

64816

64816 POIKILITIC IMPACT MELT

3.83 g

INTRODUCTION: 64816 is a coherent, medium gray, poikilitic impact melt (Fig. 1). It is a rake sample from a small subdued crater on Stone Mountain. Zap pits are absent.



FIGURE 1. Smallest scale division in mm. S-72-55328.

PETROLOGY: A petrographic description and mineral compositions are given by Simonds et al. (1973). Pigeonite is the sole oikocryst phase and tends to occur as elongate crystals (up to ~0.5 mm long). Interoikocryst regions contain patches with a subophitic texture, a “K-rich phase” with up to 9% K_2O and as little as 7% CaO , and abundant plagioclase clasts (Simonds et al., 1973). Lathy ilmenite often outlines the oikocrysts (Fig. 2). A mode given by Simonds et al. (1973) is 59% plagioclase + mesostasis, 34% pigeonite, 4% olivine and 2% opaques. Mineral compositions are shown in Figure 3. Fe-metal with rare schreibersite inclusions are accessory minerals. Metal compositions are reported by Gooley et al. (1973) and reproduced here as Table 1.

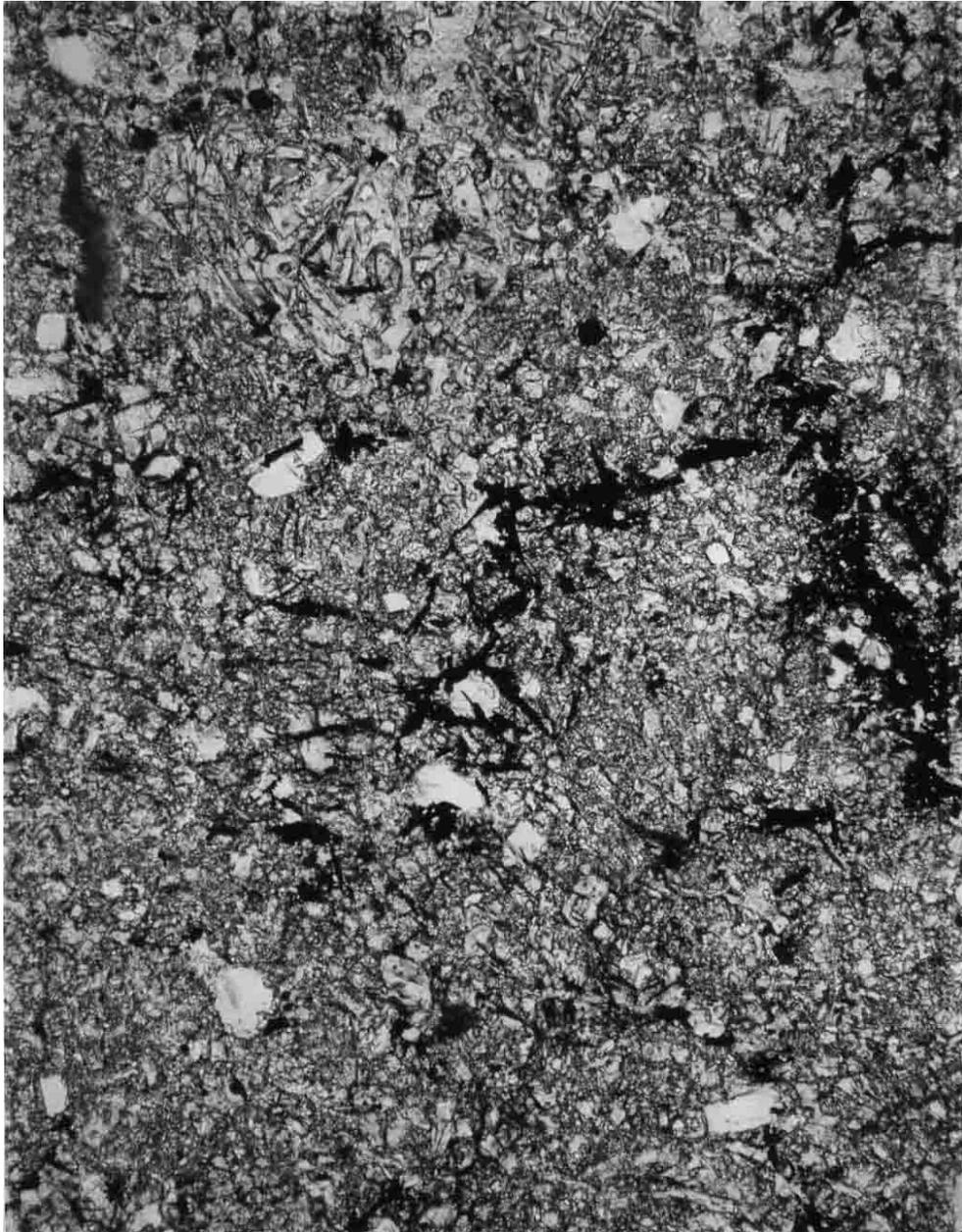


FIGURE 2. 64816,3, general view, ppl. Width 1 mm.

PHYSICAL PROPERTIES: Pearce and Simonds (1974) report the results of a room temperature hysteresis curve determination on 68416. The very small saturation remanence to saturation magnetization ratio ($J_{RS}/J_S = 0.0012$) indicates that virtually all of the ferromagnetic phases in this sample are multidomain particles.

PROCESSING AND SUBDIVISIONS: In 1972 two chips were removed and one of these (,1) allocated to Phinney for thin sectioning and petrography. The magnetic studies were done on the potted butt of ,1.

TABLE 1. Metal compositions (wt%).

| | <u>Ni</u> | <u>Co</u> | <u>P</u> | <u>S</u> |
|-------------------------------|-----------|-----------|----------|----------|
| Metal (without schreibersite) | 4.1-6.1 | 0.5 | 0.0-0.5 | 0.02 |

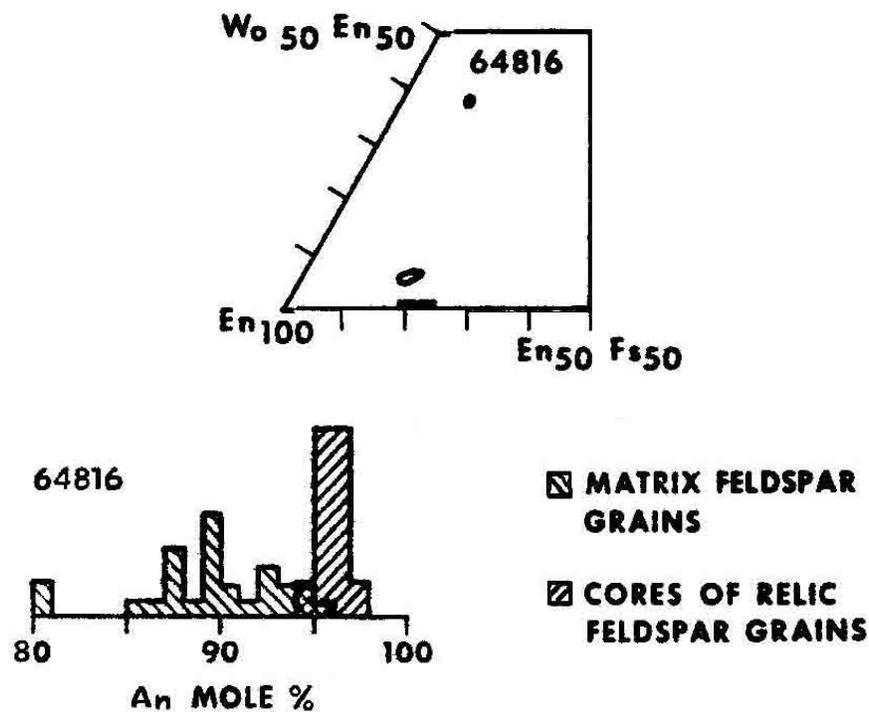


FIGURE 3. Mineral compositions, olivine plotted along base of pyroxene diagram from Simonds et al. (1973).