

CERTIFICATE OF ANALYSIS

**CERTIFICATE No.** 1903-18

**TEST CERTIFICATE FOR:** GP Portland Cement

**PRODUCED AT:** Sunstate Cement Ltd, Port of Brisbane

**SAMPLE IDENTIFICATION:** Spot Despatch Sample sample A6P-002133 sampled on 22/10/2018

**SAMPLE TESTED AT:** Sunstate Cement Ltd, Port of Brisbane

| SPECIFIED PROPERTY                     | TEST METHOD          | AS3972 REQUIREMENTS |          | RESULT   |
|--|----------------------|---------------------|----------|----------|
| Compressive strength                   | AS2350.11, AS2350.12 |                     |          |          |
| 3 day                                  |                      |                     |          | 39.3 MPa |
| 7 day                                  |                      | Minimum             | 35 MPa   | 49.9 MPa |
| 28 day                                 |                      | Minimum             | 45 MPa   | 60.4 MPa |
| Setting time                           | AS2350.4             |                     |          |          |
| Initial                                |                      | Minimum             | 45 mins  | 105 mins |
| Final                                  |                      | Maximum             | 360 mins | 180 mins |
| Soundness                              | AS2350.5             | Maximum             | 5 mm     | 1 mm     |
| Sulphuric anhydride (SO <sub>3</sub> ) | In House             | Maximum             | 3.5 %    | 2.8 %    |
| Chloride                               | AS3583.13            | Maximum             | 0.1 %    | 0.008 %  |

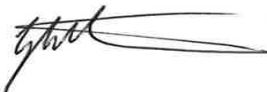
| REPORTABLE PROPERTY                | TEST METHOD |  |  | RESULT                 |
|------------------------------------|-------------|--|--|------------------------|
| Loss on ignition                   | AS2350.2    |  |  | 2.9 %                  |
| Fineness                           | AS2350.8    |  |  | 380 m <sup>2</sup> /kg |
| Total Alkali (Na <sub>2</sub> Oeq) | AS2350.2    |  |  | 0.5 %                  |

| OTHER PROPERTIES   | TEST METHOD |  |  | RESULT |
|--------------------|-------------|--|--|--------|
| Normal Consistency | In House    |  |  | 29.2 % |

**SAMPLING PROCEDURE:**

- The results of the above tests relate only to the sample as described above.
- Total Alkali determined at Australian Laboratory Services by ICP -AES using ME -ICP 91, Corporate Accreditation No 825, Corporate Site 818.

**REMARKS:**



**G Santaguiliana**  
**Approved Signatory**  
**10-Dec-2018**

