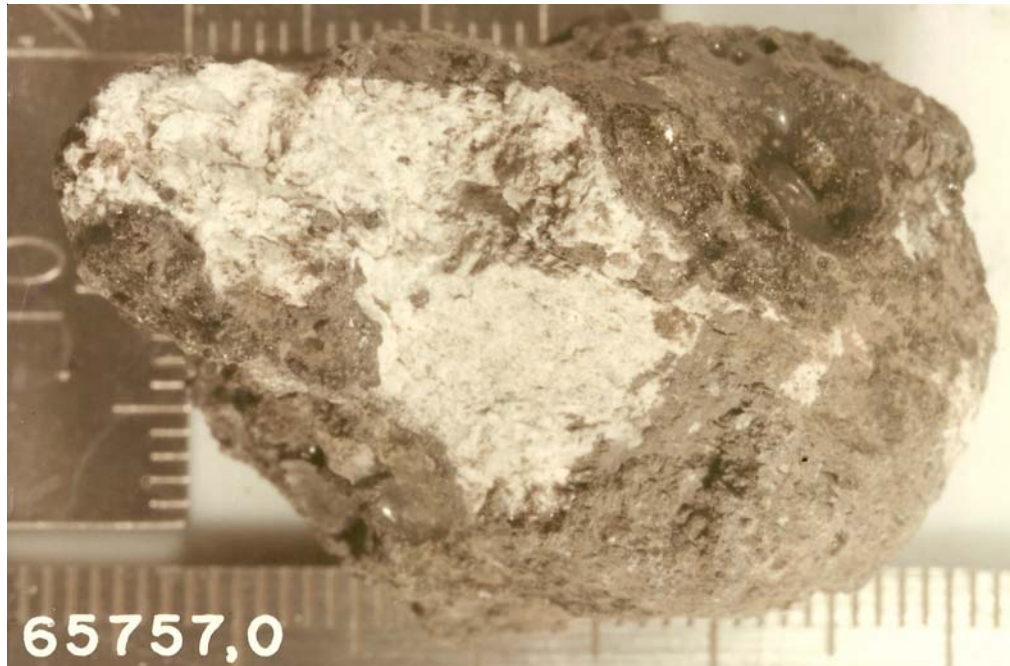


**65757** – 26.2 grams  
**65767** – 17.5 grams  
Ferroan Anorthosite Clasts



*Figure 1: Photo of 65757. Scale in mm. S72-47701*



*Figure 2: Photo of  
65767. Scale in mm.  
S72-48954*

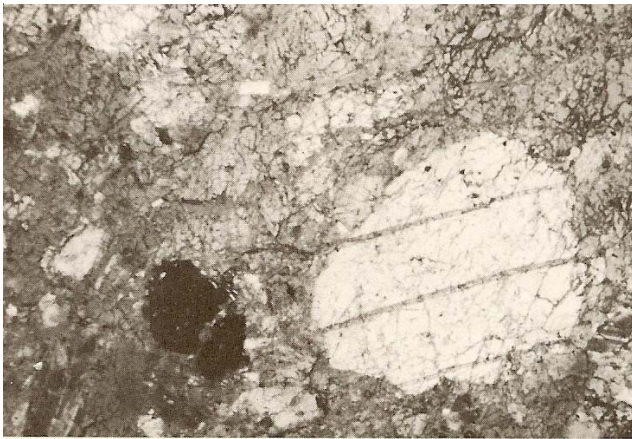


Figure 3: Thin section photo of 65757 (from Warner et al. 1976).



Figure 4: Thin section photo of 65767 (from Warner et al. 1976).

