## Carletonmooreite

**Crystal Data**: Cubic. *Point Group*:  $4/m \bar{3} 2/m$ . As euhedral to subhedral grains to 5 x 14  $\mu$ m growing on tetrataenite into kamacite.

**Physical Properties**: *Cleavage*: n.d. *Tenacity*: n.d. *Fracture*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 7.89

**Optical Properties**: Opaque. *Color*: Silver with an orange tinge in reflected light. *Streak*: n.d. *Luster*: Metallic.

Optical Class: Isotropic.

**Cell Data**: Space Group: Pm3 m. a = 3.51(1) Z = 1

X-ray Powder Pattern: n.d.

Chemistry:		(1)	(2)
	Ni	82.80	81.44
	Fe	4.92	5.92
	Cu		0.13
	Si	13.08	13.01
	Total	100.80	100.50

(1) Norton County aubrite meteorite; electron microprobe analysis; corresponding to  $(Ni_{2.87}Fe_{0.18})_{\Sigma=3.05}Si_{0.95}$ . (2) Do.; corresponding to  $(Ni_{2.83}Fe_{0.22}Cu_{0.004})_{\Sigma=3.05}Si_{0.95}$ .

**Occurrence**: Localized on plessite fields in aubrite metal nodules in a meteorite, probably formed by low-temperature epitaxial growth by solid-state diffusion from kamacite on tetrataenite.

**Association**: Low-Ni iron (kamacite), schreibersite, nickelphosphide, perryite, aubréelite, tetrataenite, taenite, graphite.

**Distribution**: From the Norton County aubrite meteorite.

**Name**: Honors *Carleton* B. *Moore*, chemist and geologist, and founding director of the Center for Meteorite Studies, Arizona State University, USA for contributions to cosmochemistry and meteoritics.

**Type Material**: In the Carleton B. Moore Meteorite Collection, Center for Meteorite Studies, Arizona State University, Tempe, Arizona, USA (523\_C6a).

**References**: (1) Garvie, L.A.J., C. Ma, S. Ray, K. Domanik, A. Wittmann, and M. Wadhwa (2021) Carletonmooreite,  $Ni_3Si$ , a new silicide from the Norton County aubrite meteorite. Amer. Mineral., 106, 1828-1834.