Demicheleite-(Cl) BiSCl

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. Crystals, terminated acicular to stout prismatic, to 0.25 mm; with forms {110} and {010}.

Physical Properties: *Cleavage*: None observed. *Fracture*: n.d. *Tenacity*: Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.934 Non-fluorescent.

Optical Properties: Translucent. *Color*: Red to black. *Streak*: Brown. *Luster*: Submetallic. *Optical Class*: n.d.

Cell Data: *Space Group*: *Pnam.* $a = 7.802(1)$ $b = 9.930(1)$ $c = 3.9905(6)$ Z = 4

X-ray Powder Pattern: La Fossa crater, Vulcano Island, Sicily, Italy.
2.896 (100), 4.174 (45), 2.684 (42), 2.784 (33), 1.725 (30), 2.543 (27), 1.992 (25)

Chemistry:

	(1)	(2)
Bi	72.74	75.58
S	11.74	11.60
Se	0.01	
Br	3.13	
Cl	11.42	12.82
Total	99.04	100.00

(1) La Fossa crater, Vulcano Island, Sicily, Italy; electron microprobe analysis, corresponding to $Bi_{0.97}S_{1.02}(Cl_{0.90}Br_{0.11})_{\Sigma=1.01}$. (2) BiSCl.

Occurrence: A product of fumarolic alteration of pyroclastic breccia.

Association: Demicheleite-(Br), bismoclite, bismuthinite, godovikovite, panichiite, aiolosite, brontesite, adranosite.

Distribution: La Fossa crater, Vulcano Island, Aeolian archipelago, Sicily, Italy.

Name: Honors Vincenzo *de Michele* (b. 1936), former curator of the Natural History Museum, Milan, Italy, and suffix for its chemical composition.

Type Material: Department of Structural Chemistry and Inorganic Stereochemistry, University of Milan, Italy (reference collection 2008-03).

References: (1) Demartin, F., C.M. Gramaccioli, and I. Campostrini (2009) Demicheleite-(Cl), BiSCl, a new mineral from La Fossa Crater, Vulcano, Aeolian Islands, Italy. Amer. Mineral., 94, 1045-1048.