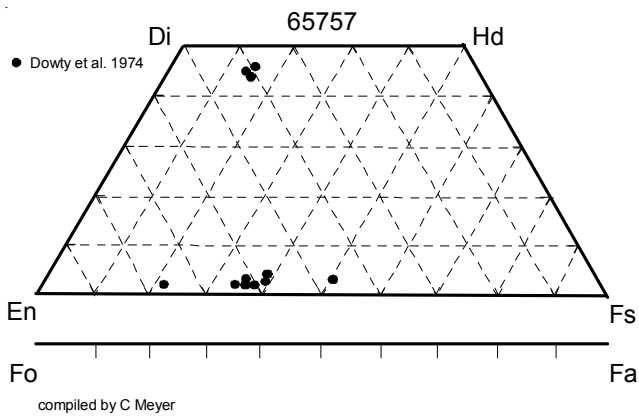


Figure 5: Pyroxene composition in 65757 anorthosite clast (Warner et al. 1976).

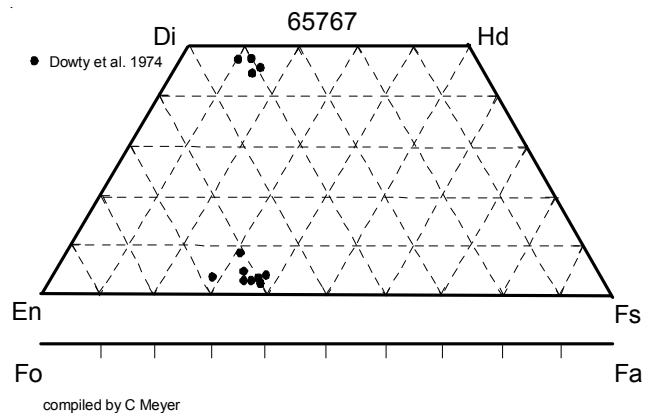


Figure 6: Pyroxene composition in 65767 anorthosite clast (Warner et al. 1976).

## Introduction

These two glassy objects contain relatively large white clasts (figures 1 and 2). They were collected as rake samples – see section on 65701.

## Petrography

Dowty et al. (1974), Warner et al. (1976) give brief descriptions of anorthosite clasts, including pyroxene diagrams, indicating that the white clasts are ferroan anorthosite (see figures). Warren (1994) calls them pristine. Plagioclase is  $An_{98}$ .

## Chemistry

The analysis of 65757 by Korotev (1994) is very KREEPy and must be of glass matrix. It also has extremely high Ni, Ir and Au. The analyses of the anorthosites are by Warner et al. (1976) indicating they are mostly very calcic plagioclase.

## References for 65757

Butler P. (1972a) Lunar Sample Information Catalog Apollo 16. Lunar Receiving Laboratory. MSC 03210 Curator's Catalog, pp. 370.

Dowty E., Prinz M. and Keil K. (1974b) Ferroan anorthosite: a widespread and distinctive lunar rock type. *Earth Planet. Sci. Lett.* **24**, 15-25.

