

## Mineralogical Chemistry.

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**Litharge from Zarshuran, Persia.** ALEXANDER SCOTT (*Min. Mag.*, 1914, **17**, 143—146).—The specimen described is from a mineral vein which has long been worked for orpiment near the Zarshuran River, in Kurdistan. It is red with a yellowish-brown streak, and is in part crystalline, with a laminated structure. The optical characters of cleavage flakes suggest orthorhombic symmetry. Analysis gave:

PbO.	CuO.	Sb <sub>2</sub> O <sub>3</sub> .	P <sub>2</sub> O <sub>5</sub> .	CO <sub>2</sub> .	Total.	Sp. gr.
97·17	2·61	0·30	trace	trace	100·08	8·61

Red and yellow, crystalline modifications of lead monoxide have

been prepared artificially, but there is some confusion in the crystallographic descriptions of these. L. J. S.

**A New Locality for Voelckerite.** AUSTIN F. ROGERS (*Min. Mag.*, 1914, 17, 155—162).—Careful determinations of the amount of water present in apatites which are deficient in fluorine and chlorine prove that these elements are replaced isomorphously by oxygen rather than by hydroxyl, the general formula of minerals of the group being  $3\text{Ca}_3(\text{PO}_4)_2, \text{Ca}(\text{F}_2, \text{Cl}_2, \text{O}, \text{CO}_3)$ . For members of the group in which the oxygen atom predominates, the author has proposed the name voelckerite (A., 1912, ii, 565). The following analysis, by G. W. Jordan, is given of voelckerite from a metamorphic glaucophane-bearing rock from Calaveras Valley, Santa Clara Co., California. The mineral is white and subtranslucent, with an imperfect cleavage and faint lustre, D 3.06. Deducting a portion of the carbon dioxide as present in admixed calcite, the amount of  $\text{CO}_3$  is calculated as 0.35 and the excess of oxygen as 1.49%:

CaO.	$\text{Al}_2\text{O}_3$ .	FeO.	$\text{P}_2\text{O}_5$ .	$\text{H}_2\text{O}$ .	$\text{CO}_2$ .	Insol.	Total.
54.46	1.35	0.24	41.47	0.22	1.03	0.53	99.30

L. J. S.

**Pintadoite and Uvanite, Two New Vanadium Minerals from Utah.** FRANK L. HESS and WALDEMAR T. SCHALLER (*J. Washington Acad. Sci.*, 1914, 4, 576—579).—Pintadoite occurs as a thin, green efflorescence on the sandstone cliffs of Cañon Pintado, San Juan Co., Utah. Under the microscope, it is slightly pleochroic, and has moderate to high birefringence. It dissolves slowly in cold water. Analysis I gives the formula  $2\text{CaO}, \text{V}_2\text{O}_5, 9\text{H}_2\text{O}$ :

	$\text{UO}_3$ .	CaO.	MgO.	K <sub>2</sub> O.	$\text{V}_2\text{O}_5$ .	$\text{P}_2\text{O}_5$ .	$\text{As}_2\text{O}_5$ .	$\text{H}_2\text{O}$ .	Insol.	Total.
I.	—	22.6	—	—	42.4	—	—	35.0	—	100.0
II.	39.60	1.73	0.04	0.30	37.70	0.06	0.05	18.28	1.24	99.00

Uvanite occurs as a brownish-yellow powder disseminated in sandstone at Temple Rock, Emery Co., Utah. It resembles carnotite in appearance and mode of occurrence, but it has not the clear yellow colour characteristic of carnotite. Under the microscope, the minute, crystalline particles show a high birefringence. The mineral is not soluble in water, but it dissolves very quickly in ammonium carbonate solution. Analysis II agrees with  $2\text{UO}_3, 3\text{V}_2\text{O}_5, 15\text{H}_2\text{O}$ . L. J. S.

**Barkevikite from Lugar, Ayrshire.** ALEXANDER SCOTT (*Min. Mag.*, 1914, 17, 138—142).—Black, lustrous, prismatic crystals of barkevikite occur in a rock called lugarite. The optical characters are in agreement with those of the original barkevikite from Barkevik, in Norway. D 3.298; analysis gave:

$\text{SiO}_2$ .	$\text{TiO}_2$ .	$\text{Al}_2\text{O}_3$ .	$\text{Fe}_2\text{O}_3$ .	FeO.	MnO.	MgO.	CaO.	$\text{Na}_2\text{O}$ .	$\text{K}_2\text{O}$ .	$\text{H}_2\text{O}$ .	Total.
42.48	2.90	8.58	6.81	15.62	0.39	2.78	13.45	6.32	0.60	0.25	100.18

The relation of barkevikite to other members of the amphibole group is discussed. L. J. S.

**Meteorites of Uwet and Angela: Re-determination of Nickel and Iron in the Baroti and Wittekrantz Meteoric Stones.** G. T. PRIOR (*Min. Mag.*, 1914, 17, 127—134).—A mass of iron, weighing about 55 kilos., fell about ninety years ago at Uwet, in Southern Nigeria. An etched slice shows well-marked Neumann lines, together with needles of schreibersite and nodules of troilite. The iron belongs to the normal hexahedrite group of the type of Braunau. Analysis I corresponds with  $\text{Fe}_{14}\text{Ni}$ .

Several masses of iron, the largest weighing 4341 grams, have been found embedded in the caliche at the Angela Nitrate Works, near Santa Catalina, Iquique, Chili. This iron is an ataxite containing a comparatively low percentage of nickel (anal. II), and characterised by its extraordinary richness in schreibersite (amounting to nearly a quarter of the mass); it is probably identical with La Primitiva (A., 1898, ii, 391):

	Fe.	Ni.	Co.	Cu.	P.	C.	Total.	Sp. gr.
I.	93.36	5.78	0.75	nil	0.25	0.03	100.17	7.862
II.	95.03	4.52	0.65	—	trace	trace	100.20	7.892

The separation of iron and nickel by means of ammonia is found to be incomplete even after several precipitations. Triple precipitation of the iron with sodium acetate, and subsequent precipitation with ammonia, gives more accurate results; the percentages previously given for the Baroti and Wittekrantz meteorites (A., 1914, ii, 64) are now corrected.

L. J. S.