78587
Ilmenite Basalt
11.5 grams

Figure 1: Photo of 78587. Mm ticks on scale. S73-33440

Introduction
78587 is an aphanitic basalt fragment picked up as a rake sample – see section on 78501.

Petrography
According to Warner et al. (1979), 78587 is a fine-grained type C, high-Ti basalt. It has skeletal ilmenite and olivine in an aphanitic groundmass (figure 2). Trace armalcolite and Cr-ulvospinel have also been reported (Warner et al. 1978).

The composition of pyroxene is unusual (figure 3).

Chemistry
Warner et al. (1975) reported an analysis (table and figure 4).

Radiogenic age dating
None

Mineralogical Mode
Warner et al. 1978

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Olivine</td>
<td>8.1 %</td>
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<tr>
<td>Pyroxene</td>
<td>41.8</td>
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<tr>
<td>Plagioclase</td>
<td>27.6</td>
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<td>Silica</td>
<td>4.8</td>
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<tr>
<td>Ilmenite</td>
<td>16.7</td>
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<td>Metal</td>
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</table>
Figure 2: Thin section photomicrograph (high magnification).
Figure 3: Composition of olivine and pyroxene phenocrysts in 78587.

Figure 4: Normalized rare-earth-element diagram for 78587.

Processing
There are 2 thin sections.

<table>
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<th>78587</th>
<th>11.5 grams</th>
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<tr>
<td>.8 g</td>
<td>PB .3</td>
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<tr>
<td>2.7 g</td>
<td>TS .4</td>
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<tr>
<td>0.2 g</td>
<td>.1</td>
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References for 78587


Keil K., Dowty E. and Prinz M. (1974) Description, classification and inventory of 113 Apollo 17 rake samples from stations 1A, 2, 7 and 8. Curator’s Catalog, pp. 149.


Table 1. Chemical composition of 78587

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<tr>
<th>Element</th>
<th>Warner78</th>
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<td>SiO2 %</td>
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<td>Pt ppb</td>
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</table>
|         | Th ppm   | U ppm    | technique: (a) INAA

Lunar Sample Compendium
C Meyer 2012