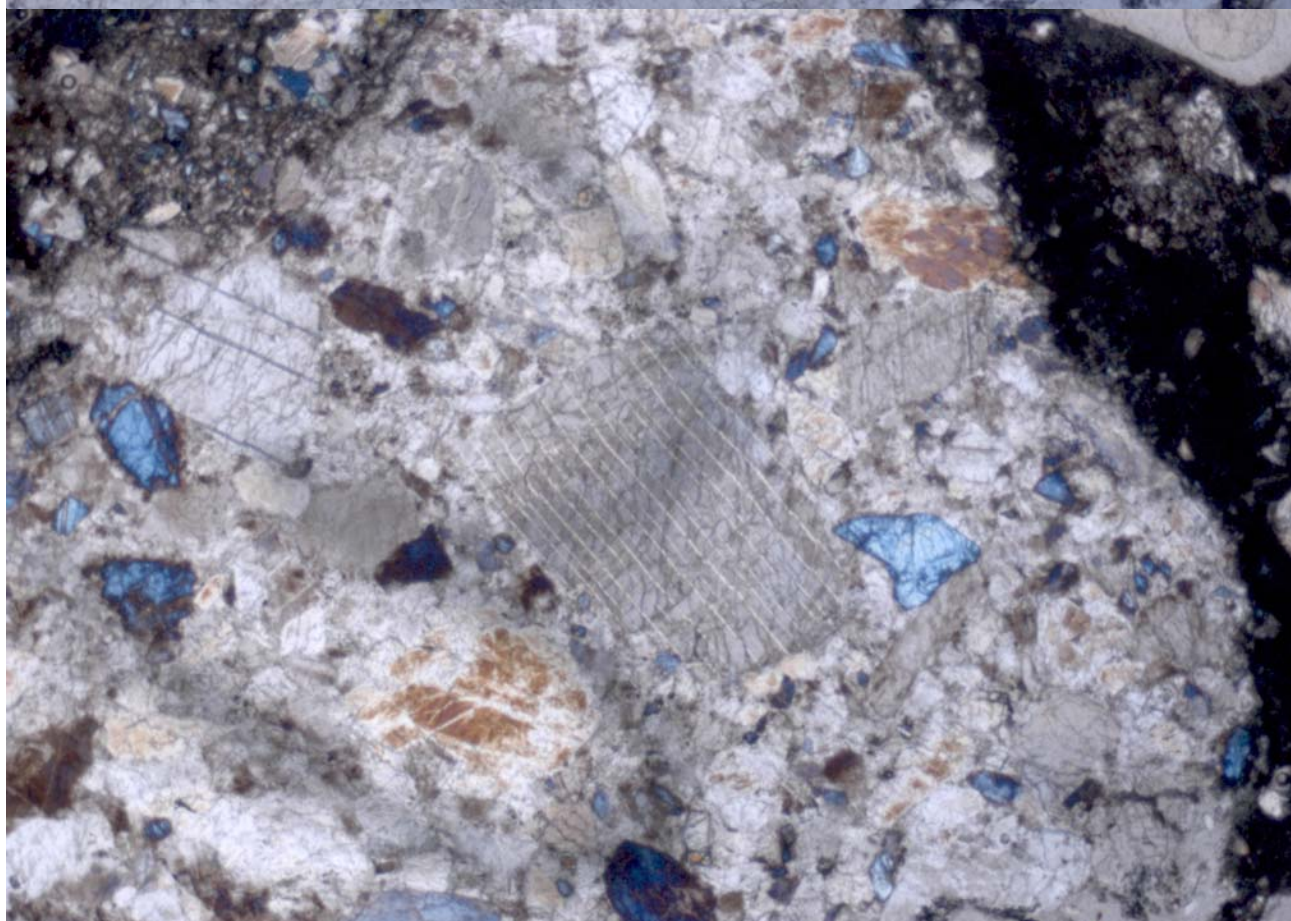
Keil K., Dowty E., Prinz M. and Bunch T.E. (1972) Description, classification and inventory of 151 Apollo 16 rake samples from the LM area and station 5. Curator's Catalog, JSC.

Korotev R.L. (1994) Compositional variation in Apollo 16 impact melt breccias and inferences for the geology and bombardment history of the central highlands of the Moon. *Geochim. Cosmochim. Acta* **58**, 3931-3969.

Korotev R.L. (1981) Compositional trends in Apollo 16 soils. *Proc. 12<sup>th</sup> Lunar Sci. Conf.* 577-605.



Figure 7: Thin section photo of 65767 by C Meyer. 2 mm across



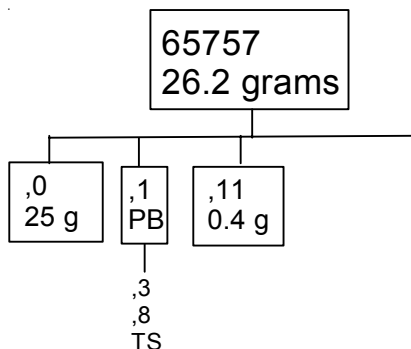
**Table 1. Chemical composition of 65757**

