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Crystal Data: Monoclinic. *Point Group:* 2. Flat crystals, to 17 cm, occur along bedding planes. Commonly as spherulitic aggregates of radiating acicular to prismatic crystals; as massive granular aggregates.

Physical Properties: Cleavage: Perfect on $\{100\}$; imperfect on $\{\overline{102}\}$, $\{010\}$. Tenacity: Brittle. Hardness = 3.5 D(meas.) = 2.44-2.46 D(calc.) = 2.46 Piezoelectric; may fluoresce green under SW UV.

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Vitreous, slightly pearly on cleavage surfaces. Optical Class: Biaxial (-). Orientation: Z = h: $X \wedge c = 34^{\circ}$. $\alpha = 1.515$. $\beta = 1.533$. $\alpha = 1.515$

Optical Class: Biaxial (–). Orientation: Z = b; X \land c = 34°. α = 1.515 β = 1.533 γ = 1.535 2V(meas.) = 55°

Cell Data: Space Group: P2₁. a = 7.9814(12) b = 7.0657(8) c = 4.9054(4) $\beta = 93.95(1)^{\circ}$ Z = 2

X-ray Powder Pattern: Green River Formation, Wyoming, USA. 8.01 (100), 4.06 (50), 3.48 (40), 3.24 (40), 4.31 (30), 3.54 (30), 3.21 (30)

Chemistry:

	(1)	(2)
SiO_2	58.88	58.91
$B_2 O_3$	16.95	17.07
$\overline{Al}_2 O_3$	0.04	
Fe_2O_3	0.04	
MgO	0.03	
Na_2O	15.31	15.19
$\rm H_2O^+$	8.90	8.83
Total	100.15	100.00

(1) Green River Formation, Wyoming, USA. (2) NaBSi₂O₅(OH)₂.

Occurrence: Commonly interbedded with oil shales or marls (Green River Formation, USA); in boron-bearing evaporite deposits (California, USA); rarely in vugs in phonolite (Point of Rocks, New Mexico, USA).

Association: Shortite, trona, pyrite (Green River Formation, USA); "opal" (Cave Springs Wash, Nevada, USA).

Distribution: In the USA, at Searles Lake, San Bernardino Co., in the Kramer borate deposit, Kern Co., and at Lake Tecopa, Inyo Co., California; widespread in the Green River Formation of Utah and Wyoming; from Cave Springs Wash, Silver Peak Range, Esmeralda Co., Nevada; and at Point of Rocks, Colfax Co., New Mexico. In Canada, at Mont Saint-Hilaire, Quebec. From Kremna, near Tito Uzice; Lopare; and near Bela Stena, Yugoslavia.

Name: Honors John W. Searles, who put down the deep well from which type material was extracted.

Type Material: Harvard University, Cambridge, Massachusetts, 81274; National Museum of Natural History, Washington, D.C., USA, R6457, 93270, 94734, 96080, 124352.

References: (1) Larsen, E.S. and W.B. Hicks (1914) Searlesite, a new mineral. Amer. J. Sci., 38, 437–440. (2) Fahey, J.J. and J.M. Axelrod (1950) Searlesite from the Green River Formation of Wyoming. Amer. Mineral., 35, 1014–1020. (3) Ghose, S. and C. Wan (1976) Structural chemistry of borosilicates, part II: searlesite, NaBSi₂O₅(OH): absolute configuration, hydrogen locations, and refinement of the structure. Amer. Mineral., 61, 123–129.

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