The probable error[1] of these results is ±0.027, the average error ±0.0305. Therefore the sp. gr. of tetragonal ferrous titanate may be given as 4.77 ± 0.03; and that of titanyl titanate, or pure rutile, as 4.23 ± 0.03. Evidence for the accuracy of these determinations is found in the close agreement between the calculated value of the sp. gr. of rutile, 4.20–4.26, and that value as commonly accepted, given by Dana as 4.18–4.25, by Miers as 4.22, and by Rosenbusch as 4.20–4.25.

Finally it has seemed of interest to plot (Fig. 1) the sp. gr.—composition curve of the iron rutiles studied, taking the values of the Fe and TiO end members as 4.77 and 4.23 respectively. The diagram shows a straight line relation between volume percentage and sp. gr. This clearly indicates that isomorphous mixtures of the ferrous and titanyl titanates are represented in iron rutile.

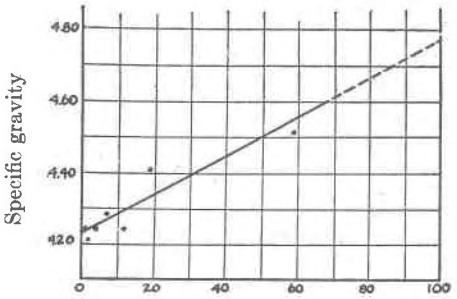

FIG. 1. SPECIFIC GRAVITY—COMPOSITION CURVE OF IRON RUTILE

A UTAH FELDSPAR LOCALITY

V. W. FIELD

Salt Lake City

Much has been written about Utah's ores and minerals from a commercial standpoint, but that is of little aid to the collector, and as there are not many here in Utah interested in collecting mineral specimens, the good localities have not been fully explored.

The Big and Little Cottonwood mining districts, in Salt

[1] As determined by the formula: $r = \pm\frac{2}{3}\sqrt{\frac{\Sigma(v^2)}{n-1}}$, where r = the probable error of any single calculated result and n = number of observations (7).

Lake County, afford some rich fields for the mineralogist. The one here mentioned is a feldspar occurrence, and is situated near the mouth of the former canyon on a high spur or ridge lying between the two, parallel with the main streams.

The crystals are extremely abundant in the rock. They are the common type of orthoclase feldspar, few being twinned. They range in size from 5 millimeters up to 8 centimeters. To secure good specimens requires considerable skill and patience, as the crystals adhere to the rock, which makes it very difficult to get them out whole.

About 1½ kilometers (one mile) further up Big Cottonwood canyon, on the opposite side, a finer grained rock occurs which is more decomposed, so the crystals can be broken out much easier, and better ones can be obtained. They average smaller in size but show fine smooth faces.

The writer has visited the locality several times; the last trip was made with Mr. C. N. Gerry of the U. S. Geological Survey, and some very good specimens were obtained. The only obstacle one has to contend with is the rattlesnakes that infest the ledges and underbrush, but they are not so numerous of late years.

PROCEEDINGS OF SOCIETIES

NEWARK MINERALOGICAL SOCIETY

At the April meeting of the Newark Mineralogical Society there was a fair attendance of members. After the usual routine of business and the acceptance of two new members, Mr. Lee proceeded with his paper on "Tungsten and its Ores." This proved to be one of the most interesting papers ever presented before the Society. After enlightening us on the various ores, Mr. Lee gave demonstrations on chemical tests for tungsten, during which he produced synthetic scheelite and tungstate of silver, the latter unknown in nature. A vote of thanks was tendered Mr. Lee at the end of his talk.

WM. H. BROADWELL, *Secretary.*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, April 14, 1921

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Dr. Hawkins, in the chair. Fifteen members and three visitors were present. Upon recommendation by the council the following were elected active members: Brother Lucian, and Dr. Frank O. Eriksson.

Mr. John Frankenfield read an interesting paper on "Chemical Crystallography" illustrated with a number of crystallized mineral specimens.