| reference weight | matrix        |                    |
|------------------|---------------|--------------------|
|                  | Dowty74 anor. | Korotev87 McKinley |
| SiO2 %           | 44.4 (a)      |                    |
| TiO2             | 0.01 (a)      |                    |
| Al2O3            | 35.1 (a)      | 20.1 (b)           |
| FeO              | 0.5 (a)       | 11.2 (b)           |
| MnO              |               |                    |
| MgO              | 0.39 (a)      | 10.9 (b)           |
| CaO              | 19.1 (a)      | 12.2 (b)           |
| Na2O             | 0.42 (a)      |                    |
| K2O              | 0.02 (a)      |                    |
| P2O5             | 0.06 (a)      |                    |
| S %              |               |                    |
| sum              |               |                    |

|        |      |     |
|--------|------|-----|
| Sc ppm | 11.6 | (b) |
| V      | 31   |     |
| Cr     | 1210 | (b) |
| Co     | 147  | (b) |
| Ni     | 2520 | (b) |
| Cu     |      |     |
| Zn     |      |     |
| Ga     |      |     |

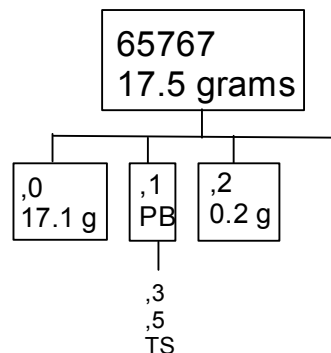
|        |      |     |
|--------|------|-----|
| Ge ppb |      |     |
| As     |      |     |
| Se     |      |     |
| Rb     |      |     |
| Sr     |      |     |
| Y      |      |     |
| Zr     |      |     |
| Nb     |      |     |
| Mo     |      |     |
| Ru     |      |     |
| Rh     |      |     |
| Pd ppb |      |     |
| Ag ppb |      |     |
| Cd ppb |      |     |
| In ppb |      |     |
| Sn ppb |      |     |
| Sb ppb |      |     |
| Te ppb |      |     |
| Cs ppm |      |     |
| Ba     | 310  | (b) |
| La     | 29.2 | (b) |
| Ce     |      |     |
| Pr     |      |     |
| Nd     |      |     |
| Sm     | 13.8 | (b) |
| Eu     |      |     |
| Gd     |      |     |
| Tb     |      |     |
| Dy     |      |     |
| Ho     |      |     |
| Er     |      |     |
| Tm     |      |     |
| Yb     | 8.83 | (b) |
| Lu     | 1.3  | (b) |
| Hf     | 9.7  | (b) |
| Ta     |      |     |
| W ppb  |      |     |
| Re ppb |      |     |
| Os ppb |      |     |
| Ir ppb | 65   | (b) |
| Pt ppb |      |     |
| Au ppb | 52   | (b) |
| Th ppm |      |     |
| U ppm  |      |     |

technique: (a) broad beam e. probe, (b) INAA



**Table 2. Chemical composition of 65767**

| reference weight | Dowty74 |     |
|------------------|---------|-----|
| SiO2 %           | 44.5    | (a) |
| TiO2             | 0.03    | (a) |
| Al2O3            | 35      | (a) |
| FeO              | 0.41    | (a) |
| MnO              | 0.01    | (a) |
| MgO              | 0.3     | (a) |
| CaO              | 19.3    | (a) |
| Na2O             | 0.44    | (a) |
| K2O              | 0.03    | (a) |
| P2O5             | 0.03    | (a) |
| S %              |         |     |
| sum              |         |     |
| (a) DBA          |         |     |



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Warner R.D., Dowty E., Prinz M., Conrad G.H., Nehru C.E. and Keil K. (1976c) Catalog of Apollo 16 rake samples from the LM area and station 5. Spec. Publ. #13, UNM Institute of Meteoritics, Albuquerque. 87 pp.