### SOCIETY NEWS



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# Seaborgite was found in the Blue Lizard mine, Red Canyon, White Canyon District, San Juan Co., Utah, USA, where it occurs on a thick crust of gypsum overlaying a matrix comprising mostly quartz. Associated phases are copiapite, ferrinatrite, ivsite, metavoltine, römerite, and other currently unknown minerals. Seaborgite occurs as attractive bladed crystals of light-yellow color up to 0.2 mm in length. Crystals typically occur in radiating sprays (FIG. 1). The ideal chemical formula of seaborgite is $LiNa_6K_2(UO_2)(SO_4)_5(SO_3OH)(H_2O)$ ; hence, it is an uranyl sulfate mineral. Seaborgite is the only known mineral species containing both Li and U as species-forming elements, and it is also one of very few minerals containing three distinct alkali metals.

Seaborgite is triclinic, with space group  $P^{-1}$ , and unit cell parameters a = 5.4511(4) Å, b = 14.4870(12) Å, c = 15.8735(15) Å,  $\alpha = 76.295(5)^{\circ}$ ,  $\beta = 81.439(6)^{\circ}$ , and  $\gamma = 85.511(6)^{\circ}$ . Its crystal structure has been determined by single-crystal X-ray diffraction methods to R = 3.77%. The structure of seaborgite is new and unprecedented, although it is based on the same uranyl sulfate cluster that is topologically identical to the one in the crystal structure of bluelizardite.

The mineral was named after Glenn Seaborg (1912–1999), an American chemist who was involved in the synthesis, discovery, and investigation of ten transuranium elements, including seaborgium. These studies led him to win the 1951 Nobel Prize in Chemistry.

Seaborgite is the third "Mineral of the Year" with its type locality in the USA. The previous winners were ophirite (2014, from the Ophir mine in Utah) and rowleyite (2017, from the Rowley mine in Arizona). The Blue Lizard mine was a prolific mineralogical site and the type locality for 22 other mineral species besides seaborgite.

The full description of the new mineral is available courtesy of the American Mineralogist from https://pubs.geoscienceworld.org/msa/ammin/article/106/1/105/593632/Seaborgite-LiNa6K2-UO2-SO4-5-SO3OH-H2O-the-First?guestAccessKey=195c8c0d-8405-407e-8990-0f002e75bade

#### REFERENCES

Kampf AR, and 5 coauthors (2021) Seaborgite, LiNa<sub>6</sub>K<sub>2</sub>(UO<sub>2</sub>)(SO<sub>4</sub>)<sub>5</sub>(SO<sub>3</sub>OH)(H<sub>2</sub>O), the first uranyl mineral containing lithium. American Mineralogist 106: 105-111, doi: 10.2138/ am-2020-7540



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