



Adelaide Brighton Cement Ltd

ABN 96 007 870 199

QUARTERLY NOISE MANAGEMENT REPORT FOR BIRKENHEAD WORKS

COMPLIANCE DATE: 14/05/20 – Quarter 1 2020 EPA Licence 1126: Noise Management Plan (U-787)

Licensed site: Adelaide Brighton Cement, Birkenhead Works

62 Elder Road, Birkenhead, SA 5015

Date of Submission: 30 April 2020

Version Number: 1

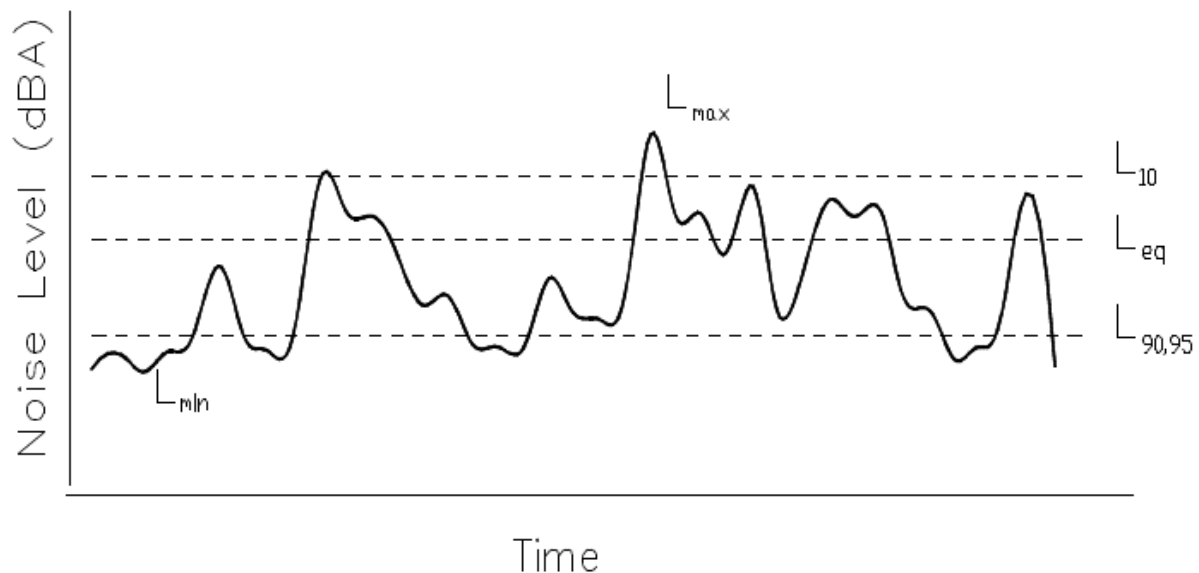


Report Submitted by: Environmental Engineer

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. L₁ 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. L₁₀ 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. L₉₀ 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>The quarterly report 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 quarter including the outcomes of the complaint investigation and where applicable, corrective actions implemented. • Details on the progress of noise attenuation projects including effectiveness. • Details of noise monitoring reports. • Details of noise minimisation activities. 																												
Monitoring Plan	<p>This monitoring report complies with the Noise Management Plan approved on 16 August 2018 by the SA EPA.</p> <p>The Plan is available on the ABC Birkenhead Community Website: http://www.birkenheadcommunity.com.au</p>																												
Noise Complaints Summary	<table border="1"> <thead> <tr> <th data-bbox="284 607 459 707">Date and Time</th> <th data-bbox="464 607 647 707">Location</th> <th data-bbox="652 607 935 707">Description</th> <th data-bbox="940 607 1498 707">Action Taken</th> </tr> </thead> <tbody> <tr> <td data-bbox="284 714 459 1028">6/01/2020 10:30 PM</td> <td data-bbox="464 714 647 1028">Baker Street</td> <td data-bbox="652 714 935 1028">Banging noise</td> <td data-bbox="940 714 1498 1028">Resident unsure of date of complaint (between 3 to 6/1/20) – delay in complaint notification, due to 24 hr community hot line outage from am on 6/1. Annual Kiln shutdown activity had not started Most likely cause raw material delivery - truck slamming tailgate. Reinforced with truck drivers - not to slam tail gates on truck load discharge.</td> </tr> <tr> <td data-bbox="284 1034 459 1207">6/01/2020 05:11 AM</td> <td data-bbox="464 1034 647 1207">Alfred Street</td> <td data-bbox="652 1034 935 1207">Beeping noise</td> <td data-bbox="940 1034 1498 1207">Source was identified to be from an emergency hire Front End Loader (FEL), reversing alarm. The FEL was not fitted with a white noise reversing alarm (beeper). The FEL was de hired on the 6/1/2020.</td> </tr> <tr> <td data-bbox="284 1214 459 1498">17/01/2020 04:00 AM</td> <td data-bbox="464 1214 647 1498">Baker Street</td> <td data-bbox="652 1214 935 1498">Loud banging noise, metal on metal - from high up in tower</td> <td data-bbox="940 1214 1498 1498">Most likely related to Kiln Shutdown activity - was a brief hammering incident. ABC practice is to minimise as far as reasonably practicable, noisy activities after 10 pm in the tower. This requirement was reinforced with contractors at team briefs and periodic checks by Shift Supervisors during the shutdown.</td> </tr> <tr> <td data-bbox="284 1505 459 1576">3/02/2020 19:44 PM</td> <td data-bbox="464 1505 647 1576">Alfred Street</td> <td data-bbox="652 1505 935 1576">Continuous high-pitched noise</td> <td data-bbox="940 1505 1498 1576">Identified a compressed air leak from fittings at the top of CM6 - leak rectified.</td> </tr> <tr> <td data-bbox="284 1583 459 1718">29/02/2020 14:31 PM</td> <td data-bbox="464 1583 647 1718">Anonymous</td> <td data-bbox="652 1583 935 1718">Ringing noise from machines not normal sound, from Victoria Street.