



Adelaide Brighton Cement Ltd

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ANNUAL NOISE MANAGEMENT REPORT FOR ANGASTON WORKS

COMPLIANCE DATE: 31/10/2020 – Annual Report - 2020 EPA Licence 35: Noise Prevention (S-265)

Licensed site: Adelaide Brighton Cement, Angaston Works
845 Stockwell Road, Angaston SA 5353

Date of Submission: 31 October 2020

Version Number: 1

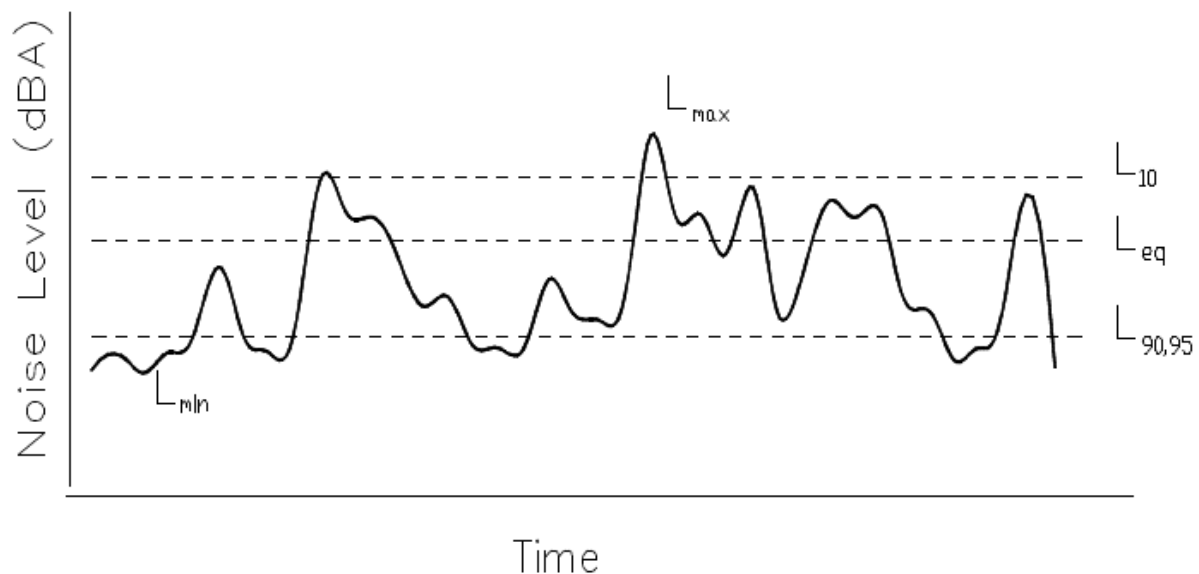


Report Submitted by: Sustainability / Environmental Engineer

I certify that to the best of my knowledge and ability all the information in this report is a true and accurate reflection of the regulatory monitoring performed.

Glossary of acoustic terminology

dB(A)	A unit of measurement, decibels(A), of sound pressure level which has its frequency characteristics modified by a filter ("A-weighted") so as to more closely approximate the frequency response of the human ear.
L₁	The noise level which is equalled or exceeded for 1% of the measurement period. L ₁ is an indicator of the impulse noise level, and is used in Australia as the descriptor for intrusive noise (usually in dBA).
L₁₀	The noise level which is equalled or exceeded for 10% of the measurement period. L ₁₀ is an indicator of the mean maximum noise level, and is used in Australia as the descriptor for intrusive noise (usually in dBA).
L₉₀	The noise level which is equalled or exceeded for 90% of the measurement period. L ₉₀ is an indicator of the mean minimum noise level, and is used in Australia as the descriptor for background or ambient noise (usually in dBA).
L_{eq}	The equivalent continuous noise level for the measurement period. L _{eq} is an indicator of the average noise level (usually in dBA).
L_{max}	The maximum noise level for the measurement period (usually in dBA).



