

# Certificate of Analysis

## STANDARD REFERENCE MATERIAL 97<sub>a</sub>

### Flint Clay

(Results based on sample dried for two hours at 140 °C)

| Analyst                | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | Fe <sub>2</sub> O <sub>3</sub>           | TiO <sub>2</sub>                          | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O  | Na <sub>2</sub> O  | Li <sub>2</sub> O | ZrO <sub>2</sub>   | BaO                     | MgO               | CaO               | SrO               | Cr <sub>2</sub> O <sub>3</sub> | Loss on Ignition |
|------------------------|------------------|--------------------------------|--|---|-------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------------|-------------------|-------------------|-------------------|--------------------------------|------------------|
| 1 <sup>(1)</sup> ..... | 43.74            | 38.65                          | {0.45 <sup>a</sup><br>.46 <sup>b</sup> } | {1.88 <sup>c</sup><br>1.89 <sup>d</sup> } | 0.34                          | 0.53 <sup>e</sup> | 0.033 <sup>e</sup> | 0.12 <sup>e</sup> | 0.063 <sup>f</sup> | 0.078 <sup>e</sup>      | 0.16 <sup>g</sup> | 0.11 <sup>g</sup> | 0.17 <sup>g</sup> | 0.028 <sup>h</sup>             | 13.32            |
| 2 <sup>(2)</sup> ..... | 43.68            | 38.95                          | .45                                      | 1.95                                      | .35                           | .51 <sup>e</sup>  | .041 <sup>e</sup>  | .10 <sup>g</sup>  | -----              | .07                     | .14 <sup>g</sup>  | .11 <sup>g</sup>  | .18 <sup>g</sup>  | .03                            | 13.31            |
| 3.....                 | 43.60            | 38.79                          | .43 <sup>a</sup>                         | 1.87 <sup>d</sup>                         | .38 <sup>i</sup>              | .46 <sup>e</sup>  | -----              | -----             | -----              | -----                   | -----             | -----             | -----             | -----                          | -----            |
| <b>Average...</b>      | <b>43.67</b>     | <b>38.79</b>                   | <b>0.45</b>                              | <b>1.90</b>                               | <b>0.36</b>                   | <b>0.50</b>       | <b>0.037</b>       | <b>0.11</b>       | -----              | <b>0.07<sub>5</sub></b> | <b>0.15</b>       | <b>0.11</b>       | <b>0.18</b>       | <b>0.03</b>                    | <b>13.32</b>     |

References: [1] G.E.F. Lundell and J.I. Hoffman, NBS J. Res. 1, 91 (1928) RP5.  
[2] L. C. Peck, Geological Survey Bulletin 1170, (1964).

<sup>a</sup>o-phenanthroline photometric method.  
<sup>b</sup>Iron reduced with SnCl<sub>2</sub> and titrated with standard potassium dichromate solution.  
<sup>c</sup>Cupferron gravimetric method.  
<sup>d</sup>H<sub>2</sub>O<sub>2</sub> photometric method.

<sup>e</sup>Flame emission spectrometric method.  
<sup>f</sup>Pyrocatechol violet photometric method.  
<sup>g</sup>Atomic absorption method.  
<sup>h</sup>Diphenylcarbazide photometric method.  
<sup>i</sup>Molybdenum-blue photometric method.

#### List of Analysts

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