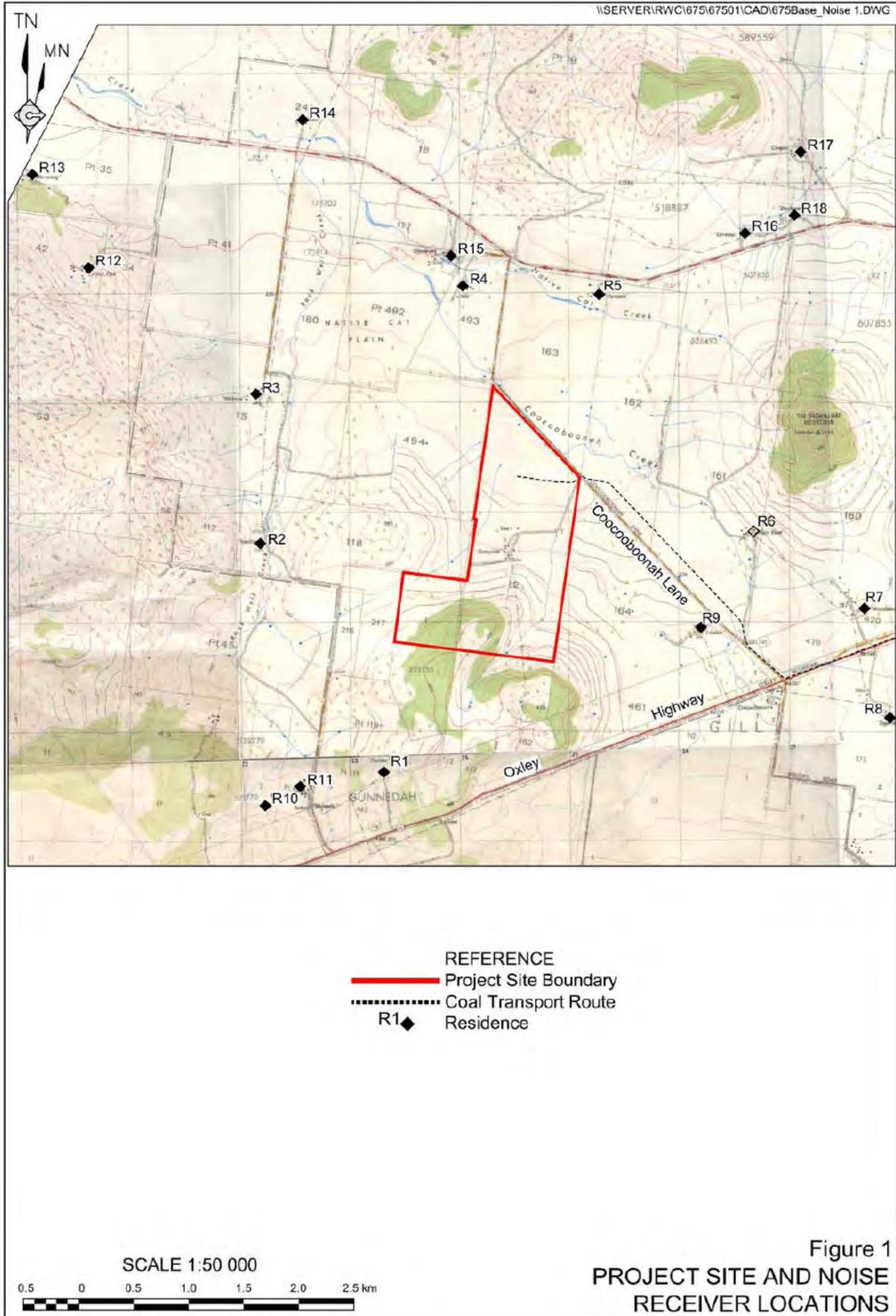


Figure Prepared by R.W. Corkery & Co. Pty Ltd



20 May 2011

Ref: 06248/3980

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: MAY ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENDDOWER”

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” property on behalf of Sunnyside Coal Mine (SCM) on Thursday 19th May 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- *To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

The noise measurement location for the attended noise survey is listed below (and shown in the attached figure):

Location R15: Glendower

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 19th May, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L_1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the background level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 19 May 2011 - Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
19 May	4:38 pm	46	1.2m/s S	Birds & insects (45), traffic (38), SCM (31)
19 May	8:44 pm	33	Calm	SCM (31) , traffic (26), birds (26)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

