

## Certified Pulp Iron Ore Reference Material - GIOP-88

### Certificate of Analysis

| Analyte                        | Units | Average | Standard Deviation | Count | 95% Confidence Interval |
|--------------------------------|-------|---------|--------------------|-------|-------------------------|
| Fe                             | %     | 59.11   | 0.11               | 49    | +/- 0.03                |
| Fe (Calc)                      | %     | 59.107  | 0.084              | 48    | +/- 0.025               |
| SiO <sub>2</sub>               | %     | 4.593   | 0.04               | 50    | +/- 0.012               |
| Al <sub>2</sub> O <sub>3</sub> | %     | 2.081   | 0.021              | 50    | +/- 0.006               |
| TiO <sub>2</sub>               | %     | 0.399   | 0.019              | 50    | +/- 0.005               |
| Mn                             | %     | 0.125   | 0.0069             | 48    | +/- 0.002               |
| CaO                            | %     | 0.097   | 0.0054             | 50    | +/- 0.0016              |
| P                              | %     | 0.04453 | 0.00089            | 49    | +/- 0.00026             |
| S                              | %     | 0.0146  | 0.0019             | 50    | +/- 0.0006              |
| MgO                            | %     | 0.1264  | 0.009              | 50    | +/- 0.0026              |
| K <sub>2</sub> O               | %     | 0.01    | 0.00086            | 36    | +/- 0.0003              |
| Zn                             | %     | 0.0063  | 0.0011             | 39    | +/- 0.0004              |
| Pb                             | %     | 0.0064  |                    |       |                         |
| Cu                             | %     | 0.0037  |                    |       |                         |
| Ba                             | %     | 0.0042  |                    |       |                         |
| V                              | %     | 0.0027  |                    |       |                         |
| Cr                             | %     | 0.0022  |                    |       |                         |
| Cl                             | %     | 0.0082  | 0.0014             | 39    | +/- 0.0005              |
| As                             | %     | 0.0024  |                    |       |                         |
| Ni                             | %     | 0.002   |                    |       |                         |
| Co                             | %     | 0.0025  |                    |       |                         |
| Sn                             | %     | 0.006   |                    |       |                         |
| Sr                             | %     | 0.0024  |                    |       |                         |
| Zr                             | %     | 0.005   | 0.0027             | 30    | +/- 0.001               |
| Na                             | %     | 0.0185  | 0.0077             | 35    | +/- 0.0027              |
| LOI <sub>425</sub>             | %     | 7.127   | 0.059              | 48    | +/- 0.017               |
| LOI <sub>650</sub>             | %     | 7.655   | 0.052              | 47    | +/- 0.015               |
| LOI                            | %     | 7.877   | 0.056              | 46    | +/- 0.017               |

#### Control Statistic Details

Control values for this material were determined during a certification program.

#### Certification Date

This material was certified with the above values on:

1/02/2011

#### Source Material

Prior to homogenisation and testing, this material was sourced from  
 Pilbara

#### Usage

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**GEOSTATS PTY LTD**

Mining Industry Consultants  
Reference Material Manufacture and Sales

This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.

#### **Preparation and Packaging**

This certified reference material was dried in an oven for a minimum of 8 hours at 105°C. The dry material was pulverised in a "puck and bowl" and then homogenised in a vee-blender. The material is then packaged into 10g plastic packets, ready for shipment.

#### **Certification Testwork**

This certified reference material was tested in a dedicated certification program. 10 samples were sent to 5 laboratories for XRF analyses. Assay distributions are checked and processed statistically, producing monitoring statistics for these standards. Materials are tested regularly to ensure stability and homogeneity.