Siidraite $Pb_2Cu(OH)_2I_3$

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. As granular crystals to 0.1 mm; aggregates to 2 mm.

Physical Properties: *Cleavage*: None. *Tenacity*: n.d. *Fracture*: n.d. Hardness = 2.5-3.5 (by analogy to bideauxite, marshite, miersite). D(meas.) = n.d. D(calc.) = 6.465-6.505

Optical Properties: Translucent. *Color*: Yellow. *Streak*: Yellow. *Luster*: n.d. *Optical Class*: n.d. *n*(calc.) = 2.18

Cell Data: *Space Group*: *Fddd.* *a* = 16.7082(9) *b* = 20.846(1) *c* = 21.016(1) Z = 32

X-ray Powder Pattern: Calculated pattern.
2.746 (100), 3.270 (81), 2.738 (77), 3.312 (76), 3.296 (69), 2.690 (64), 6.539 (60)

Chemistry:

	(1)	(2)
Cu_2O	7.22	8.01
PbO	51.8	50.01
I	42.5	42.65
H_2O	[2.03]	2.02
–(OH) = I	2.61	.
Total	100.94	100.00

(1) Broken Hill, New South Wales, Australia; average of 10 electron microprobe analyses, H_2O calculated from stoichiometry; corresponds to $Pb_{2.06}Cu_{0.89}(OH)_2I_{2.97}$. (2) $Pb_2Cu(OH)_2I_3$.

Occurrence: In upper oxidation zone of a supergene-enriched, galena-Mn-silicate deposit. Likely from the oxidation of cuprite.

Association: Cuprite, marshite, copper, brochantite, anglesite.

Distribution: From Broken Hill, New South Wales, Australia.

Name: Honors Russian mineralogist and crystallographer Oleg. I. Siidra (b. 1981) for his extensive work on secondary lead oxysalts, in particular, synthetic iodine-rich phases.

Type Material: Natural History Museum, London, England (BM 84642 and BM 2016,1).

References: (1) Rumsey, M.S., M.D. Welch, A.K. Kleppe, and J. Spratt (2017) Siidraite, $Pb_2Cu(OH)_2I_3$, from Broken Hill, New South Wales, Australia: the third halocuprate(I) mineral. Eur. J. Mineral., 29(6), 1027-1030. (2) (2018) Amer. Mineral., 103, 1714 (abs. ref. 1).