

## **Maules Creek Community Council**

# Maules Creek Coal Mine Peer Review of EIS Noise Impact Assessment



Report No. 70Q-11-0312-TRP-511557-0

5 Oct 2011

## DOCUMENT CONTROL

<b>Maules Creek Coal Mine</b> <b>Peer Review of EIS Noise Impact Assessment</b>		
<b>REPORT NO:</b> 70Q-11-0312-TRP-511557-0		
<b>PREPARED FOR:</b> Maules Creek Community Council "Middle Creek" 302 Middle Creek Road Boggabri NSW 2382	<b>PREPARED BY:</b> Vipac Engineers & Scientists Ltd Level 2, 146 Leichhardt Street Spring Hill, QLD, 4000 AUSTRALIA e: <a href="mailto:brisbane@vipac.com.au">brisbane@vipac.com.au</a> t: +61 7 3377 0400 f: +61 7 3377 0499	
<b>Contact:</b> Phil Laird Phone: 0428 712 622		
<b>AUTHOR:</b>		
	James Conomos	Date: 5 Oct 2011
	Consulting Engineer	
<b>REVIEWED BY:</b>		
	Martin Wilson	Date: 5 Oct 2011
	Reviewing Engineer	
<b>ISSUED BY:</b>		
	Martin Wilson	Date: 5 Oct 2011
	QA Representative	
<b>REVISION HISTORY:</b>		
<b>Revision No.</b>	<b>Date Issued:</b>	<b>Reason/Comments:</b>
0	5 Oct 2011	Initial Issue
<b>DISTRIBUTION:</b>		
<b>Copy No.</b> <u>2</u>	<b>Location</b>	
1	Project	
2	Client (PDF Format)	Uncontrolled Copy

NOTE: This is a controlled document within the document control system. If revised, it must be marked SUPERSEDED and returned to the VIPAC QA Representative.

## TABLE OF CONTENTS

<b>1. INTRODUCTION .....</b>	<b>4</b>
<b>2. SUMMARY OF COMMENTS ON THE REPORT .....</b>	<b>4</b>
<b>3. COMPLIANCE OF RESULTS PRESENTED IN THE REPORT .....</b>	<b>4</b>
<b>4. ANALYSIS OF MODELLING INFORMATION .....</b>	<b>5</b>
<b>4.1 NOISE SOURCE LOCATIONS .....</b>	<b>5</b>
<b>4.2 NOISE SOURCE DEFINITION .....</b>	<b>5</b>
<b>4.3 NOISE MODELLING OUTPUT.....</b>	<b>6</b>
<b>5. CONCLUSION.....</b>	<b>6</b>

## 1. INTRODUCTION

The Maules Creek Community Council requested Vipac Engineers & Scientists Ltd (Vipac) conduct a Peer Review of the Noise Impact Assessment report "*Aston Resources Pty Limited, Acoustics Impact Assessment, Maules Creek Coal Project Environmental Assessment Report J0130-41-R3, 4<sup>th</sup> July 2011*" by Bridges Acoustics. This report was included as part of the Maules Creek Mine Environmental Impact Statement (EIS) in 2011.

Vipac has reviewed the report with particular attention to the modelling inputs (where available) and requires further clarification of the items raised within this document before the extent of the noise impact can be further evaluated.

## 2. SUMMARY OF COMMENTS ON THE REPORT

In general the report is well written. We have identified the following issues with the report which should be addressed to determine if the assessment is valid.

1. Noise source definitions lacked detail of important parameters
2. Noise source sound powers generally seem lower than might be expected of standard equipment. This is especially the case of the crushing plant.
3. Exceedance of the noise criteria is predicted yet no solution is presented.

Without knowing any other information, the mines proximity to noise sensitive receivers and the type of equipment being used in the mining process suggests that exceedances of the noise criteria is possible. As such a noise impact assessment should show the information that is known to be important to noise propagation so that compliance can be seen to be plausible in the report.