Note: *The subjective reaction or response to changes in noise levels can be summarised as follows:*

A 3 dB(A) increase in sound pressure level is required for the average human ear to notice a change; a 5 dB(A) increase is quite noticeable and a 10 dB(A) increase is typically perceived as a doubling in loudness

Monitoring Objective	<p>Annual reports will include where applicable:</p> <ul style="list-style-type: none"> • Details of noise complaints (excluding complainant name and identifying address details for reasons of confidentiality), received during the year, including outcomes of the complaint investigation and where applicable corrective actions implemented • Details of noise attenuation projects including effectiveness • Details of noise monitoring reports • Details of other noise minimisation activities • Assessment of the effectiveness of this noise management plan 																																																														
Monitoring Plan	<p>This monitoring report complies with the Noise Management Plan approved on 25 October 2019 by the SA EPA.</p> <p>The Plan is available on the ABC Angaston Community Website: https://www.angastoncommunity.com.au/</p>																																																														
Noise complaints for 2018 & 2019	<p>Details of noise complaints for the reporting period (1/10/2019 – 30/9/2020) are summarised in the table below:</p> <table border="1" data-bbox="320 846 1497 1223"> <thead> <tr> <th>Date and Time</th> <th>Location</th> <th>Description</th> <th>Action taken</th> </tr> </thead> <tbody> <tr> <td>26/10/2019 19:45</td> <td>Stockwell Road, Site entrance</td> <td>Intermittent squeaking noise coming from the plant for a couple of weeks</td> <td>Site investigation found M25 noduliser returns screw squeaking intermittently from the 2nd hanger bearing. Greased all hanger bearings and squeaking stopped. Automatic grease lubrication changed.</td> </tr> <tr> <td>9/11/2019 21:09</td> <td>Stockwell Road, Site entrance</td> <td>Squeaking noise coming from the plant.</td> <td>Investigation identified the noise source was from the hydrated lime bulk bag filling screw, during bulk bag filling. Immediately stopped filling bulk bags. Repaired filling screw. Automatic grease lubrication installed.</td> </tr> </tbody> </table> <p>Complaints for the last two years are shown in the graph below, which show complaints over the last two years remain at a consistently low level.</p> <div data-bbox="320 1379 1506 1973"> <p style="text-align: center;">Angaston Noise Complaints 2018 - 2020</p> <table border="1"> <caption>Angaston Noise Complaints 2018 - 2020</caption> <thead> <tr> <th>Month</th> <th>Number of Complaints</th> </tr> </thead> <tbody> <tr><td>Oct-18</td><td>0</td></tr> <tr><td>Nov-18</td><td>0</td></tr> <tr><td>Dec-18</td><td>0</td></tr> <tr><td>Jan-19</td><td>0</td></tr> <tr><td>Feb-19</td><td>0</td></tr> <tr><td>Mar-19</td><td>0</td></tr> <tr><td>Apr-19</td><td>0</td></tr> <tr><td>May-19</td><td>0</td></tr> <tr><td>Jun-19</td><td>1</td></tr> <tr><td>Jul-19</td><td>0</td></tr> <tr><td>Aug-19</td><td>1</td></tr> <tr><td>Sep-19</td><td>0</td></tr> <tr><td>Oct-19</td><td>1</td></tr> <tr><td>Nov-19</td><td>1</td></tr> <tr><td>Dec-19</td><td>0</td></tr> <tr><td>Jan-20</td><td>0</td></tr> <tr><td>Feb-20</td><td>0</td></tr> <tr><td>Mar-20</td><td>0</td></tr> <tr><td>Apr-20</td><td>0</td></tr> <tr><td>May-20</td><td>0</td></tr> <tr><td>Jun-20</td><td>0</td></tr> <tr><td>Jul-20</td><td>0</td></tr> <tr><td>Aug-20</td><td>0</td></tr> <tr><td>Sep-20</td><td>0</td></tr> </tbody> </table> </div>	Date and Time	Location	Description	Action taken	26/10/2019 19:45	Stockwell Road, Site entrance	Intermittent squeaking noise coming from the plant for a couple of weeks	Site investigation found M25 noduliser returns screw squeaking intermittently from the 2nd hanger bearing. Greased all hanger bearings and squeaking stopped. Automatic grease lubrication changed.	9/11/2019 21:09	Stockwell Road, Site entrance	Squeaking noise coming from the plant.	Investigation identified the noise source was from the hydrated lime bulk bag filling screw, during bulk bag filling. Immediately stopped filling bulk bags. Repaired filling screw. Automatic grease lubrication installed.	Month	Number of Complaints	Oct-18	0	Nov-18	0	Dec-18	0	Jan-19	0	Feb-19	0	Mar-19	0	Apr-19	0	May-19	0	Jun-19	1	Jul-19	0	Aug-19	1	Sep-19	0	Oct-19	1	Nov-19	1	Dec-19	0	Jan-20	0	Feb-20	0	Mar-20	0	Apr-20	0	May-20	0	Jun-20	0	Jul-20	0	Aug-20	0	Sep-20	0
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Noise Monitoring Reports

