-p, vertical contacts (Fig. 6). Most ... angular to subrounded fragments that are less than 1 cm to 10 cm in diameter. Fragments in each pipe reflect the character ... the adjacent host rocks. Therefore, most fragme... are predominantly bleached, silicified and sericitized BFP, but pipes near the edge of the BFP plug contain a variety of rock fragments (Fig. 7). Several pipes have a compact matrix of grey to brownish clay; the matrix in others is a porous mixture of quartz and well-crystallized pyrite. In a few pipes, fragments are welded together with little cement and voids are numerous.

The Bell breccia pipes appear to have been localized along a major conduit, the Newman fault, and along smaller subsidiary joints or fractures. The pipes are post-ore, but adjacent rocks seem to have been depleted in copper. This depletion is particularly evident around the small pipe about 50 meters to the northwest of the main cluster (Figs. 9, 10).

Local Structures

Three normal faults dissect the rocks of Newman Peninsula into four northwesterly trending blocks (Figs. 3, 26). The block on the western side of each ... The copper-bearing BFP plug at Bell was localized by one of these major faults, the Newman fault. Juxtaposition of the lower parts of the Hazelton and Skeena groups acr... the Newman fault indicates a stratigraphic separa...on of 700 to 1300 meters. This is the greatest known vertical displacement on faults of the immediate area.

Other faults in the vicinity of the Bell pit include an east-northeasterly fault that terminates at the western edge of the BFP, but appears to offset rhyodacite, and some north-northeasterly faults that extend into the BFP plug and are therefore at least partly younger than the BFP. Attitudes of the fracture systems related to all major faults in the Bell open pit are plotted on Figure 8.

Because the Bell orebody lacks appreciable offset along the projected strike of the Newman fault, and because faulting at the appropriate position is not visible in the pit, post-ore movement on the Newman fault must have been small or negligible. Most of its movement, and probably that of the other two major block-faults, seems to have been pre-Eocene. However, although fault contacts have not been observed, some movement apparently occurred after the Eocene igneous activity, because in many places BFP

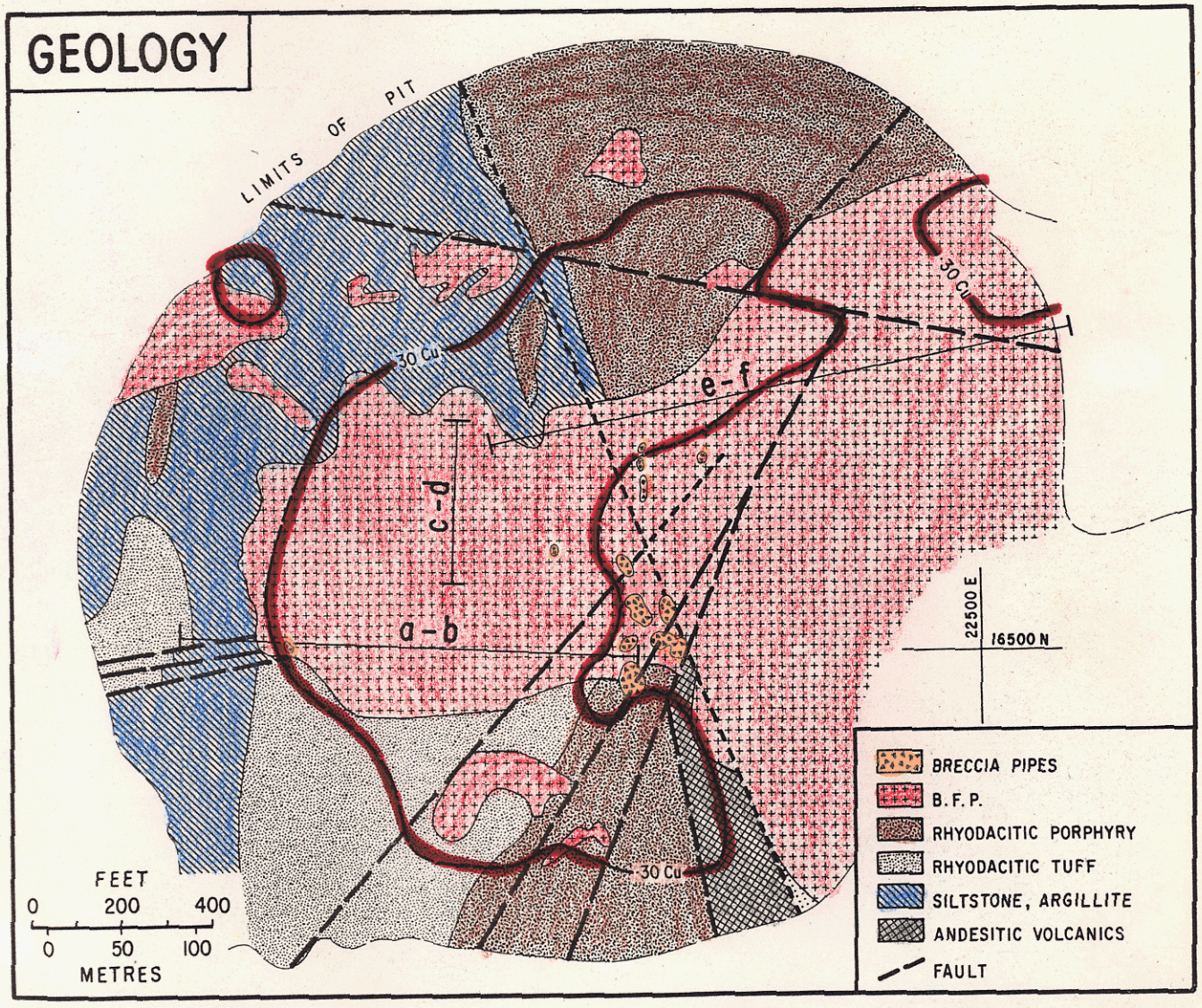

FIGURE 9 — Geology of the Bell Copper Pit. The projection of the Newman fault across the pit is shown as a dashed line.