12060
Soil
20.7 grams

**Introduction**
12060 are the fines from the “totebag” – which also contained four large basalt samples 12062 – 12065. 12061 (9.5 g) is made up of about 10 particles greater than 1 cm from same bag. The totebag was a large Teflon bag, not placed in the ALSRC. Abrasion of the rocks in the totebag probably led to the addition of crumbs of basalt in the bag, so that 12060 is probably not a representative soil sample. Instead it is probably dirt that was adhering to the surface of the basalts, mixed with crumbs from the basalts.

**Petrography**
The maturity index for 12060 is $I_\ell/FeO = 24$ (Morris 1987). McKay et al. (1971) found only 5 % “glazed aggregates” (agglutinates).

Frondel et al. (1971) determined the mineral mode, but did not specify agglutinates.

**Chemistry**
The chemical composition is only partially determined (figure 1 and table 1).

**Other Studies**
Arrhenius et al. (1971) studied the frequency of grains with high fossil nuclear tracks in 12060 (and all other Apollo 12 soil and core samples)(see diagram in 12070).

**Mineralogical Mode (250-1000 microns)**
*McKay et al. (1971)*
Glazed
Aggregates 5 %
Single xtl. 36
Glasses 12
Rocks 45
Breccias 0.7
Spherules 0.2

**Mineralogical Mode**
*Frondel et al. 1971*
Olivine +
Pyroxene 60.4 %
Plagioclase 21.7
Opaques 10.5
Glass, angular 4.8
Glass, rounded 2
Silica 0.6

**Figure 1:** Composition of 12060 compared with that of other Apollo soil samples.

**Processing**
The “totebag” samples were handled in air by people in the LRL crew reception area for about 20 minutes (Warner 1970).

Some rare gas data is given in the Apollo 11 catalog (Warner 1970) and in LSPET (1970).

Schoemaker et al. (1971) state that 12060 was the scoop from the Surveyor, but that seems to be incorrect (see 12029).

**Table 1. Chemical composition of 12060.**

<table>
<thead>
<tr>
<th>reference</th>
<th>weight (mm)</th>
<th>SiO2 (%)</th>
<th>TiO2 (%)</th>
<th>Al2O3 (%)</th>
<th>FeO (%)</th>
<th>MnO (%)</th>
<th>MgO (%)</th>
<th>CaO (%)</th>
<th>Na2O (%)</th>
<th>K2O (%)</th>
<th>P2O5 (%)</th>
<th>S (%)</th>
<th>Sc ppm</th>
<th>Cr ppm</th>
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<tbody>
<tr>
<td>Frondel71</td>
<td>&lt; 0.037</td>
<td>45.3</td>
<td>4.2</td>
<td>12.6</td>
<td>16.9</td>
<td>0.27</td>
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Lunar Sample Compendium
C Meyer 2011
 References for 12060