</td> <td data-bbox="940 1583 1498 1718">Not sure what the noise source was Unable to call back - no details left</td> </tr> <tr> <td data-bbox="284 1724 459 1897">1/03/2020 11:30 AM</td> <td data-bbox="464 1724 647 1897">Alfred Street</td> <td data-bbox="652 1724 935 1897">"Tinny noise"</td> <td data-bbox="940 1724 1498 1897">May have been associated with an air leak from a drag chain hatch on 4B transport group? Leak sealed - no further complaints.</td> </tr> </tbody> </table>	Date and Time	Location	Description	Action Taken	6/01/2020 10:30 PM	Baker Street	Banging noise	Resident unsure of date of complaint (between 3 to 6/1/20) – delay in complaint notification, due to 24 hr community hot line outage from am on 6/1. Annual Kiln shutdown activity had not started Most likely cause raw material delivery - truck slamming tailgate. Reinforced with truck drivers - not to slam tail gates on truck load discharge.	6/01/2020 05:11 AM	Alfred Street	Beeping noise	Source was identified to be from an emergency hire Front End Loader (FEL), reversing alarm. The FEL was not fitted with a white noise reversing alarm (beeper). The FEL was de hired on the 6/1/2020.	17/01/2020 04:00 AM	Baker Street	Loud banging noise, metal on metal - from high up in tower	Most likely related to Kiln Shutdown activity - was a brief hammering incident. ABC practice is to minimise as far as reasonably practicable, noisy activities after 10 pm in the tower. This requirement was reinforced with contractors at team briefs and periodic checks by Shift Supervisors during the shutdown.	3/02/2020 19:44 PM	Alfred Street	Continuous high-pitched noise	Identified a compressed air leak from fittings at the top of CM6 - leak rectified.	29/02/2020 14:31 PM	Anonymous	Ringing noise from machines not normal sound, from Victoria Street.	Not sure what the noise source was Unable to call back - no details left	1/03/2020 11:30 AM	Alfred Street	"Tinny noise"	May have been associated with an air leak from a drag chain hatch on 4B transport group? Leak sealed - no further complaints.
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Noise Monitoring Reports	<p>Noise monitoring by external acoustic engineers has not been undertaken in this quarter.</p>																												

Noise Minimisation Activities

Prior to the annual plant shutdown, ABC constructed a temporary noise barrier with the aim to mitigate kiln refractory demolition noise, associated with Jack hammering activities.

- Noise barrier constructed using scaffolding and heavy duty acoustic blankets
- No noise complaints associated with jack hammering activities during shutdown

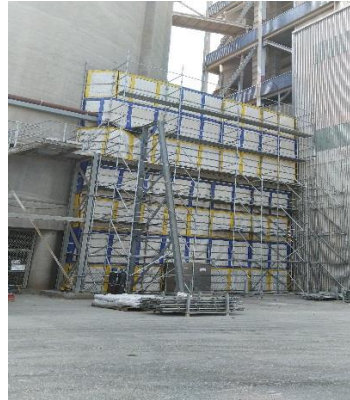


Photo of barrier

Noise Attenuation Projects

EIP Project 14: CM1/CM7 Clinker Gantry Dust Collector Fans

ABC installed splitter silencers, on the CM1/CM7 Clinker Gantry Dust Collector Fans during the annual plant shutdown in January 2020.

- The new silencers have achieved a significant noise reduction of 10-12 dBA at source when compared with Vipac Engineers baseline measurements of 71dBA.
- ABC will engage an acoustic engineer in accordance with EIP compliance action 51 to assess and validate the reductions achieved.



Photo of one of the silencers

EIP Project 15: BH Gas Train noise abatement

- ABC has worked with APA to further reduce noise levels from the Gas Train
- APA installed axial flow regulators, flow meter, associated pipework on duty leg of gas train - completed 19/02/2020
- A significant reduction of 10 - 12 dBA with the new equipment is indicated
- ABC will engage an acoustic engineer in accordance with EIP action 51 to validate noise reduction



Before Modifications



After Modifications