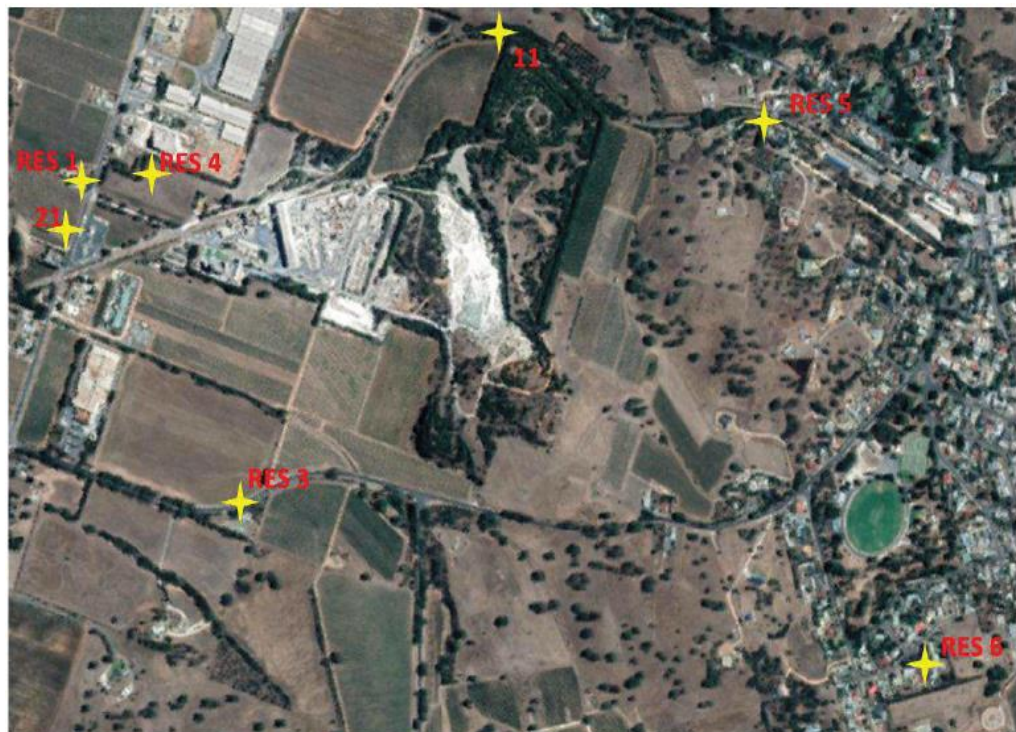
Vipac Acoustic Engineers & Scientists conducted noise monitoring in May 2019. The Vipac “Angaston Attended Noise Survey”, May 2019, 50B-19-0135-TRP89506421-1, 20 June 2019 report is summarised below

Site Noise Criteria

Noise from the activities undertaken at the ABC Angaston site is subject to the provisions of the Environment Protection (Noise) Policy 2007 (Noise EPP). The Noise EPP outlines Noise Goals which provide one method for demonstrating compliance with the General Environmental Duty under Section 25 of the Environment Protection Act 1993 (the Act).

ABC uses acoustic engineers, Vipac, to undertake attended noise monitoring surveys in the community to gain an understanding of how noise from the site impacts the community. Attended measurements have been conducted during the day-time and night-time periods (as defined by the Noise EPP), and defined measurement positions have been established allowing for trends in noise levels at each location to be established over time.

Location of attended noise measurement locations



The following Indicative Noise Levels (INLs) apply to ABC's operations:

Zoning	Receivers	Indicative Noise Levels (Leq, dB(A))	
		Day-time (7am to 10pm)	Night-time (10pm to 7am)
Primary Production (Barossa Valley Region) zone	Resident 1	60	52
Mineral Extraction Zone	Location #11	64	55
Primary Production zone	Resident 21	60	52
Rural (Landscape Protection) zone	Resident 3	60	52
Industry (Barossa Valley Region) zone	Resident 4	62	54
Rural Living zone	Resident 5	55	47
Residential zone	Resident 6	52	45

Noise monitoring was undertaken by Vipac, in May 2019.

The noise results for the daytime and night time monitoring periods are shown in tables 1 and 2 below.

