cal values appropriate to the three classes, from our present data-set, is given in table 8. The distribution of the three classes is shown in figure 11. The Mount Scott class is typical of the eastern Wichitas; Reformatory is typical of the west; and Mountain Park is scattered all along the length of the exposures. This spatial control is thought to reflect different primary liquids that arrived at the surface from different, but perhaps related, sources. The Mount Scott class appeared early, but the other two classes show no time relation. For example, the Mountain Park class includes the early Headquarters Granite and the late Quanah Granite.

Chappell and White (1974) devised a simple classification of granitoid rocks as I-type and S-type according to source. The I-type granitoids are those from an igneous-rock parentage. That is, the liquids could have been derived by fractional crystallization from basalts or by partial melting of some previously crystallized igneous suite. S-types are those granitoids whose liquids came from partial melting of sedimentary material. Each of these types has distinctive chemical, isotopic, and petrographic indices. Loiselle and Wones (1979) pointed out another suite of granitoids that do not fit readily into the I-type and

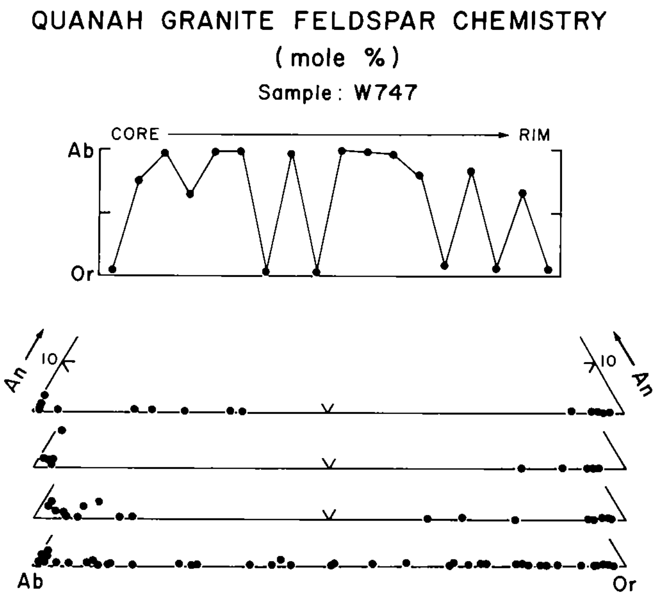

Figure 9. Electron microprobe determinations along traverses across originally homogeneous alkali feldspars from Quanah Granite.

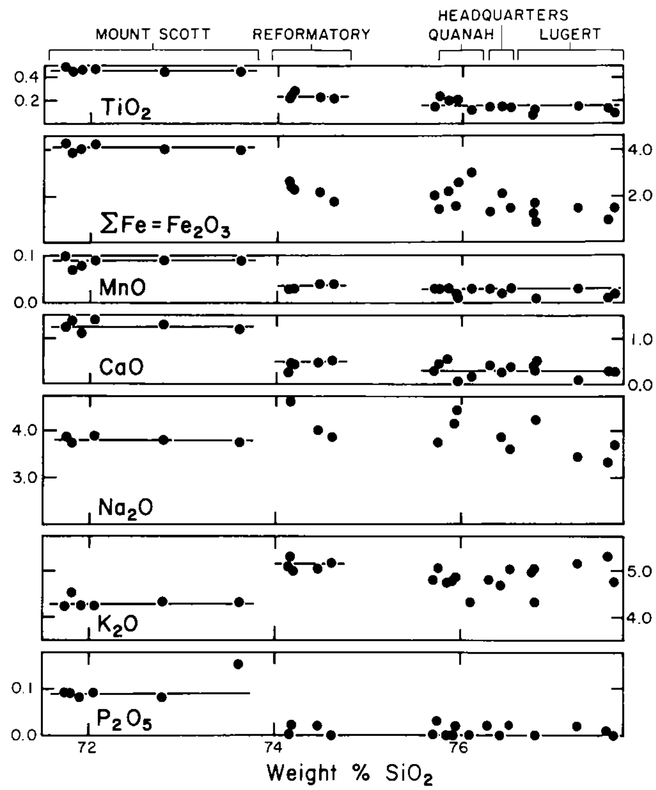

Figure 10. Harker variation diagram for some of available determinations from Wichita Granite Group. Three clusters can be seen which are discussed in text.

TABLE 8.—CHEMICAL SIGNATURE OF GRANITE CLASSES OF WICHITA GRANITE GROUP

Oxide wt%/Class	*Mt. Scott*	*Reformatory*	*Mountain Park*
SiO_2	71.0-73.6	73.8-74.7	75.0-77.6
TiO_2	>0.4	0.2- 0.3	.1-.25
Fe_2O_3 (total Fe)	>3.5	1.8-2.7	1.2-2.6
MnO	>.07	0.02-0.05	0.00-0.04
CaO	1.0-1.5	0.3-0.7	0.1-0.6
K_2O	∿4.3	4.2-5.3	4.1-5.5
P_2O_5	.08	.00-.02	.00-.01
Rb (ppm)	127	127	174
Sr (ppm)	91	41	22