

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As platy crystals with tapered edges to 20 μm .

Physical Properties: *Fracture:* n.d. *Hardness* = n.d. *D(meas.)* = n.d. *D(calc.)* = 1.507
Stable < 2 °C; above 2 °C, it melts incongruently to a slurry of epsomite and water.

Optical Properties: Transparent to translucent. *Color:* Colorless. *Luster:* n.d.
Optical Class: n.d. $n = 1.418\text{--}1.448$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.7459$ $b = 6.8173$ $c = 17.280$ $\alpha = 88.137^\circ$ $\beta = 89.481^\circ$
 $\gamma = 62.719^\circ$ $Z = 2$

X-ray Powder Pattern: Basque claims, near Ashcroft, central British Columbia, Canada.
Diffraction pattern published in reference (1).

Chemistry: Micro-Raman spectroscopy confirms composition of natural material compared to synthetic.

Occurrence: In a pocket near the surface of a frozen pond that allowed evaporation, concentration of dissolved matter, and crystallization at temperatures well below the freezing point of water. In sea ice inclusions and Antarctic ice.

Association: Ice.

Distribution: From the Basque claims, near Ashcroft, central British Columbia, Canada. Found in inclusions in sea ice from Saroma Lake, northeastern shore of Hokkaido Island, ~30 km from Abashiri City, Japan and at Dome Fuji Station, East Antarctica at the 3810 m asl summit of the East Dronning Maud Land Plateau.

Name: For the locality where the Mars Exploration Rover (MER) Opportunity observed crystal molds in sedimentary rock that may be caused by minerals that have since dehydrated or dissolved.

Type Material: Canadian Museum of Nature, Ottawa, Ontario, Canada.

References: (1) Peterson, R.C., W. Nelson, B. Madu, and H.F. Shurvell (2007) Meridianiite: A new mineral species observed on Earth and predicted to exist on Mars. *Amer. Mineral.*, 92, 1757-1759.
(2) Peterson, R.C. and R. Wang (2006) Crystal molds on Mars: Melting of a possible new mineral species to create Martian chaotic terrain. *Geology*, 34, 957-960.