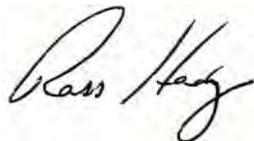
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Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

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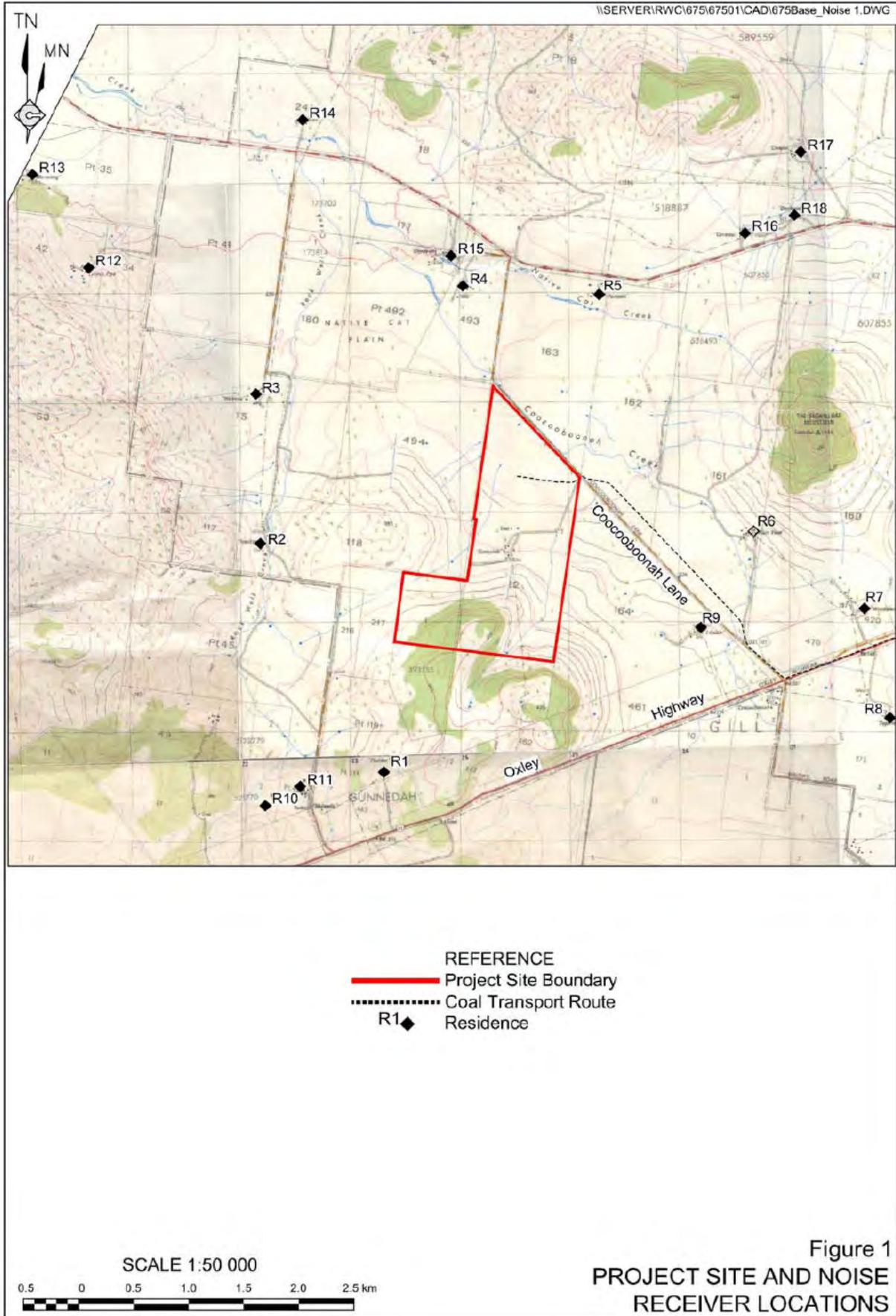


Figure Prepared by R.W. Corkery & Co. Pty Ltd



August 5 2011

Ref: 06248/4069

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: AUGUST 2011 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Thursday 4th and Friday 5th August 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
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Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- *To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1 \text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe ¹
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

