averages of these tracings are taken, and the average heights of the peaks above the average background are measured in arbitrary units. The quartz percentage is then determined by the ratio of the sample height, H_x, to the standard height, H_{100}, i. e.

$$\text{Quartz } \% = \frac{H_x}{H_{100}} \cdot 100.$$

This procedure may be used for other quartz peaks should the 3.35 Å line be superimposed by lines of other crystalline components. The total time required for a single determination (after preparation of the sample) is from ½ to one hour.

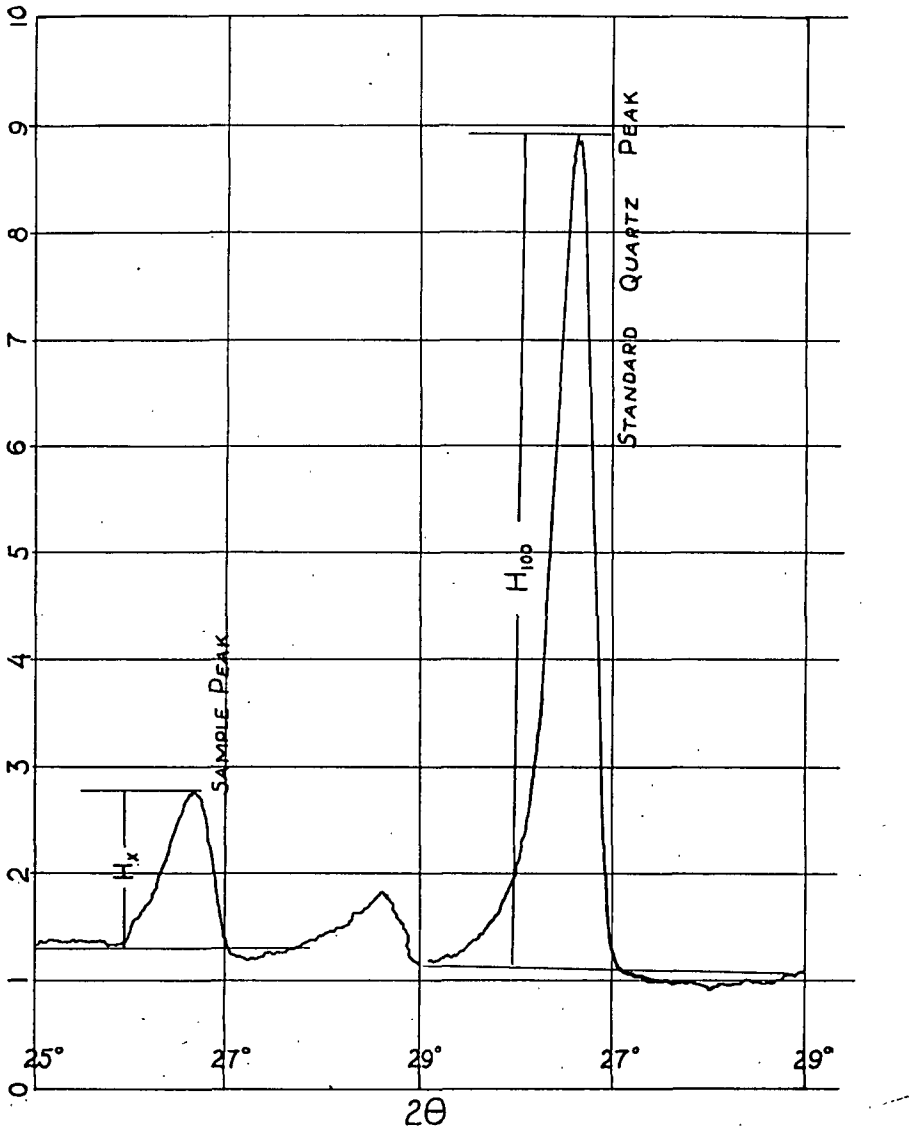

Chart 2.—Strip chart recording, showing method of tracing data and of calculation.

$$\text{Quartz } \% = \frac{H_x}{H_{100}} \cdot 100.$$

EXPERIMENTAL DATA AND COMMENT

In evolving the foregoing procedure, other methods were tried and rejected. Dry grinding caused caking of the sample, and the static charge developed caused the powder to cling to the sides of the mortar, producing a wide range of particle sizes. The use of ethyl alcohol gives a range of particle sizes from 1 to 5 microns,