Table 1: Day-Time Environmental Noise Survey Results

Receiver Location	Measured Noise Levels dB(A)		Comments	Assessment Criterion (Day-Time) dB(A)	Compliance
	L _{Aeq}	L _{A90}			
Resident 1	48	45	<ul style="list-style-type: none"> - Minor influence due to traffic movements - Plant audible - No tones detected 	60	<i>Complies</i>
Resident 3	68	48	<ul style="list-style-type: none"> - Very high traffic volumes observed, which influenced the measurements, as seen in the L_{Aeq} and L_{A90} measurements - Vipac considers L_{A90} to be an appropriate descriptor of noise from ABC plant, due to traffic noise influence - No tones detected 	60	<i>Complies</i>
Resident 4	48	42	<ul style="list-style-type: none"> - Traffic noise influenced the measurements, as seen in the L_{Aeq} and L_{A90} measurements - Plant audible - No tones detected 	62	<i>Complies</i>
Resident 5	42	38	<ul style="list-style-type: none"> - Minimum traffic noise influence - Dog barking at nearby property - Plant not audible - No tones detected 	55	<i>Complies</i>
Resident 6	41	33	<ul style="list-style-type: none"> - Noise from the event taking place in the nearby Oval influenced the measurements - No traffic noise influence - Plant not audible - No tones detected 	52	<i>Complies</i>
#11	43	39	<ul style="list-style-type: none"> - Traffic noise influence from nearby roads - Plant not audible - No tones detected 	64	<i>Complies</i>
#21	58	49	<ul style="list-style-type: none"> - Traffic noise influenced the measurements, as seen in the L_{Aeq} and L_{A90} measurements - Plant audible - No tones detected 	60	<i>Complies</i>

Note the noise levels at locations, Resident 3, 21, were affected due to traffic movements and the L_{A90} descriptor is more appropriate to measure noise influence from the Angaston site

Table 2: Night-Time Environmental Noise Survey Results

Receiver Location	Measured Noise Levels dB(A)		Comments	Assessment Criterion (Night-Time) dB(A)	Compliance
	L _{Aeq}	L _{A90}			
Resident 1	47	44	<ul style="list-style-type: none"> - Minor influence due to traffic movements - Plant audible (noise possibly from CM4 fan) - Noise influence from APA Compressor Plant - No tones detected 	52	<i>Complies</i>
Resident 3	45	42	<ul style="list-style-type: none"> - Minor influence due to traffic movements - ABC plant audible - Major noise influence from CAPRAL plant - No tones detected 	52	<i>Complies</i>
Resident 4	47	45	<ul style="list-style-type: none"> - Plant audible (noise possibly from CM4 fan) - No tones detected 	54	<i>Complies</i>
Resident 5	37	31	<ul style="list-style-type: none"> - Plant not audible - No tones detected 	47	<i>Complies</i>
Resident 6	38	35	<ul style="list-style-type: none"> - No tones detected - Plant faintly audible 	45	<i>Complies</i>
#11	38	27	<ul style="list-style-type: none"> - No tones detected - Plant faintly audible 	55	<i>Complies</i>
#21	48	44	<ul style="list-style-type: none"> - ABC plant audible - Major noise influence from CAPRAL plant and minor influence APA Compressor Station - No tones detected 	52	<i>Complies</i>

Summary of Results:

The monitoring results confirm that noise levels from the site operations comply with the indicative noise levels for day-time and night-time periods for all receivers.

Noise Abatement Projects

No noise abatement projects have been identified as noise measurements confirm, noise levels from the site comply with the day-time and night-time criterion applicable under the Noise EPP, for all noise sensitive receivers.

There have been no community noise complaints that require the implementation of noise abatement projects.

Noise Minimisation Activities

ABC developed a Noise Management Plan for the Angaston site, which was approved on 25 October 2019 by the SA EPA.

The plan outlines how ABC assesses and manages the impacts of noise generated at the Angaston site, with the aim of ensuring that

- Noise impacts are considered as part of routine operations
- Noise emissions are controlled at source by good operational practices, physical and management controls
- Appropriate, reasonable and practicable measures are taken to reduce noise emissions from the site and the impact on nearby receptors in the local community

	<p>Ongoing daily management of operational activities to minimise the impact of noise emissions on sensitive receptors includes:</p> <ul style="list-style-type: none"> • Maintenance of plant and equipment to minimise unnecessary noise emissions • Employees and contractors are aware of site noise requirements and their responsibilities to take action to minimise and prevent noise complaints • Ensuring that potential noise impacts are assessed and mitigated when plant modification and equipment changes are made • Investigation of noise complaints and implementation of corrective/preventative action
<p>Plan Effectiveness</p>	<ul style="list-style-type: none"> • Noise complaints have remained at a consistently low level over last two years • Noise levels comply with the day-time and night-time criterion applicable under the Noise EPP, for all noise sensitive receivers. • The continuous improvement approach to managing noise emissions embodied in the Noise Management Plan is effective.