¹ Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Mine noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 4th August, 2011. Traffic noise monitoring was undertaken during the morning of 5th August.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the

mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply. Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the background level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 4 August 2011 (Day)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	3:35 pm	37	0.5m/s SE	Birds (37), traffic (39), SCM (25)
Ferndale	4:17 pm	45	1m/s SE	Traffic (45), birds (35), SCM (<20)
Plain View	3:13 pm	33	1m/s SE	Birds (32), SCM (25)
Lilydale	2:55 pm	54	2m/s SE	Birds (54), SCM (30)

Table 3 SCM Noise Monitoring Results – 4 August 2011 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	8:23 pm	29	0.4m/s SE	SCM (29)
Ferndale	9:02 pm	30	1.2m/s S	SCM (30)
Plain View	8:00 pm	42	0.5m/s SE	Plane (40), SCM (37) , traffic (30)
Lilydale	7:38 pm	39	0.5m/s SE	Traffic (36), SCM (36)

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM exceeded the noise criterion of 35 dB(A) Leq (15 min) at the Plain View and Lilydale monitoring locations during the evening. Lilydale is now a mine owned residence.

The mine noise at both Lilydale and Plain View consisted of haul truck engine revs, dozer engine and track noise and general mine hum. Lights from mining activities were visible from both monitoring locations.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The monitoring was carried out over a one hour period from 8.05 am on Friday 5th August. A total of 8 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 4 full and 4 empty coal haulage trucks entering and leaving the CPP site.

The measured Leq noise level from all vehicles on Torrens Lane was of **51.6 dB(A) Leq (1 hour)**. This is in compliance with the noise criterion for a local road of 55 dB(A) Leq (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

Author:

Review:



