$\odot$ 2001 Mineral Data Publishing, version 1.2

**Crystal Data:** Tetragonal. Point Group: 4/m 2/m 2/m. Steep dipyramidal {302}, terminated by {001}, striated || {001}, to 1 cm. Also as hemispherical to drusy aggregates. *Twinning:* Common, on {302}, {304}, and {101}, contact and multiple.

**Physical Properties:** Fracture: Conchoidal. Tenacity: Brittle. Hardness = 4.5 D(meas.) = 2.02 D(calc.) = 2.12 May show pale yellow fluorescence under SW and LW UV.

**Optical Properties:** Transparent to translucent. *Color:* Colorless to white. *Streak:* White. *Luster:* Vitreous.

Optical Class: Uniaxial (–), in part biaxial (–).  $\omega = 1.484(1)$   $\epsilon = 1.483(1)$  2V(meas.) = 0°-35°

Cell Data: Space Group: P4/mm (most probable). a = 12.880(2) c = 25.020(5) Z = 8

**X-ray Powder Pattern:** Goble, Oregon, USA. 4.03 (100), 11.6 (32), 3.156 (16), 2.114 (16), 3.062 (15), 4.22 (14), 12.5 (10)

Chemistry:

	(1)	(2)
$\mathrm{SiO}_2$	54.09	65.77
$Al_2O_3$	15.43	14.44
FeO	0.26	n.d.
MgO	0.51	n.d.
CaO	8.27	6.58
$Na_2O$	0.22	0.00
$\overline{K_2O}$	n.d.	0.06
$H_2O^+$	22.7	[13.15]
Total	101.48	[100.00]

(1) Goble, Oregon, USA; by electron microprobe,  $H_2O$  by loss of weight on heating; corresponds to  $(Ca_{0.97}Mg_{0.08}Na_{0.05}Fe_{0.02})_{\Sigma=1.12}Al_{2.00}Si_{5.95}O_{16} \bullet 7.96H_2O$ . (2) Do.; by electron microprobe,  $H_2O$  by difference; corresponds to  $(Ca_{0.73}Na_{0.11}K_{0.02}Fe_{0.02})_{\Sigma=0.88}Al_{1.69}Si_{6.33}O_{16} \bullet 3.98H_2O$ .

Mineral Group: Zeolite group.

**Occurrence:** In vesicles in an olivine basalt, formed by hydrothermal action.

Association: Zeolites, apophyllite, copper, quartz, aragonite, smectite.

Distribution: At Neer Road pit, Goble, Columbia Co., Oregon, USA.

Name: Honoring Rudy Warren Tschernich (1945–), amateur mineralogist specializing in zeolites, of Snohomish, Washington, USA.

Type Material: National Museum of Natural History, Washington, D.C., USA.

**References:** (1) Boggs, R.C., D.G. Howard, J.V. Smith, and G.L. Klein (1993) Tschernichite, a new zeolite from Goble, Columbia County, Oregon. Amer. Mineral., 78, 822–826.