## 3. COMPLIANCE OF RESULTS PRESENTED IN THE REPORT

The NIA reports the following outcomes and conclusions:

The NIA indicates that small to large noise criteria exceedances will occur (particularly during the night period) at a number of residences and properties, based on the current noise modelling data.

A significant noise impact of more than 5 dB(A) above the noise criteria is predicted at four residences (ID 126, 118, 61 and 256) and eight additional properties (Lots 123-124, 132-140, 141-148, 149-155, 120, 110-114, 240 and 254-255).

The project is also predicted to be responsible for noise criteria exceedances of less than 5 dB(A) at a further five residences and thirteen additional properties.

The NIA offers no solution to the noise exceedances, and states that no further noise control measures would be considered by Aston Resources, the proponent.

These comments suggest the mine is non-compliant with a criteria which defines an acceptable noise environment.

## 4. ANALYSIS OF MODELLING INFORMATION

### 4.1 NOISE SOURCE LOCATIONS

The locations of the noise sources in the noise model has not been provided. The locations are required to determine whether reasonable assumptions have been made in regards to the worst-case' positioning of equipment and machinery.

Further information about the location of the equipment and machinery used in the noise model is required.

### 4.2 NOISE SOURCE DEFINITION

1. The NIA states that the noise sources in the model have been modified for tonality and impulsiveness, and low frequency content. Evidence of which noise sources have been modified was not provided, nor was the one-third octave band data so that such an assessment could be made.

A list of the noise sources which have been modified for tonality or impulsiveness or both and/or low frequency noise content is required.

2. Table 7 of the NIA provides the modelled Noise Sources and Sound Power Levels, including reductions due to Noise Control Measures (presented in Section 4.3 of the NIA). The NIA states that the Sound Power Levels in Table 7 have been derived from Manufacturer's data and noise measurements from existing coal mines.

Of particular concern is the Primary and the Secondary Sizers (Crushers). Vipac believes that the sound power levels for these noise sources are grossly understated by up to 15 dB(A). An increase in source Sound Power Level of 15 dB(A) could significantly increase the noise exceedance at some residences already affected by the project, and create further noise exceedances at residences currently predicted to be unaffected by the project.

It should also be noted that these noise sources have not been mentioned in Section 4.3 of the NIA, and therefore do not include noise control measures. Even if noise control measures were adopted, Vipac expects that such a low Sound Power Level is unachievable.

Manufacturer's data or noise measurement data (including Mine location) of Primary and Secondary crushers with Sound Power Levels presented in Table 7 of the NIA is to be provided by Bridges Acoustics for review.

3. The height of each noise source is a significant factor in noise propagation, and is therefore important in determining the validity of a noise model. This data is not provided in the NIA.

Noise source heights used in the noise model are required for review.

### 4.3 NOISE MODELLING OUTPUT

The NIA does not provide Noise Source Contributions at affected residences. Therefore, the potential impact of an increase in Sound Power Level of the Primary and Secondary Sizers and other plant (see Section 3 of this document) cannot be determined.

The noise source contribution at each affected residence is required for review.

## 5. CONCLUSION

At this stage Vipac cannot comment on the plausibility of the results of the noise impact assessment as there is insufficient information presented in the report to do so. While some sound power values seem understated, without the noise contribution these and other sources make to receivers, it is not possible to determine the impact this would have on the overall received noise level at receivers.

As a worst case scenario, if the crushers were a major noise source and they were understated by 10dB(A) or more, then noise sensitive receivers could see overall noise levels much higher than those indicated.

The uncertainties highlighted in this peer review need to be addressed before a conclusive review can be produced.

The issue of the noise criteria exceedances (which the NIA states will not be further reduced by the proponent) still needs to be addressed. The NIA offers no solution that would result in acceptable noise levels at some nine residences and 21 additional properties.

In summary, the currently predicted noise impact of the mine, and uncertainty in the NIA are of some concern.