## STANDARD FLY ASH CERTIFICATE



FINAL
Prior Reports: None

Certificate Number: CERT225019

Issued: 23 December 2022

Flyash Australia Pty Ltd ABN 68 002 840 271 P.O. Box 190 Eastwood NSW 2122 Email: contact@flyash.com.au www.flyashaustralia.com.au

Product being certified: Muja Power Station Monthly Grab Fly Ash

Product sample date: 01-Dec-2022

Sample Identification: Sample Code: 22120179
Source Power Station: Muja Power Station

Sample Condition: Tested as Received. Testing Commenced on 06-Dec-2022

Certifying Laboratory: Cement Australia - Darra Laboratory,

18 Station Avenue, Darra Queensland 4076 Australia.

## **Test Results**

| Test        | Moisture      | Fineness @<br>45 micron | Loss on<br>Ignition | Sulfuric<br>Anhydride | Available<br>Alkali | Chloride<br>Ion | Chemical<br>Composition |
|-------------|---------------|-------------------------|---------------------|-----------------------|---------------------|-----------------|-------------------------|
|             | %             | % Passed                | %                   | %                     | %                   | %               | %                       |
| Result      | < 0.1         | 72                      | 0.9                 | 0.2                   | n/a                 | 0.002           | 94.8                    |
| Test Method | AS3583.2      | AS3583.1                | AS3583.3            | AS2350.2              | AS3583.12           | AS3583.13       | AS2350.2                |
| AS 3582.1   | 0.5 % Maximum | 55% Minimum             | 6.0 % Maximum       | 3.0 % Maximum         | -                   | 0.1 % Maximum   | 70% Minimum             |

| Test        | Relative<br>Density | Relative Water<br>Requirement | Strength Index<br>7 Day Acc. | Reference Cement Details  |  |
|-------------|---------------------|-------------------------------|------------------------------|---------------------------|--|
|             |                     | %                             | %                            | Identification:: 22120254 |  |
| Result      | 2.44                | 95                            | 94                           | Source: Goliath GP        |  |
| Test Method | AS3583.5            | AS3583.6                      | AS3583.6                     | Product Type: Type GP     |  |
| AS 3582.1   | -                   | -                             | 40% MInumum                  | Sample Date: 08-Dec-22    |  |

**Additional Testing - Oxides** 

| Test        | CaO<br>by XRF<br>% | SiO <sub>2</sub><br>by XRF<br>% | Al <sub>2</sub> O <sub>3</sub><br>by XRF<br>% | Fe <sub>2</sub> O <sub>3</sub><br>by XRF<br>% | SO₃<br>by XRF<br>% | MgO<br>by XRF<br>% | Na₂O<br>by XRF<br>% |
|-------------|--------------------|---------------------------------|---|---|--------------------|--------------------|---------------------|
| Result      | 0.8                | 64.2                            | 20.7  | 9.9   | 0.2                | 0.9                | 0.18                |
| Test Method | AS2350.2           | AS2350.2                        | AS2350.2                                      | AS2350.2                                      | AS2350.2           | AS2350.2           | AS2350.2            |

| Test        | K₂O<br>by XRF | SrO<br>by XRF | TiO2<br>by XRF | P <sub>2</sub> O <sub>5</sub><br>by XRF | Mn₂O₃<br>by XRF | Total Alkali<br>(NaEQ) |
|-------------|---------------|---------------|----------------|---|-----------------|------------------------|
|             | %             | %             | %              | %                                       | %               | %                      |
| Result      | 0.62          | <0.1          | 1.3            | 0.2                                     | < 0.1           | 0.59                   |
| Test Method | AS2350.2      | AS2350.2      | AS2350.2       | AS2350.2                                | AS2350.2        | AS2350.2               |

This sample grade conforms to the following requirements of AS 3582.1:2016

| Special | Grade 1 | Grade 2 |
|---------|---------|---------|
|         |         | Х       |

Approved Signatory

A Prem Signatory - Cement Australia

**Chemical Testing** 

Construction Materials Testing

Accredited for compliance with ISO/IEC 17025 - Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Laboratory accreditation number: 188 Laboratory accreditation number: 187



Notes:

