71595 – 25.2 grams
71576 – 23.5 grams
Ilmenite Basalt

<table>
<thead>
<tr>
<th>Sample</th>
<th>Mineralogy (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>71595</td>
<td>6.8 Olivine, 44 Pyroxene, 27.1 Plagioclase, 17 Opaques, 4.6 Silica, 0.6 Meostasis</td>
</tr>
<tr>
<td>71576</td>
<td>5.8 Olivine, 43 Pyroxene, 32.7 Plagioclase, 16 Opaques, 1.4 Silica, 0.8 Meostasis</td>
</tr>
</tbody>
</table>

**Introduction**

71595 is an olivine-microporphyritic ilmenite basalt similar to 71576 (Warner et al. 1978). It has been rounded by micrometeorite bombardment.

71525 - 71596 etc. are rake samples collected as part of a comprehensive sample at station 1, taken near Steno Crater, Apollo 17. They include numerous small ilmenite basalts.

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**Figure 1:** Photo of 71595. Sample is 2 cm. S73-33406

**Figure 2:** Map of station 1 showing location of rake samples.

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Petrography
71595 and 71576 are fine-grained basalts with skeletal olivine and ilmenite phenocrysts in a variolitic groundmass (figures 6 and 7). Armacolite is present, mantled by ilmenite. Ca-rich pyroxene is zoned to Fe-rich (figure 3).

Chemistry
Murali et al. (1977) give the chemical composition of 30 small Apollo 17 basalts including 71595 and 71576 (figures 4 and 5). These samples have been classified as type B2 by Neal and Taylor (1993).

Radiogenic age dating
None

Processing
There is one thin section for each.

References for 71595 and 71576.

LSPET (1973) Apollo 17 lunar samples: Chemical and petrographic description. Science 182, 659-672.


Figure 6: Photomicrograph of thin section 71595.5. 2.8 mm across
Figure 7: Photomicrograph of thin section 71576,3 (with quartz plate). 2.8 mm across.


# Table 1. Chemical composition of 71595.

<table>
<thead>
<tr>
<th></th>
<th>weight</th>
<th>Murali77</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO2 %</td>
<td>10.4 (a)</td>
<td>9.3 (a)</td>
</tr>
<tr>
<td>TiO2</td>
<td>10.4 (a)</td>
<td>11.8 (a)</td>
</tr>
<tr>
<td>Al2O3</td>
<td>9.3 (a)</td>
<td>8.9 (a)</td>
</tr>
<tr>
<td>FeO</td>
<td>19.6 (a)</td>
<td>20 (a)</td>
</tr>
<tr>
<td>MnO</td>
<td>0.25 (a)</td>
<td>0.242 (a)</td>
</tr>
<tr>
<td>MgO</td>
<td>7.4 (a)</td>
<td>6.8 (a)</td>
</tr>
<tr>
<td>CaO</td>
<td>10.6 (a)</td>
<td>10.6 (a)</td>
</tr>
<tr>
<td>Na2O</td>
<td>0.39 (a)</td>
<td>0.39 (a)</td>
</tr>
<tr>
<td>K2O</td>
<td>0.044 (a)</td>
<td>0.053 (a)</td>
</tr>
<tr>
<td>S %</td>
<td>Sc ppm 78 (a)</td>
<td>Cr 2846 (a)</td>
</tr>
<tr>
<td>sum</td>
<td>V 100 (a)</td>
<td>Co 18 (a)</td>
</tr>
</tbody>
</table>

# Table 2. Chemical composition of 71576.

<table>
<thead>
<tr>
<th></th>
<th>weight</th>
<th>Murali77</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO2 %</td>
<td>11.8 (a)</td>
<td>8.9 (a)</td>
</tr>
<tr>
<td>TiO2</td>
<td>20 (a)</td>
<td>FeO 20 (a)</td>
</tr>
<tr>
<td>Al2O3</td>
<td>0.242 (a)</td>
<td>MnO 0.242 (a)</td>
</tr>
<tr>
<td>MgO</td>
<td>6.8 (a)</td>
<td>Na2O 0.39 (a)</td>
</tr>
<tr>
<td>CaO</td>
<td>10.6 (a)</td>
<td>K2O 0.053 (a)</td>
</tr>
<tr>
<td>Na2O</td>
<td>10.6 (a)</td>
<td>S %</td>
</tr>
<tr>
<td>sum</td>
<td>80 (a)</td>
<td>Sc ppm 80 (a)</td>
</tr>
<tr>
<td>sum</td>
<td>5 (a)</td>
<td>Cr 2292 (a)</td>
</tr>
<tr>
<td>sum</td>
<td>19 (a)</td>
<td>Co 19 (a)</td>
</tr>
</tbody>
</table>

**technique:** (a) INAA

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