Ross Hodge
Acoustical Consultant



Neil Pennington
Acoustical Consultant

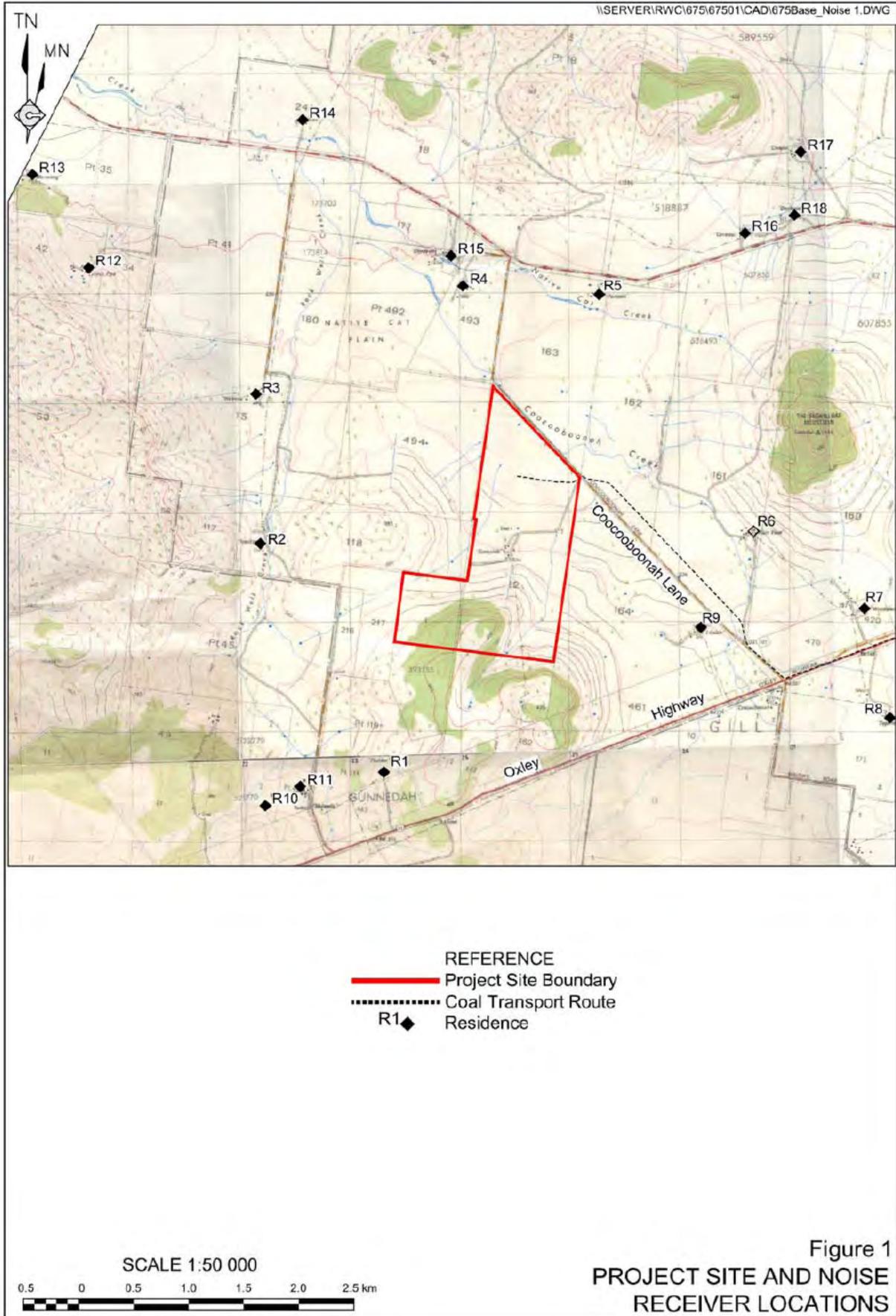


Figure Prepared by R.W. Corkery & Co. Pty Ltd



5 August 2011

Ref: 06248/4070

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: AUGUST ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENOWER”

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” property on behalf of Sunnyside Coal Mine (SCM) on Thursday 4th August, 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

The noise measurement location for the attended noise survey is listed below (and shown in the attached figure):

Location R15: Glendower

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 4th August, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L_1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the background level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 4 August 2011 - Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
4 August	3:55 pm	42	0.6m/s SE	Birds (42), traffic (30), SCM (<20)
4 August	8:41 pm	28	Calm	Dog (27), SCM (22)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

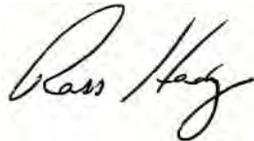
Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

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

Author:



Ross Hodge
Acoustical Consultant

Review:



