

# 14425

## Glass Sphere

0.794 grams

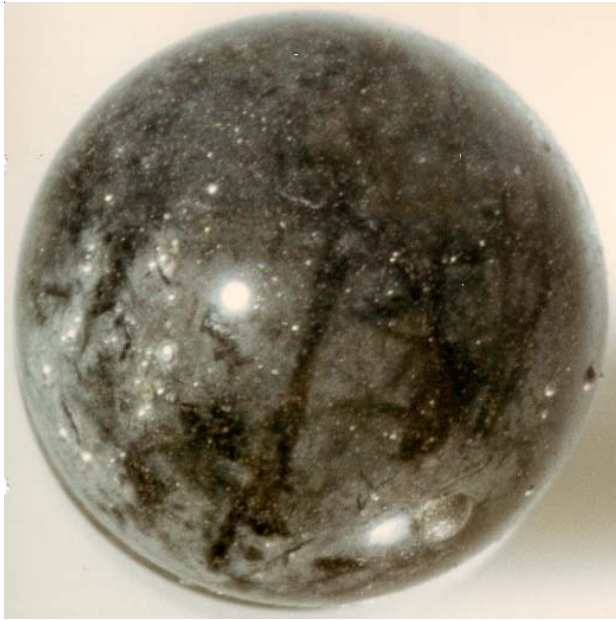


Figure 1: Glass sphere 14425. NASA S72-18776.  
Diameter of sphere is 0.7 cm.

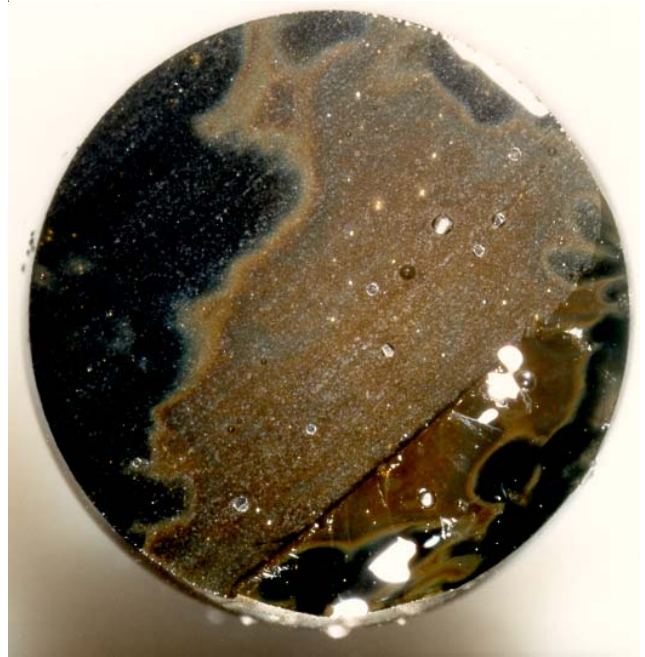


Figure 2: Interior of glass sphere 14425. NASA S85-25498.

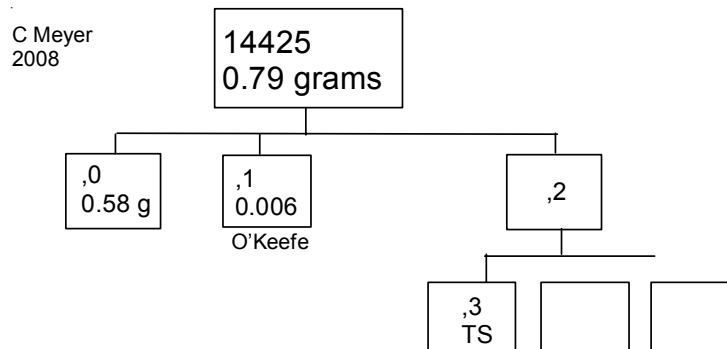
### Introduction

14425 is a black glass sphere about 0.8 cm diameter. About 5% of the surface is covered with bright gray metallic globules. Micrometeorite craters are also observed on the surface, but have apparently not been studied. The interior glass has partially devitrified (figure 2).

This large glass sphere was sieved from the “bulk soil sample” (14163) collected near LM. It was originally allocated to John O’Keefe, with the provision that it

was not to be carbon coated. This led to an incorrect analysis and interpretation. A thin section now exists, and has been reanalyzed by Glass (1986). The bulk composition (table 1) is similar to the Apollo 14 regolith – it is not volcanic in origin.

Two types of glass are visible in the polished section. One is clear and devoid of metallic spheres. The other area is cloudy with numerous small metallic iron spherules with ~10 % Ni and up to 9% P.



**Table 1. Chemical composition of 14425**

<i>reference</i> Glass86		
<i>weight</i>		
SiO <sub>2</sub> %	47.1	(a)
TiO <sub>2</sub>	1.36	(a)
Al <sub>2</sub> O <sub>3</sub>	14	(a)
FeO	13.3	(a)
MnO		
MgO	13	(a)
CaO	9.22	(a)
Na <sub>2</sub> O	0.72	(a)
K <sub>2</sub> O	0.26	(a)
P <sub>2</sub> O <sub>5</sub>		
S %		
<i>sum</i>		
Sc ppm		
V		
Cr	2053	(a)
Co		
Ni	tr.	
<i>technique: (a) e-probe</i>		

**References for A14**

Carlson I.C. and Walton W.J.A. (1978) **Apollo 14 Rock Samples**. Curators Office. JSC 14240

Glass B.P. (1986) Lunar sample 14425: Not a lunar tektite. *Geochem. Cosmochim. Acta* 50, 111-113.

O'Keefe and Glass (1985) Lunar sample 14425: Characterization and resemblance to magnesium microtektites. *Science* **227**, 515-516.

Sutton R.L., Hait M.H. and Swann G.A. (1972) Geology of the Apollo 14 landing site. *Proc. 3<sup>rd</sup> Lunar Sci. Conf.* 27-38.

Swann G.A., Trask N.J., Hait M.H. and Sutton R.L. (1971a) Geologic setting of the Apollo 14 samples. *Science* 173, 716-719.

Swann G.A., Bailey N.G., Batson R.M., Eggleton R.E., Hait M.H., Holt H.E., Larson K.B., Reed V.S., Schaber G.G., Sutton R.L., Trask N.J., Ulrich G.E. and Wilshire H.G. (1977) Geology of the Apollo 14 landing site in the Fra Mauro Highlands. U.S.G.S Prof. Paper 880.

Swann G.A., Bailey N.G., Batson R.M., Eggleton R.E., Hait M.H., Holt H.E., Larson K.B., McEwen M.C., Mitchell E.D., Schaber G.G., Schafer J.P., Shepard A.B., Sutton R.L., Trask N.J., Ulrich G.E., Wilshire H.G. and Wolfe E.W. (1972) 3. Preliminary Geologic Investigation of the Apollo 14 landing site. *In* Apollo 14 Preliminary Science Rpt. NASA SP-272. pages 39-85.

Wilshire H.G. and Jackson E.D. (1972) Petrology and stratigraphy of the Fra Mauro Formation at the Apollo 14 site. U.S. Geol. Survey Prof. Paper 785.