



**Adelaide Brighton Cement Ltd**

an **ADBRI** company

**adelaidebrighton.com.au**

Adelaide Brighton Cement Ltd  
ABN 96 007 870 199  
PO Box 77  
Port Adelaide SA 5015  
+61 8 8300 0300

## QUARTERLY STACK PARTICULATE REPORT FOR BIRKENHEAD WORKS

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**COMPLIANCE DATE: 31/01/23 – Quarter 4, 2022**  
**EPA Licence 1126: Stack Particulate Management Plan (U-749)**

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

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

**Date of Submission: 31 January 2023**

**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

<b>Monitoring Objective</b>	<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>
<b>Monitoring Plan</b>	<p>This monitoring report has been prepared in compliance with Stack Particulate Management Plan, approved 18 June 2018, 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 were no 1-hr Reporting events for October

There was one 1-hr Reporting events for this reporting period

Date	Time start	Time finish	Duration (min)	Magnitude mg/Nm3	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
20/12/2022	20:47	21:27	40	101.2	Erratic 4A ESP performance whilst 4A Mill was off line.	4A Mill was restarted to reduce particulate emissions	ABC is currently investigating the cause for the erratic ESP performance

**4B Stack**  
**1 hr >**  
**50mg/Nm<sup>3</sup>**  
**Rolling 1hr**  
**average**

There were no 1-hr Reporting events for October

There were five 1-hr Reporting events for this reporting period

Date	Time start	Time finish	Duration (min)	Magnitude mg/Nm3	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
09/12/2022	12:30	13:08	38	53.8	Calcliner combustion trip triggered by carbon monoxide sensor	Calcliner, 4B raw mill,4B ESP, restarted, 4B conditioning tower sprays used to control emissions.	On detection of carbon monoxide, the Burner Management System immediately trips the plant. This is a critical process safety requirement.
09/12/2022	14:20	14:40	20	60.3	Unstable operating conditions following earlier combustion trip	Calcliner, 4B raw mill,4B ESP, restarted, 4B conditioning tower sprays used to control emissions. It took an extended period for operating conditions to stabilise	On detection of carbon monoxide, the Burner Management System immediately trips the plant. This is a critical process safety requirement.
09/12/2022	15:02	15:19	17	53.1	Unstable operating conditions following earlier combustion trip	Calcliner, 4B raw mill,4B ESP, restarted, 4B conditioning tower sprays used to control emissions. It took an extended period for operating conditions to stabilise	On detection of carbon monoxide, the Burner Management System immediately trips the plant. This is a critical process safety requirement.
20/12/2022	21:16	22:23	67	117.7	Erratic 4B ESP performance whilst 4B Mill was off line.	4B Mill was restarted to reduce particulate emissions	ABC is currently investigating the cause for the erratic ESP performance
29/12/2022	23:31	5:35	2	50.8	Calcliner combustion trip triggered by a plant methane sensor	Calcliner, 4B raw mill,4B ESP, restarted	On detection of methane, the Burner Management System immediately trips the plant. This is a critical process safety requirement.