Neil Pennington
Acoustical Consultant

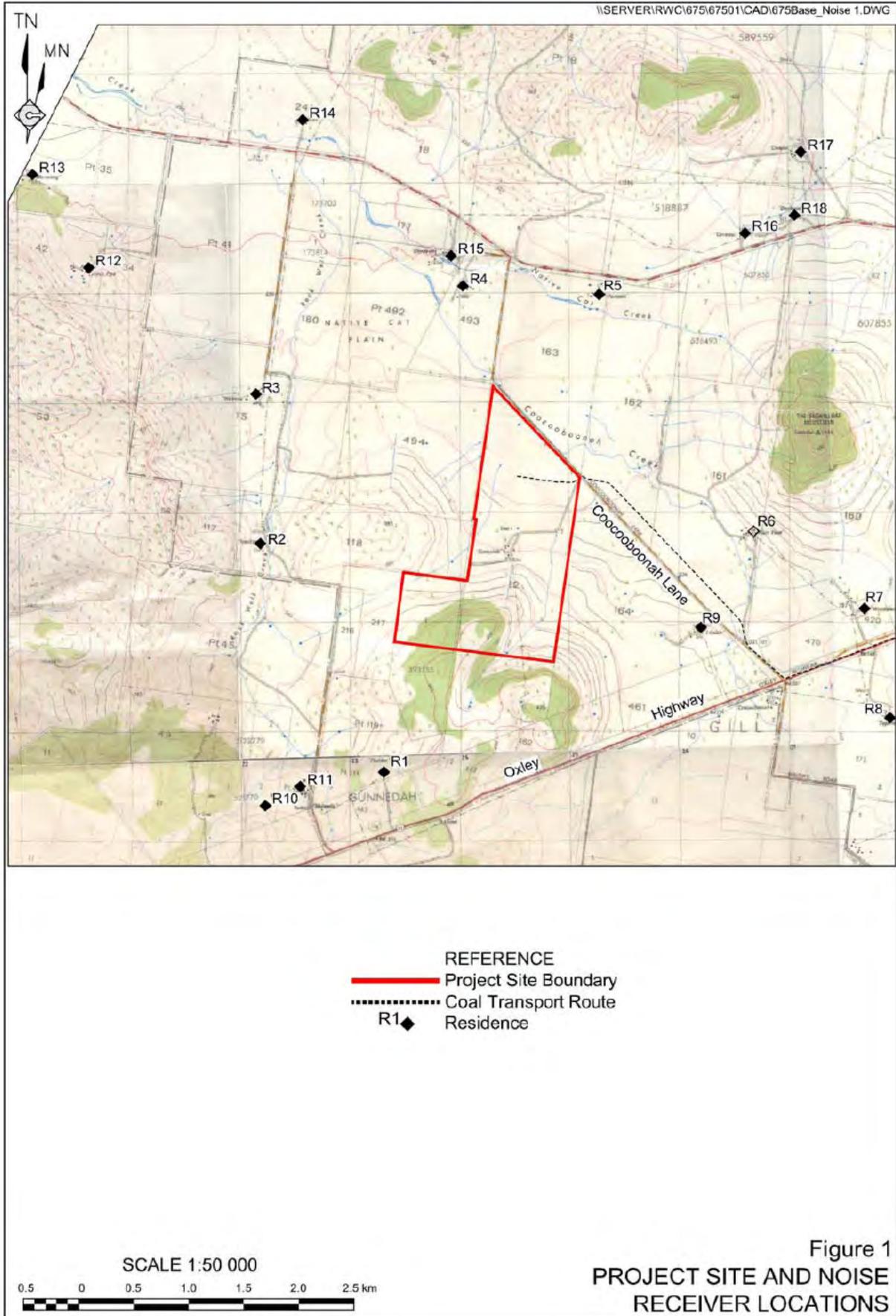


Figure 1
PROJECT SITE AND NOISE
RECEIVER LOCATIONS

Figure Prepared by R.W. Corkery & Co. Pty Ltd





November 9 2011

Ref: 06248/4177

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: NOVEMBER 2011 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Monday 7th November 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe ¹
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

¹ Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Mine noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 7th November, 2011. Traffic noise monitoring was undertaken during the afternoon of 7th November.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the

mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply. Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the ambient level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 7 November 2011 (Day)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:00 pm	37	2m/s NW	Birds (37), SCM inaudible
Ferndale	4:38 pm	39	2.5m/s NW	Birds & insects (37), SCM inaudible
Plain View	3:43 pm	39	2m/s NW	Birds & insects (36), traffic (36), SCM (25)
Lilydale	3:25 pm	43	2m/s NW	Traffic (41), SCM (34) , birds & insects (33)

Table 3 SCM Noise Monitoring Results – 7 November 2011 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	7:39 pm	44	0.5m/s NW	Birds & insects (44), SCM inaudible
Ferndale	7:21 pm	46	0.5m/s NW	Birds & sheep (46), SCM inaudible
Plain View	8:02 pm	45	0.5m/s NW	Birds & insects (45), SCM (25)
Lilydale	8:19 pm	41	0.5m/s NW	Birds & insects (39), traffic (38), SCM (30)

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) Leq (15 min) at any monitoring location at any time.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the yard at “Roslyn” on Torrens Lane, at the same distance from the road as the façade of the residence. The monitoring was carried out over a one hour period from 5.00 pm on Monday 7th November.

A total of 6 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 4 full and 1 empty coal haulage trucks entering and leaving the CPP site and 1 fuel truck leaving the site.

The measured Leq noise level from all vehicles on Torrens Lane was of **50.7 dB(A) Leq (1 hour)**. This is in compliance with the noise criterion for a local road of 55 dB(A) Leq (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

Author:

Review:



