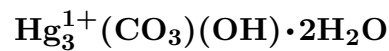


# Clearcreekite



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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . Tabular subhedral crystals, showing {001} and {010}, to 0.17 mm.

**Physical Properties:** *Cleavage:* Good on {001}. *Tenacity:* Brittle. Hardness = "Soft", probable.  $D(\text{meas.}) = \text{n.d.}$   $D(\text{calc.}) = 6.96$

**Optical Properties:** Transparent. *Color:* Pale greenish yellow. *Streak:* Pale greenish yellow. *Luster:* Vitreous.

*Optical Class:* Biaxial.  $n = [2.06-2.12]$ .  $\alpha = \text{n.d.}$   $\beta = \text{n.d.}$   $\gamma = \text{n.d.}$   $2V(\text{meas.}) = \text{n.d.}$

**Cell Data:** *Space Group:*  $P2_1/c$ .  $a = 6.760(4)$   $b = 9.580(4)$   $c = 10.931(4)$   
 $\beta = 105.53(5)^\circ$   $Z = 4$

**X-ray Powder Pattern:** Clear Creek claim, California, USA.  
2.831 (100), 2.767 (100), 4.62 (90), 7.09 (70), 5.32 (40), 2.391 (40), 5.40 (30)

**Chemistry:**

|                   | (1)   | (2)    |
|-------------------|-------|--------|
| CO <sub>2</sub>   | n.d.  | 6.16   |
| Hg <sub>2</sub> O | 84.65 | 87.54  |
| H <sub>2</sub> O  | n.d.  | 6.30   |
| Total             |       | 100.00 |

(1) Clear Creek claim, California, USA; by electron microprobe, presence of (CO<sub>3</sub>)<sup>2-</sup>, (OH)<sup>1-</sup>, and H<sub>2</sub>O confirmed by IR, overall composition determined by crystal-structure analysis; corresponds to Hg<sub>2.92</sub>(CO<sub>3</sub>)<sub>1.01</sub>(OH)<sub>0.90</sub>•2.07H<sub>2</sub>O. (2) Hg<sub>3</sub>(CO<sub>3</sub>)(OH)•2H<sub>2</sub>O.

**Polymorphism & Series:** Dimorphous with peterbaylissite.

**Occurrence:** Very rare, probably formed as an alteration product of cinnabar.

**Association:** Edoylerite, cinnabar.

**Distribution:** From the Clear Creek claim, near the Clear Creek mercury mine, New Idria district, San Benito Co., California, USA.

**Name:** For the Clear Creek mine, California, USA.

**Type Material:** Canadian Geological Survey, Ottawa, Canada, 68074.

**References:** (1) Roberts, A.C., L.A. Groat, M. Raudsepp, T.S. Ercit, R.C. Erd, E.A. Moffatt, and J.A.R. Sterling (2001) Clearcreekite, a new polymorph of Hg<sub>3</sub><sup>1+</sup>(CO<sub>3</sub>)(OH)•2H<sub>2</sub>O, from the Clear Creek claim, San Benito Co., California. *Can. Mineral.*, 39, 779–784.