STOP 8—HIDE-A-WAY AREA

Relations among Carlton Rhyolite–Meers Quartzite? (Pratt Hill quartzite)–Mount Scott Granite–late diabase, Hide-A-Way (SW Lake Elmer Thomas), Fort Sill Military Reservation, about 10 miles northwest of Lawton. SE¼NE¼ sec. 23, T. 3 N., R. 13 W., Comanche County, Oklahoma. **J. R. Miller, M. C. Gilbert,** and **J. R. Sides.**

Outcrops of granite, microgranite, rhyolite, diabase, and quartzite occur within the immediate vicinity of Hide-A-Way Cove (fig. 126). Just west of Hide-A-Way Cove, recent sediments have originated from erosion of the granite and rhyolite. Tables 39, 40, and 41 give relevant chemical and modal data for the rocks.

The hills to the north of Hide-A-Way Cove are composed of Mount Scott Granite (fig. 127). The Mount Scott is a leucogranite that is porphyritic to phaneritic and generally fine grained. Major constituents are micropegmatite, microperthite, and quartz, with minor hornblende, magnetite, and sphene. Chemical determination of the unit is given in table 6. Outcrops of Mount Scott Granite commonly are covered with exfoliation-derived boulders, yielding classic tor topography (Gilbert, 1979; and this guidebook). The granite is pink to red on fresh surfaces and weathers to dark brick red. Exposures of diabase occur in the immediate vicinity of Hide-A-Way parking area. This is known as late diabase, because such bodies cut all other igneous units in the Wichitas. A new XRF determination is presented in table 41, which is quartz-normative owing to the unusually high Fe content. Petrographically, abundant blebs and stringers of secondary oxides are seen. Other analyzed late diabases (Gilbert and Myers, in preparation) appear to be olivine-normative.

Hills underlain by the Carlton Rhyolite Group occur south of Hide-A-Way Cove, on Fort Sill Military Reservation. This is the largest outcrop of Carlton Rhyolite in southern Oklahoma (see table 4). In this region, Carlton Rhyolite is highly silicified and contains phenocrysts of perthite and quartz. The groundmass is felsiphyric and consistently contains microscopic grains of rounded magnetite. The fresh rhyolite is pinkish red, and weathers to reddish brown. Outcrops of the rhyolite break into polygonal blocks owing to intense jointing in the rock (fig. 148). These polygonal blocks are easily weathered and transported, and outcrops of rhyolite commonly have smooth surfaces. The rhyolite is highly brecciated at fault contacts. At Hide-A-Way Cove, some of the rhyolite is an ash-flow tuff with preserved fiamme that indicate a dip of about 35° to the south. Elsewhere in southern Oklahoma, the rhyolite contains lava flows and agglomerates.

Pratt Hill quartzite (informal field term) occurs at the parking area and extends eastward along the southern shore of Lake Elmer Thomas (fig. 149). The quartzite is best exposed on the steep northern slope of Pratt Hill, where it is in sharp contact with overlying Carlton rhyolite. The quartzite is composed mainly of fine-grained quartz and white micas, with

Figure 148. Photograph of columnar block of Carlton Rhyolite in which alkali feldspar phenocrysts are aligned.

Figure 149. Photograph of lightly banded quartzite.