



**Adelaide Brighton Cement Ltd**

an **ADBRI** company

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## QUARTERLY STACK PARTICULATE REPORT FOR BIRKENHEAD WORKS

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**COMPLIANCE DATE: 31/07/24 – Quarter 2, 2024**

**EPA Licence 1126: Stack Particulate Management Plan (U - 1556)**

**Licensed site: Adelaide Brighton Cement, Birkenhead Works**

**62 Elder Road, Birkenhead, SA 5015**

**Date of Submission: 31 July 2024**

**Version Number: 1**



Report Submitted by: Advisor Environment - C&L (SA/NSW/NT)

## Glossary

<b>Term</b>	<b>Definition</b>
$\mu\text{g}/\text{m}^3$	micrograms per cubic metre
$\text{mg}/\text{m}^3$	milligrams per cubic metre
m	metre
$\text{m}^3$	cubic metres
$\text{m}^3/\text{s}$	cubic metres per second
$\text{Nm}^3$	Gas volume in dry cubic metres at STP dry basis
<b>Abbreviations</b>	<b>Definition</b>
Air EPP	Environment Protection (Air Quality) Policy 2016
ESP	Electrostatic Precipitator
SA EPA	South Australian Environment Protection Authority
STP dry basis	Standard Temperature and Pressure (zero degrees Celsius and 101.3 kilo Pascals absolute)
TSP	Total Suspended Particulates
SPMP	Stack Particulate Management Plan

<p><b>Monitoring Objective</b></p>	<p>All stack particulate emissions events for the reporting quarter, where levels have exceeded the reporting thresholds:</p> <p>In line with the EPA licence issued on the 1/11/2022, the 1-hr reporting thresholds for stack particulate emission events was reduced as follows:</p> <ul style="list-style-type: none"> <li>• from 100 to 80 mg/Nm<sup>3</sup> (1 hour averaging period) on Kiln Stack 4A</li> <li>• from 60 to 50 mg/Nm<sup>3</sup> (1 hour averaging period) on Pre calciner Stack 4B</li> </ul> <p>Particulate Emissions will be reported in a table format providing the following details:</p> <ul style="list-style-type: none"> <li>• date, time and duration</li> <li>• the measured particulate concentration mg/Nm<sup>3</sup> (STP-dry)</li> <li>• immediate actions taken to reduce particulate emissions</li> <li>• cause and corrective actions taken to prevent future reoccurrence</li> </ul>
<p><b>Monitoring Plan</b></p>	<p>This monitoring report has been prepared in compliance with <b>Stack Particulate Management Plan (SPMP)</b>, approved 13 September 2023, by SA EPA.</p> <p>The Plan is available on the ABC Birkenhead Community Website:  <a href="https://adelaidebrightoncommunity.com.au/">https://adelaidebrightoncommunity.com.au/</a></p>

## One Hour Stack Particulate Reporting Events

**4A Stack**  
**1 hr > 80**  
**mg/Nm<sup>3</sup>**  
**Rolling**  
**1hr**  
**average**

There was one 1-hr Reporting event during the reporting period.

Date	Time start	Time finish	Duration (min)	Magnitude mg/Nm <sup>3</sup>	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
28/05/2024	20:46	21:01	15	84.8	<p>There was insufficient compressed air availability to the 4A Gas Conditioning Tower water sprays, to effectively cool the gas stream during a 4A Mill trip event, which resulted in increased 4A ESP temperatures, reducing ESP performance, resulting in an increase in particulate emissions.</p> <p>It was identified that when the 4A Gas Conditioning Tower water sprays demanded more water and more atomising air with Raw Mill 4A off, the compressor system failed to meet the compressed air demand, only recruiting 2 out of the systems 4 compressors resulting in low air pressure.</p> <p>Further investigation found that a contract maintenance company had worked on the compressor system in the days prior. This work included disabling 2 out of 4 compressors, however, they believe all were returned to service. This has been the most likely cause identified.</p>	<p>Shift fitter drained excess water out of air receiver #2 and also from both inlet filters, also checked 4A sprays and whole system for air leaks, and put D silo compressors in manual to boost air pressure until 4A mill turned back on bringing particulate levels under control.</p>	<p>Critical SCADA alarm created to highlight to operators when less than 3 compressors available, has been implemented.</p> <p>Improved signage at compressors highlighting minimum of 3 compressors must be available at all times. To be installed</p>

4B Stack

1 hr >  
50mg/Nm<sup>3</sup>  
Rolling  
1hr  
average

There were no 1-hr Reporting events during the reporting period.