**Introduction**

Soil samples 15260 and 15012 were collected from the bottom of a small trench at station 6, Apollo 15 (Swann et al. 1972). 15012 was placed in a special environmental sample container (SESC) and was sealed. Morris et al. (1983) state that this trench was only 10 cm deep, but the picture looks more like 20-25 cm deep (figure 1). The trench was dug on the rim of a crater about 12 meters across. Core sample 15009 was from the other side of the 12 m crater. Soils samples 15240, 15250, 15270 and 15290 were collected nearby. Station 6 was located about 350 meters to the east of Spur Crater on the Apennine Front, well above the mare surface.

**Modal content of soils 15260.**
From Morris et al. 1983.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Agglutinates</td>
<td>50.5</td>
</tr>
<tr>
<td>Basalt</td>
<td>4</td>
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<tr>
<td>Breccia</td>
<td>8.5</td>
</tr>
<tr>
<td>Anorthosite</td>
<td>0.5</td>
</tr>
<tr>
<td>Norite</td>
<td></td>
</tr>
<tr>
<td>Gabbro</td>
<td></td>
</tr>
<tr>
<td>Plagioclase</td>
<td>0.5</td>
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<tr>
<td>Pyroxene</td>
<td>14</td>
</tr>
<tr>
<td>Olivine</td>
<td>2.5</td>
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<tr>
<td>Ilmenite</td>
<td>-</td>
</tr>
<tr>
<td>Glass other</td>
<td>19</td>
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**Petrography**
15260 is a mature soil with Is/FeO = 77 (Morris 1978) with agglutinate content ~ 50% (McKay et al. unpublished). Walker and Papke (1981) calculate that this soil is made up of 28 % mare basalt, 18 % LKFM, ~14 % anorthosite, ~25 % KREEP and ~17 % mafic green glass. Soil breccias 15265 and 15266 were returned in a separate bag.

Best and Minkin (1972) and Warner et al. (1972) studied the composition of glass beads in 15261. Goldstein and Axon (1972) and Axon and Goldstein (1972) analyzed metallic iron grains in this sample (figure 2). Simon et al. (1987) described a sample of KREEP basalt (15263,42) found as a “coarse-fine” particle in this trench.

**Chemistry**
Taylor et al. (1973), Korotev (1987), Duncan et al. (1975) and others have analyzed 15260 (table 1, figures 3 and 4). Kaplan et al. (1976) determined the C, N and S content (156 ppm, 106 ppm and 700 ppm respectively). Moore et al. (1973) reported 115 ppm C. This soil has a carbon content consistent with its maturity (figure 5).

Simon et al. (1987) reported the composition of a particle of KREEP basalt in coarse-fines from this soil (figure 4).

**Cosmogenic isotopes and exposure ages**
Rancitelli et al. (1972) determined the cosmic ray induced activity of $^{22}$Na = 37 dpm/kg. and $^{26}$Al = 50 dpm/kg. Fireman et al. (1972) reported on $^{37}$Ar, $^{39}$Ar and $^3$H (tritium) found in 15261 stating that “the solar-flare intensity averaged over 30 yr obtained from the tritium depth dependence was approximately the same as the flare intensity averaged over 1000 yr obtained from $^{39}$Ar measurements.”
Other Studies
Holland et al. (1972) studied the temperature release (pyrolysis) of soil 15261 for various molecular species (figure 6).

Processing
Sample 15260 was returned in a sample collection bag (#3) and would have seen the air in the LM, CSM and Pacific. This is a relatively large soil sample for Apollo 15, especially when you consider the added amount from the trench in the SESC container (see 15012).

Figure 6: Volatile release curves for 15261 (from Holland et al. 1972).

