

15014
Trench Soil (vacuum container)
333 grams

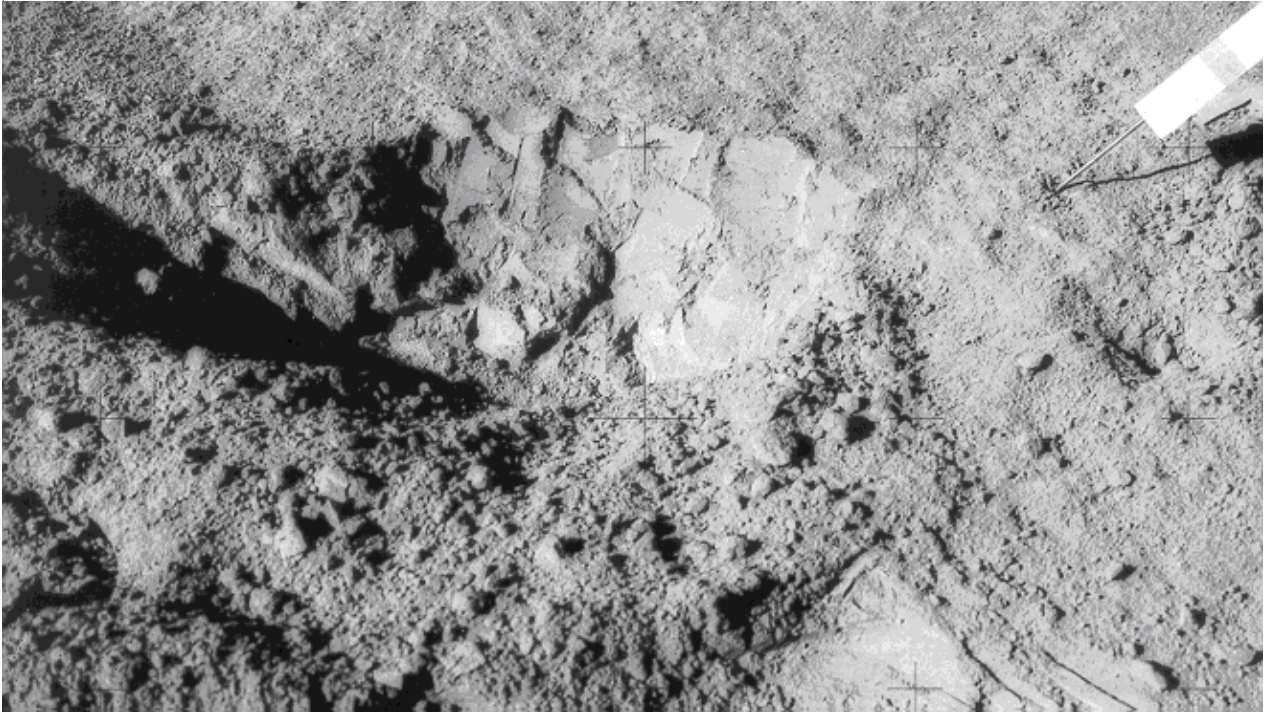


Figure 1: Trench at Apollo 15, station 8. 15014 was also collected from the bottom of this trench (~30 cm deep). AS15-92-12440

Introduction

15014 was collected from bottom of the Soil Mechanics Trench (figure 1) near the ALSEP site (station 8). Sample 15030 was also collected from the bottom of the trench, while 15040 was from the surface. This trench was deep enough (30 cm) for the samples from the bottom to be about -10 to -20 deg C before they were disturbed (see Keihm et al. 1973).

The Apollo 15 deep drill core was collected only 10 meters away – and should contain similar material with depth, because there are few craters in the vicinity (Swann et al. 1971, 1972).

15014 was placed in a special environmental sample container (SESC) which has remained unopened to date (2010).

Observation: *The unsieved reserve sample 15030 (75 g) should be studied before one attempts to study 15014.*

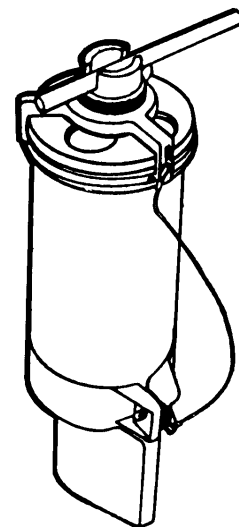


Figure 2: Drawing of SESC vacuum container used to collect 15014 (from Allton 1989).

Petrography

Should be the same as that of 15030.

Chemistry

Should be the same as that of 15030.

Processing

There was a mistake in the early documentation (Swann et al. 1971, 1972) related to the numbering of SESC containers 15014 (trench bottom, station 8) and 15013 (collected under LM). In the early documentation, these sample numbers were switched, but this mistake was corrected by the time of allocations for 15013.

SESC 15014, along with 15012, were returned in SCB 5 in ALSRC#2 (which leaked nitrogen). 15012 was found to be sealed (Simoneit et al. 1972), while 15014 remains unstudied (presumably still sealed). 15013 was returned in SCB 7 without the extra protection of the ALSRC (Butler 1972).

The seal was made of In(Ag) which was protected by Teflon rings (figure 2). Since the sample has not been opened, the weight of the sample is approximate.

References 15014

Allton J.H. (1989) Catalog of Apollo lunar surface geologic sampling tools and containers. JSC-23454 pp97 Curator's Office. JSC.

Butler (1972) Lunar Sample Information Catalog: Apollo 15. MSC 03209

Keihm S.J. and Langseth M.G. (1973) Surface brightness temperatures at the Apollo 17 heat flow site – thermal conductivity of the upper 15 cm of the regolith. *Proc. 4th Lunar Sci. Conf.* 2503-2514.

Keihm S.J., Peters K., Langseth M.G. and Chute J.L. (1973) Apollo 15 measurement of lunar surface brightness temperatures: Thermal conductivity of the upper 1½ meters of regolith. *Earth Planet. Sci. Lett.* 330-336.

LSPET (1972a) Apollo 15 Lunar samples – preliminary description. *Science* 175, 363-375.

LSPET (1972b) 6. Preliminary Examination of Lunar Samples. *In* Apollo 15 preliminary Science Report. NASA SP-289.

Mitchell J.K., Bromwell L.G., Carrier W.D., Costes N.C., Houston W.N. and Scott R.F. (1972) 7. Soil Mechanics Experiment. *In* **Apollo 15 Preliminary Science Report** NASA SP-289.

Stoenner R.W., Lindstrom R.M., Lyman W. and Davis R. (1972) Argon, Radon and Tritium radioactivities in the sample return container and the lunar surface. *Proc. 3rd Lunar Sci. Conf.* 1703-1719.

Swann G.A., Hait M.H., Schaber G.G., Freeman V.L., Ulrich G.E., Wolfe E.W., Reed V.S. and Sutton R.L. (1971) Preliminary description of Apollo 15 sample environments. U.S.G.S. Interagency report : 36.

Swann G.A., Bailey N.G., Batson R.M., Freeman V.L., Hait M.H., Head J.W., Holt H.E., Howard K.A., Irwin J.B., Larson K.B., Muehlberger W.R., Reed V.S., Rennilson J.J., Schaber G.G., Scott D.R., Silver L.T., Sutton R.L., Ulrich G.E., Wilshire H.G. and Wolfe E.W. (1972) 5. Preliminary Geologic Investigation of the Apollo 15 landing site. *In* Apollo 15 Preliminary Science Rpt. NASA SP-289. pages 5-1-112.