Jensenite $Cu_3Te^{6+}O_6 \cdot 2H_2O$

Crystal Data: Monoclinic. *Point Group:* $2/m$. As well-formed pseudorhombohedral crystals, nearly equant, dominated by $\{\bar{1}01\}$ and $\{110\}$, with six minor forms, to 0.4 mm.

Physical Properties: *Cleavage:* On $\{\bar{1}01\}$, fair. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3–4 D(meas.) = n.d. D(calc.) = 4.76

Optical Properties: Transparent. *Color:* Emerald-green; grey in reflected light with bright green internal reflections at grain boundaries. *Streak:* Green. *Luster:* Adamantine. *Optical Class:* Isotropic, nearly. $n = 1.92$ α = n.d. β = n.d. γ = n.d. 2V(meas.) = n.d. *Bireflectance:* Weak.

R_1–R_2: (420) 11.0–11.3, (440) 10.8–11.2, (460) 10.7–11.1, (480) 10.7–11.0, (500) 10.7–10.8, (520) 10.6–10.7, (540) 10.4–10.5, (560) 10.15–10.3, (580) 9.9–10.0, (600) 9.6–9.8, (620) 9.4–9.6, (640) 9.25–9.4, (660) 9.15–9.3, (680) 9.0–9.2, (700) 9.1–9.2

Cell Data: *Space Group:* $P2_1/n$. $a = 9.224(2)$ $b = 9.180(1)$ $c = 7.600(1)$ $\beta = 102.38(1)^\circ$ $Z = 4$

X-ray Powder Pattern: Centennial Eureka mine, Utah, USA.
6.428 (100), 3.217 (70), 2.530 (50), 2.601 (40), 2.144 (35), 1.750 (35), 4.523 (30)

Chemistry:

	(1)	(2)
TeO_3	38.91	39.00
CuO	50.91	53.00
ZnO	0.31	
H_2O	[8.00]	8.00
Total	[98.13]	100.00

(1) Centennial Eureka mine, Utah, USA; by electron microprobe, average of two analyses, H_2O confirmed by IR and crystal-structure analysis; corresponds to $(Cu_{2.92}Zn_{0.02})_{\Sigma=2.94}$ $Te_{1.01}O_{5.97} \cdot 2.03H_2O$. (2) $Cu_3TeO_6 \cdot 2H_2O$.

Occurrence: Very rare in an oxidized Cu–Te-bearing sulfide deposit.

Association: Mcalpineite, xocomecatlite, leisingite, cesbronite, quartz.

Distribution: Collected on the dumps of the Centennial Eureka mine, Tintic district, Juab Co., Utah, USA.

Name: Honors Martin C. Jensen (1959–), Reno, Nevada, USA, student of the mineralogy of Utah and Nevada, USA, who collected the first specimens.

Type Material: Canadian Museum of Nature, Ottawa, Canada, 67424.

References: (1) Roberts, A.C., J.D. Grice, L.A. Groat, A.J. Criddle, R.A. Gault, R.C. Erd, and E.A. Moffatt (1996) Jensenite, $Cu_3Te^{6+}O_6 \cdot 2H_2O$, a new mineral species from the Centennial Eureka mine, Tintic district, Juab County, Utah. Can. Mineral., 34, 49–54. (2) Grice, J.D., L.A. Groat, and A.C. Roberts (1996) Jensenite, a cupric tellurate framework structure with two coordinations of copper. Can. Mineral., 34, 55–59. (3) (1996) Amer. Mineral., 81, 1282–1283 (abs. refs. 1 and 2).