of a pink mineral were collected in a large alluvial fan on the east side of the valley near the south end. The mineral proved upon examination to be bustamite.

Qualitative tests indicate: (1) manganese, strong test with borax bead; (2) magnesium, small amount when precipitated as magnesium ammonium phosphate: (3) presence of iron; (4) presence of calcium. Physical properties are: hardness, 5.5–6.5; cleavages, two directions, one prominent, one imperfect; color, brilliant pink to rose; luster, vitreous to pearly. The beta index was determined as 1.70.

The source of the boulders could not be located. This is the first occurrence of this member of the rhodonite series known to the authors in the State of California.

THE PROBABLE NON-EXISTENCE OF ARSENOFERRITE

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Foshag and Short[1] have described some apparently isotropic metallic mineral of analysis close to ideal $FeAs_2$. They suggested that this mineral might be the iron arsenide member of the pyrite group.

From certain crystal structural considerations it seemed to the writer unlikely that $FeAs_2$ would assume the pyrite type of structure, and that this isotropic material, therefore, represented some other crystal structure type. Dr. Foshag was kind enough to supply some coarse powder from the original analyzed arsenoferrite for x-ray examination. Powder photographs were taken of this material using cobalt radiation (which is only slightly absorbed by iron-bearing minerals).

Fig. 1

It quickly became apparent that it was impossible to reconcile the arsenoferrite diffraction pattern with that to be expected from a crystal based on any of the cubic space lattices. Since the mineral is not cubic, the possibility therefore suggested itself that it is löllingite. That this is indeed the case is proved by a comparison of the powder photograph of arsenoferrite with that of löllingite from Reichenstein, Germany. Figure 1 clearly indicates that these two materials are identical, except that the arsenoferrite has slightly greater interplanar spacings.

[1] Foshag, William F., and Short, M. N., Arsenoferrite from Jachymov, Czechoslovakia: *Am. Mineral.*, vol. **15**, pp. 428–439, 1930.

It remains to reconcile Short's determination of optical isotropism with a non-cubic diffraction pattern and specifically with the known rather strong anisotropism of löllingite (clearly evident in a polished section of the Reichenstein löllingite check). While the writer did not examine polished sections of Foshag and Short's arsenoferrite, a binocular examination of the coarse powder at his disposal indicated an extremely fine grain. The material has an appearance suggesting broken porcelain. There is x-ray evidence to the effect that the material is indeed extremely fine, for the high θ lines on the powder photograph are relatively weak, and the doublets in this region are unresolved. If sufficiently fine grained, the material would appear isotropic in aggregate, although the individual crystals would be anisotropic.

Since Foshag and Short's evidence for the existence of Baumhauer's[2] hypothetical "arsenoferrite" was the only direct evidence extant, it seems desirable to discontinue the use of the term.

[2] Baumhauer, H., Arsenoferrit, ein neues Glied der Pyritgruppe: *Zeit. Krist.*, vol. **51**, pp. 143–145, 1912.

CORRECTIONS

X-RAY POWDER DIFFRACTION DATA FOR ANTLERITE AND BROCHANTITE

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Dr. George Tunell of the Geophysical Laboratory has kindly brought to my attention the fact that incorrectly identified material was used in securing the x-ray data erroneously called antlerite in my paper entitled "Identification of the copper ore minerals by means of x-ray powder diffraction patterns"; this Journal, August issue, 1935. By means of optical methods I have checked the supposed antlerite that I used, and find it to be brochantite. I also find that the data obtained from this specimen of brochantite check the original data of Posnjak and Tunell (*Am. Jour. Sci.*, vol. **18**, pp. 12–24, 1929) better than the brochantite record published in my article cited above. For purposes of comparison I am listing the three records for brochantite in Table 1.

X-ray powder diffraction data from analyzed artificial crystals of antlerite the three refractive indices of which were measured, as well as other optical properties, and on which angular measurements were also made, were published by Posnjak and Tunell (*Am. Jour. Sci.*, vol. **18**, pp. 12–24, 1929). Dr. Tunell has pointed out also that more complete data for the x-ray diffraction pattern of tenorite have recently been published by Tunell, Posnjak, and Ksanda (*Zeit. Krist.*, vol. **90**, pp. 138–139, 1935).