rhombic cells, have β = 90–91 degrees. Study of 33 samples of stilbite and stellerite from 26 localities suggests that a continuous series exists from an alumina-rich, alkali-rich monoclinic species to a truly orthorhombic silica-rich, calcium end member (stellerite). Electron microprobe analysis of selected crystals from samples that have been examined optically and by X-rays is in progress.

Stellerite differs from most stilbites by having lower indexes of refraction, lack of twinning, parallel extinction, and tendency toward higher variable $-2V$. Positive identification, however, can be made only by single-crystal X-ray examination.

Although stellerite is widely reported, it is a rare mineral compared to stilbite, which it most often accompanies with quartz in silica-rich rocks. In a new occurrence near Chena Hot Springs, Alaska, stellerite is associated with yugawaralite, laumontite, and quartz in a siliceous xenolith in quartz monzonite.

X-ray oriented "epidesmine" from the type locality at Gelbe Birke, Schwarzenberg, Germany, was found to have its optic axial plane oriented parallel to {010} rather than {100} as originally determined by Rosický and Thugutt. Because its other properties are also identical to those of monoclinic stilbite, we recommend that "epidesmine" be discarded as a varietal mineral name.

Humberstonite, $Na_7K_3Mg_2(SO_4)_6(NO_3)_2 \cdot 6H_2O$: A New Saline Mineral From the Atacama Desert, Chile

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Humberstonite, a new hydrous sulfate nitrate of sodium, potassium, and magnesium, has been found at several localities in the nitrate fields of the Atacama Desert, Chile. The mineral occurs as a white powdery to compact layer, as much as 40 cm thick; this layer is covered with 10–50 cm of loose regolith and is underlain by hard, salt-cemented regolith, which in places contains irregular masses of hard, vitreous material that consists mainly of bloedite, soda niter, and humberstonite.

Humberstonite occurs as aggregates of thin, colorless, transparent, hexagonal-shaped crystals, as much as 0.20 mm in diameter. The crystals are trigonal, $R\bar{3}$: a = 10.895 ± 0.005 Å; c = 24.415 ± 0.015 Å; and Z = 3. The X-ray diffraction powder pattern has the following strong lines ($hk \cdot l$, $d_{hk \cdot l}$, I): 20.5, 3.393 Å (100); 22.0, 2.724 Å (70); 00.3, 8.137 Å (60); 10.1, 8.802 Å (35); 11.3, 4.527 Å (35); and 22.3, 2.583 Å (35). The precession photographs and powder pattern indicate a structural relationship to ungemachite. Crystals of humberstonite are flattened [0001]; observed forms are c {0001} and r {10 $\bar{1}$ 1}. The mineral has hardness 2–3 and perfect cleavage {0001}. Humberstonite is soluble in water and insoluble in acetone and ethyl alcohol. The calculated density is 2.251 g cm^{-3}; measured density, 2.252 g cm^{-3} (pycnometer, at 25° C). It is uniaxial negative with ξ = 1.436 and ω = 1.474.

Chemical analysis (in per cent): SO_3 42.99; N_2O_5 9.14; Na_2O 18.43; K_2O 12.17; MgO 7.47; H_2O + 110° C 9.78; H_2O − 110° C 0.40.

The new mineral is named for the chemist James Thomas Humberstone (1850–1939) who during his entire professional life worked to improve the recovery of the economic saline minerals of the Chilean nitrate deposits. The name has been approved by the Commission on New Minerals and Mineral Names, I.M.A.

Use of Infrared Spectroscopy in U. S. Bureau of Mines Mineralogical Problems

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Infrared spectroscopy is being used at the U. S. Bureau of Mines Morgantown Research Center for the study of various minerals of current interest to both government and industry. The