Ross Hodge
Acoustical Consultant



Neil Pennington
Acoustical Consultant

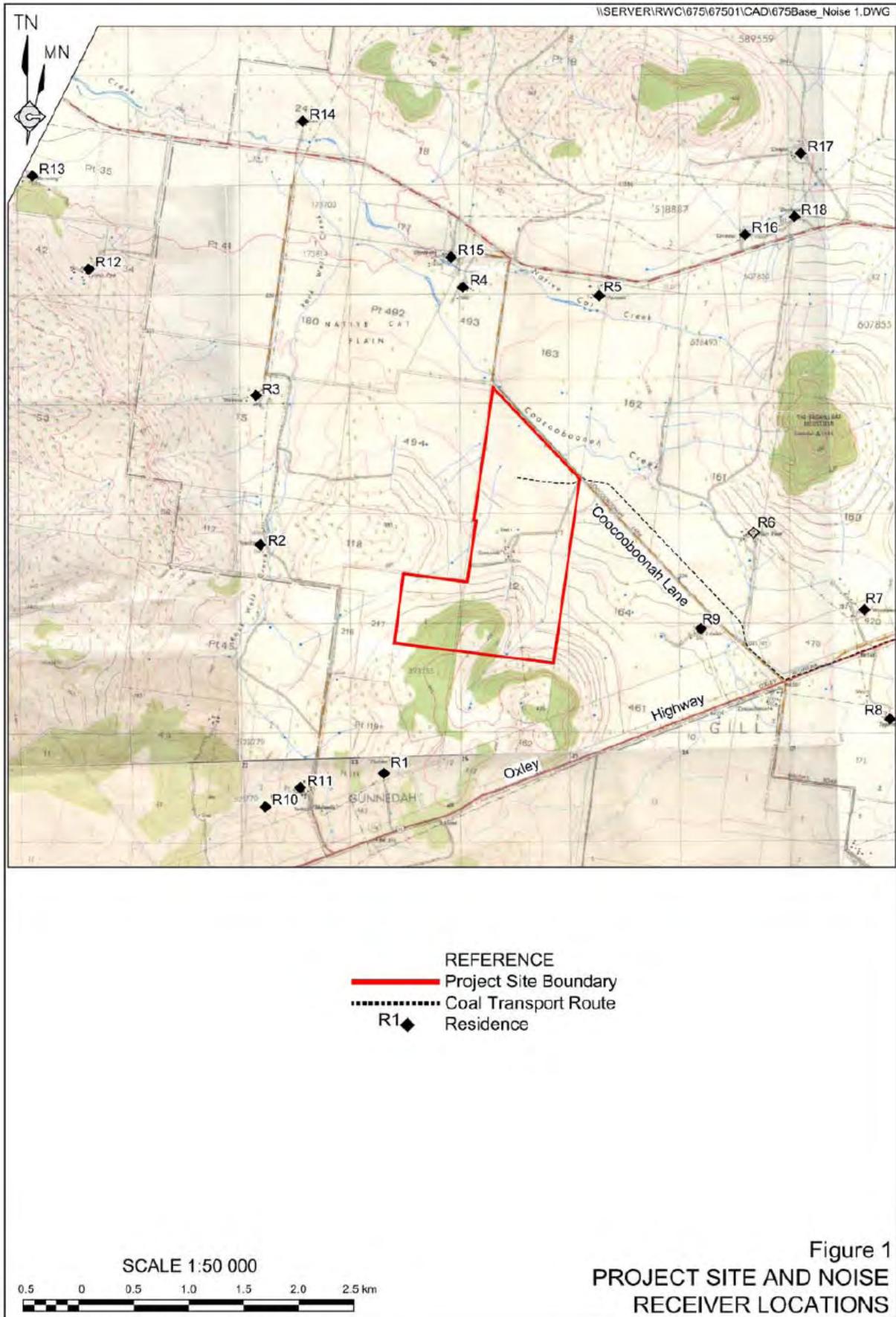


Figure 1
PROJECT SITE AND NOISE
RECEIVER LOCATIONS

Figure Prepared by R.W. Corkery & Co. Pty Ltd





5 August 2011

Ref: 06248/4178

Mr Danny Young
Whitehaven Coal Pty Ltd
PO Box 600
GUNNEDAH NSW 2380

RE: NOVEMBER ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENOWER”

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” property on behalf of Sunnyside Coal Mine (SCM) on Monday 7th November, 2011. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

Impact Assessment Criteria

7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- *To determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the $L_{A1(1\text{ minute})}$ noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

NOISE MONITORING LOCATIONS

The noise measurement location for the attended noise survey is listed below (and shown in the attached figure):

Location R15: Glendower

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the afternoon and one during the evening of 7th November, 2011.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the L_{eq} (15 min), L_{max} , L_1 , L_{10} , L_{90} and L_{min} percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A) L_{eq} (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute L_{eq} noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L_1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the background level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 7 November 2011 - Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
7 November	4:17 pm	41	2m/s NW	Birds (41), traffic (31), SCM inaudible
7 November	8:47 pm	37	0.5m/s NW	Insects (37), SCM inaudible

