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## QUARTERLY STACK PARTICULATE REPORT FOR BIRKENHEAD WORKS

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**COMPLIANCE DATE: 31/07/20 – Quarter 2, 2020**  
**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 July 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

<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
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> <ul style="list-style-type: none"> <li>• 100 mg/Nm<sup>3</sup> (1 hour averaging period) on Kiln Stack 4A</li> <li>• 60 mg/Nm<sup>3</sup> (1 hour averaging period) on Precalciner 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 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="http://www.birkenheadcommunity.com.au">http://www.birkenheadcommunity.com.au</a></p>

## One Hour Stack Particulate Reporting Events

**4A Stack**  
**1 hr >**  
**100mg/Nm<sup>3</sup>**  
**Rolling 1hr**  
**average**

No 1-hr reporting events

**4B Stack**  
**1 hr >**  
**60mg/Nm<sup>3</sup>**  
**Rolling 1hr**  
**average**

Date	Time start	Time finish	Duration (min)	Magnitude mg/Nm <sup>3</sup>	Cause	Immediate Actions Taken	Actions Taken to Prevent a Reoccurrence
7/06/2020	17:59	18:36	37	70.1	<p>The event occurred after the calciner tripped on high exit pressure.</p> <p>The increase in particulate emissions occurred as a result of increased flow required to safely perform fault finding and remove a metal pole, that was found lodged in the dust flap below 4B cyclone.</p>	<p>The electrostatic precipitator fan damper was opened, reducing the pressure to enable the operators to fault find and safely remove a metal pole that was found lodged in the dust flap below 4B cyclone.</p>	<p>The metal pole potentially was left in the preheater during the annual maintenance shutdown, eventually moving into a position to create the process issue.</p> <p>Reinforcement of checks associated with internal inspections before plant is returned to service will be carried out for the coming 2021 shut down.</p>
18/06/2020	3:41	4:42	61	117.8	<p>The event occurred as a result of an electrical fault on 4B ESP field 3, which resulted in loss of that field, with resulting increase in particulate emission.</p> <p>The root cause of the problem was a failed cartridge fuse switch and associated cabling on the ESP switchboard.</p>	<p>The Calciner was turned off to effect the electrical repairs.</p>	<p>Electrical switchboards are scanned, every year for hot spots which are indicative of early electrical failures.</p> <p>The last thermographic scan of this switchboard was in November 2019 which did not show any indication of a problem.</p> <p>Maintan existing inspection regieme</p>