Crystal Data: Hexagonal. *Point Group*: 32. As hexagonal tablets and thin plates to 0.2 mm across showing {100} and {001}, intergrown in ball-like clusters, or as scattered flakes.

Physical Properties: *Cleavage*: Perfect on {001}. *Tenacity*: Brittle. *Fracture*: Irregular. Hardness = ~2 D(meas.) = n.d. D(calc.) = 5.812

Optical Properties: Transparent. *Color*: Yellow, tending to reddish orange. *Streak*: Pale yellow. *Luster*: Subadamantine to greasy.
Optical Class: Uniaxial(-). *n*(calc.) = 2.015 Non-pleochroic.

Cell Data: *Space Group*: *P*312. *a* = 5.2043(3) *c* = 8.963(1) Z = 1

X-ray Powder Pattern: Otto Mountain, near Baker, San Bernardino Co., California, USA.
3.174 (100), 2.597 (54), 4.495 (40), 2.009 (32), 1.590 (31), 1.697 (25), 2.247 (20)

Chemistry:

	(1)	(2)
PbO	52.67	61.21
CuO	0.20	
Ag_2O	3.87	
TeO_3	21.43	24.08
Fe_2O_3	9.59	10.95
Al_2O_3	0.19	
SiO_2	0.03	
Cl	5.95	4.86
I	2.24	
-O = Cl	1.49	1.10
Total	94.70	100.00

(1) Otto Mountain, near Baker, San Bernardino Co., California, USA; average electron microprobe and Raman spectroscopic analyses; corresponds to $Pb_{1.83}Ag_{0.26}Fe_{0.93}Al_{0.03}Cu_{0.02}Te^{6+}_{0.95}O_{5.56}Cl_{1.30}I_{0.14}$.
(2) $Pb_2Fe^{3+}(Te^{6+}O_6)Cl$.

Occurrence: A secondary, oxidation-zone mineral presumed to be formed by oxidation of earlier formed tellurides, most likely hessite, with chalcopyrite and galena.

Association: Acanthite, cerussite, hematite, khinite, phosphohedyphane, thorneite, timroseite.

Distribution: From Several workings (the Aga mine, Aga Pit, SW Cut, Bird Nest drift, Bird Nest E3 vein, and the Library mine) on Otto Mountain, 2.5 km west northwest of Baker, San Bernardino Co., California, USA.

Name: Honors Franz-Joseph *Müller*, Freiherr von Reichenstein or Franz-Joseph *Müller* von Reichenstein (1740 or 1742 to 1825 or 1826), an Austrian mineralogist and mining engineer who discovered tellurium in 1782.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (73609 SW Cut, 73610 E3 vein, 73611 Bird Nest drift and 73612 Aga mine) and the Museums Victoria, Melbourne, Victoria, Australia (M54913 Aga mine).

References: (1) Mills, S.J., A.R. Kampf, K. Momma, R.M. Housley, and J. Marty (2020) Müllerite, the Fe-analogue of backite from Otto Mountain, California. Can. Mineral., 58, 413-419.