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

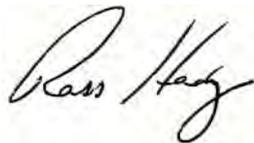
Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

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

Author:



Ross Hodge
Acoustical Consultant

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Neil Pennington
Acoustical Consultant

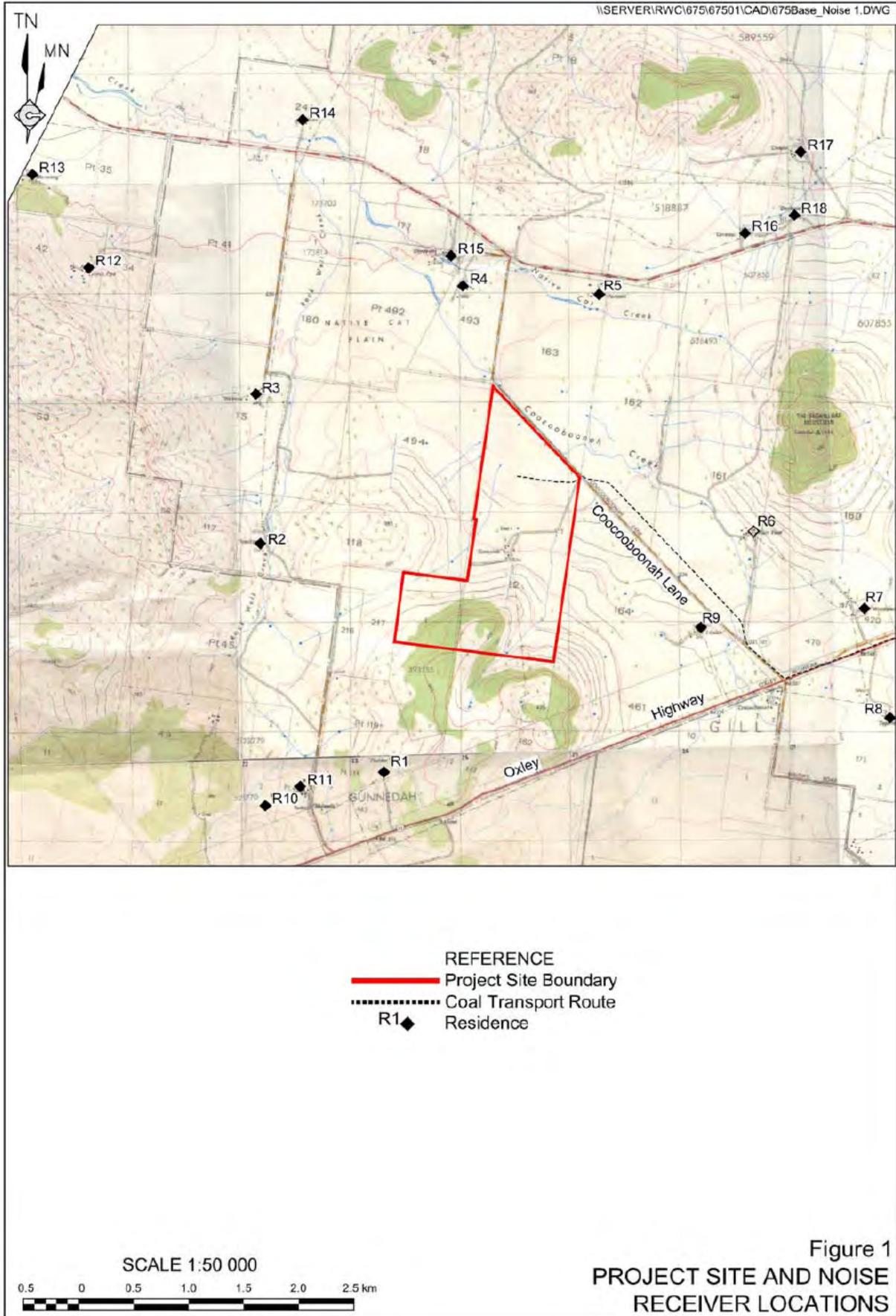


Figure Prepared by R.W. Corkery & Co. Pty Ltd