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SCHROECKINGERITE FROM AMBROSIA LAKE URANIUM DISTRICT

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Schroeckingerite $\text{NaCa}_3(\text{UO}_2)(\text{CO}_3)_3(\text{SO}_4)\text{F}\cdot 10\text{H}_2\text{O}$, is a secondary uranium mineral named in honor of J. von Schroeckinger, who found (Schrauf, 1873) and later described (Schroeckinger, 1875) the occurrence at Joachimsthal, Bohemia. It since has been reported from a number of localities, including several in the United States. In the Western United States it is found in Sweetwater and Carbon Counties, Wyoming (Larsen and Gonyer, 1937; Vine and Prichard, 1954); in Yavapai County, Arizona (Axelrod *et al.*, 1951); in Grand, San Juan, Emery and Piute Counties, Utah (Weeks and Thompson, 1954; Gruner *et al.*, 1954). It has been reported as occurring in the Ambrosia Lake, New Mexico uranium district by Towle and Rapaport (1952) and Rapaport (1952). This occurrence later was disputed by Gruner *et al.* (1954), who stated the mineral identified as schroeckingerite actually was meta-autunite. The most recent papers on uranium mineralogy in the Ambrosia Lake area (Corbett, 1963) (Granger, 1963) do not mention schroeckingerite as one of the secondary minerals present in that area.

During a recent visit to Kerr-McGee section 22 mine, McKinley

County, Ambrosia Lake uranium district, the author collected several specimens for laboratory examination. Subsequent x -ray powder diffraction analysis of these specimens with a diffractometer disclosed the presence of schroeckingerite in two different samples. One sample was an encrustation on sandstone from a mine wall, the other was a deposit that had formed on the metallic shield of a light bulb. Schroeckingerite was more abundant in the latter specimen but, in each sample, the predominant mineral was gypsum with lesser amounts of andersonite, $\text{Na}_2\text{Ca}(\text{UO}_2)(\text{CO}_3)_3 \cdot 6\text{H}_2\text{O}$, and schroeckingerite. The deposit from the lamp shield also contained minor amounts of a zippeite-like mineral. Certain other samples from mine walls were found to consist only of gypsum and andersonite.

The schroeckingerite described herein occurs as poorly developed crystals, typically around 10 microns in diameter, intimately mixed with the other previously mentioned minerals, as encrustations on gypsum. This type of occurrence precluded obtaining pure material for chemical analysis. Indices of refraction in white light are $\alpha = 1.492$, $\gamma = 1.540$.

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