Average grain size = 53 microns

Figure 7: Grain size distribution of 15260 (Graf 1993).
Table 1. Chemical composition of 15260.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Korotev87</th>
<th>Taylor 73</th>
<th>Duncan75</th>
<th>Brunfelt72</th>
<th>Hughes72</th>
<th>Rancitelli72</th>
<th>KREEP basalt</th>
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<tr>
<td>SiO2 %</td>
<td>46.35</td>
<td>(b)</td>
<td></td>
<td></td>
<td>1.7</td>
<td>(a)</td>
<td>15263.42</td>
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<tr>
<td>TiO2</td>
<td>1.5 (a)</td>
<td>1.5 (b)</td>
<td>1.4 (a)</td>
<td>1.7 (a)</td>
<td>9.9 (a)</td>
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<tr>
<td>Al2O3</td>
<td>16.4 (a)</td>
<td>16.4 (b)</td>
<td>16.1 (a)</td>
<td>15.3 (a)</td>
<td>0.14 (a)</td>
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<td>FeO</td>
<td>12.3 (a)</td>
<td>12.28 (b)</td>
<td>12.1 (a)</td>
<td>9.4 (a)</td>
<td>0.74 (a)</td>
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<td>MnO</td>
<td>0.16 (a)</td>
<td>0.159 (b)</td>
<td>0.16 (a)</td>
<td>0.14 (a)</td>
<td>0.04 (a)</td>
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<tr>
<td>MgO</td>
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<td>10.71 (b)</td>
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<td>9.6 (a)</td>
<td>0.54 (a)</td>
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<tr>
<td>CaO</td>
<td>11 (a)</td>
<td>11.15 (b)</td>
<td>11.89 (a)</td>
<td>9.4 (a)</td>
<td>0.74 (a)</td>
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<tr>
<td>Na2O</td>
<td>0.44 (a)</td>
<td>0.39 (b)</td>
<td>0.44 (a)</td>
<td>0.74 (a)</td>
<td>0.04 (a)</td>
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<tr>
<td>K2O</td>
<td>0.19 (b)</td>
<td>0.2 (d)</td>
<td>0.2 (d)</td>
<td>0.04 (a)</td>
<td>0.54 (a)</td>
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<tr>
<td>P2O5</td>
<td>0.219 (b)</td>
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<td></td>
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<td>0.54 (a)</td>
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<tr>
<td>S %</td>
<td>0.084 (b)</td>
<td>0.089 (c)</td>
<td></td>
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</tbody>
</table>

Sc ppm 23.8 (a) 23.3 (a) 20.2 (a)
V 81 (b) 131 (a) 65 (a)
Cr 2260 (a) 2347 (b) 2450 (a) 2429 (a)
Co 40.9 (a) 42 (b) 44.6 (a) 20.4 (a)
Ni 247 (a) 250 (b) 300 (a)
Cu 11 (b) 7 (a)
Zn 26 (b) 19 (a)
Ga 4.5 (a)
Ge ppb
As 0.16 (a) 0.37 (a) 0.38 (c)
Se 0.16 (a) 0.37 (a) 0.38 (c)
Rb 3.5 (e) 6 (b) 6.9 (a)
Sr 150 (a) 136 (b) 131 (a) 230 (a)
Y 170 (a) 152 (b) 152 (a) 170 (a)
Zr 330 (a) 356 (e) 382 (b) 880 (a)
Nb 19.8 (e) 24.8 (b)
Mo 260 (a) 260 (b) 260 (a) 260 (b)
Ru 45 (a) 45 (a) 45 (a)
Pd ppb 39 (a)
Ag ppb 0.6 (e)
Cd ppb
In ppb
Sn ppb 0.6 (e)
Te ppb
Cs ppm 0.29 (a) 0.27 (a) 750 (a)
Ba 251 (a) 307 (e) 260 (b) 231 (a) 750 (a)
La 25.4 (a) 22 (e) 22 (a) 68 (a)
Ce 66 (a) 61 (e) 92 (a) 170 (a)
Pr 7.73 (e)
Nd 38 (a) 32.2 (e)
Sm 11.9 (a) 11.3 (e) 12.8 (a) 31.6 (a)
Eu 1.39 (a) 1.5 (e) 1.6 (a) 2.6 (a)
Gd 11.5 (e) 11.5 (e) 11.5 (e) 36 (a)
Tb 2.33 (a) 1.99 (e) 2.3 (a) 6.1 (a)
Dy 14.2 (e) 12.7 (a) 39 (a)
Ho 3.27 (e) 2 (a) 8.6 (a)
Er 9.3 (e) 7 (a)
Tm 1.4 (e) 3.1 (a)
Yb 8.1 (a) 8.75 (e) 2.5 (a) 20.4 (a)
Lu 1.2 (a) 1.4 (e) 0.76 (a) 3.05 (a)
Hf 9.2 (a) 7.1 (e) 12.2 (a) 22.7 (a)
Ta 1.13 (a) 1.02 (a) 2.8 (a)
W ppb 5200 (e) 1300 (a)
Re ppb 0.8 (c)
Os ppb 7.5 (c)
Ir ppb 7.5 (a) 7.4 (a) 7 (c)
Pt ppb 5.5 (a) 4.1 (c)
Au ppb 107 (a) 5.5 (a) 4.1 (c)
Th ppm 4.2 (a) 4.12 (e) 3.6 (a) 4.64 (d) 12 (a)
U ppm 1.13 (a) 1.08 (e) 1.14 (a) 1.18 (d) 3.3 (a)

Technique: (a) INAA, (b) XRF, (c) RNAA, (d) radiation counting, (e) Spark source mass spec.
References for 15260


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