can be seen (fig. 132). Prominent fracture patterns of various origins abound in the vicinity. Some of those thought to be due to magma flowage (Cambrian in age) are shown in figure 133, a site which lies just south of the parking area but viewed more advantageously from the west side of the dam. In other parts of the surrounding area, other fractures of tectonic origin complicate the geology.

Three areas to the south and east are worth noting. An extra overflow for the lake crosses the road about 250 to 300 m east of the parking area. In the drainage exposures south of the road, abundant quench features in the granite are impressive (fig. 134). Somewhat southeast of this is an outcrop of Meers Quartzite and Carlton Rhyolite (W–093) (fig. 135) that weathers to tightly fractured ridges.

Farther down the overflow drainage, a zone occurs where angular inclusions (W–7211) are common. Most of these seem to be fragments of Carlton Rhyolite, but some may be dirty quartzite or Mount Scott granite. They have some fractures that do not extend out into the host Quanah (fig. 136), implying a pre-Quanah origin. Modal analyses of some of these rocks are given in table 33.

The walk from the dam northwestward across to Camp Doris crosses several additional rock types: aplite dikes and Hale Spring–type pegmatites. An aplite farther west, north of Osage Lake, was identified as a uranium prospect by Al-Shaieb and others (1980). Table 34 presents some of their trace-element data for that occurrence. Some of the aplites are contorted, suggesting continued movement of the magma at even late stages of crystallization. Near the top of Little Baldy, a pegmatoid dike 6 cm wide is full of riebeckitic or arfvedsonitic amphiboles that are 2 cm long. This dike is exactly like those in the Hale Spring area.

The granite–gabbro contact in this area can be closely located from the granite side, where the Quanah stands up as a small wall or bluff. This contact was interpreted as a fault by Chase and Miser on the State geologic map (Miser, 1954) and by Havens (1977). However, abundant evidence can now be cited for an intrusive origin. Apophyses of granite extend out into the gabbro. In detail, the contact makes corners and sharp turns, as do other intrusive contacts in the Wichitas. The gabbro here is probably the N Zone(?) of the Glen Mountains Layered Complex. Primary dips are to the east generally, suggesting tilting *before* granite emplacement. Although chemical determinations of whole rocks from a layered sequence are difficult to interpret, an average of seven determinations given by Alipouraghtapeh (1979) is shown for reference in table 35.

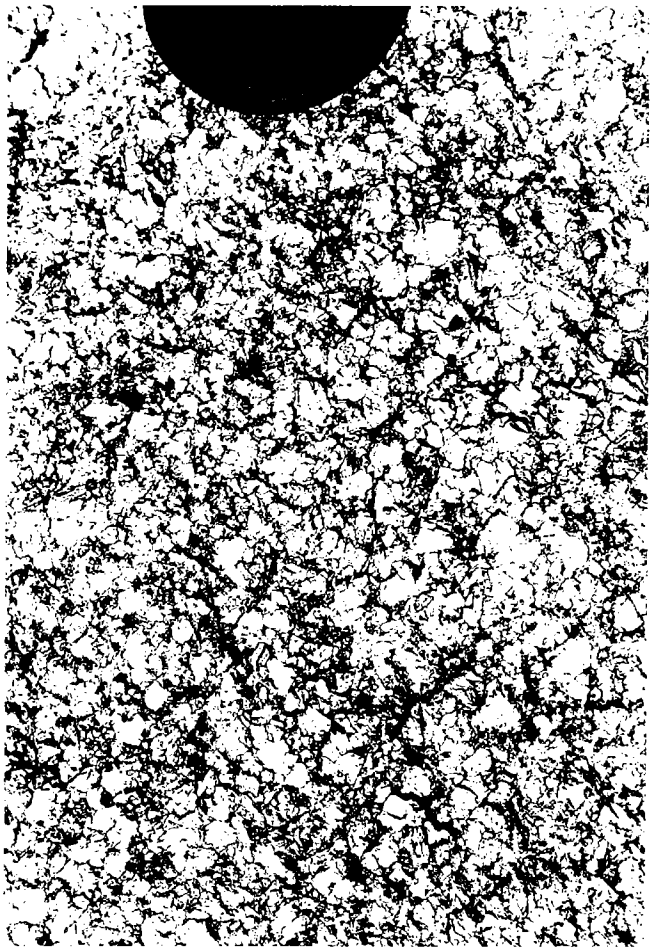

Figure 132. Photograph of typical weathered surface on normal coarse-grained Quanah granite at dam parking area. Feldspar grains are about 1 cm across.

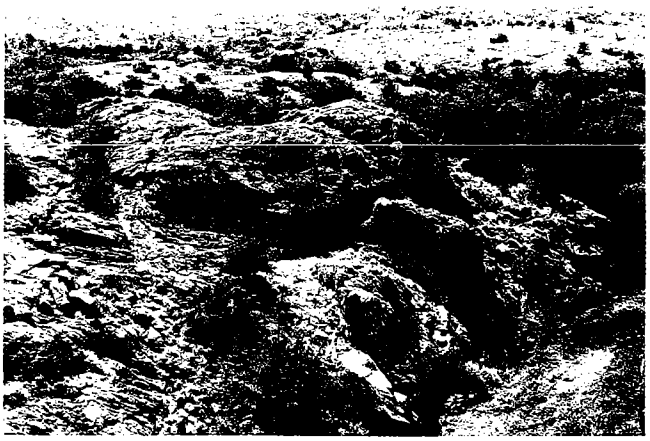

Figure 133. View of Quanah Granite looking southeastward across Quanah Creek from west side of Quanah Parker Lake Dam. Fracture pattern in outcrop dipping to south here is interpreted as delineating flowage motions in crystallizing magma.