

Crystal Data: Monoclinic. *Point Group:* $2/m$ or m . As subhedral to irregular grains, to 1 mm, in veinlets and rimming olivine.

Physical Properties: Hardness = 4.5–5 $D(\text{meas.}) = 3.15(1)$ $D(\text{calc.}) = 3.15$

Optical Properties: Transparent. *Color:* Reddish to amber, pale bluish if weathered; colorless in transmitted light.

Optical Class: Biaxial (+). $\alpha = 1.594\text{--}1.619$ $\beta = [1.596]\text{--}1.622$ $\gamma = 1.604\text{--}1.631$
 $2V(\text{meas.}) = 50^\circ\text{--}60^\circ$

Cell Data: *Space Group:* $P2/c$ or Pc . $a = 17.16(3)$ $b = 10.00(2)$ $c = 22.88(4)$
 $\beta = 100^\circ 15'(10)'$ $Z = 8$

X-ray Powder Pattern: Estherville meteorite.

2.817 (10), 3.747 (8), 2.505 (8), 3.845 (6), 8.31 (5), 6.01 (5), 1.870 (4)

Chemistry:

	(1)
P_2O_5	46.6
FeO	13.8
MnO	1.4
MgO	12.9
CaO	24.6
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Total	99.3

(1) Estherville meteorite; by electron microprobe, total Fe as FeO, total Mn as MnO; corresponding to $\text{Ca}_{4.02}(\text{Mg}_{2.91}\text{Fe}_{1.74}\text{Mn}_{0.18})_{\Sigma=4.83}(\text{PO}_4)_6$.

Occurrence: A rare component of some meteorites.

Association: Olivine, whitlockite, farringtonite, troilite.

Distribution: In the Estherville mesosiderite meteorite, and the pallasite meteorites Albin, Finmarken, Imilac, Newport, Mount Vernon, Santa Rosalia, and Zaisho.

Name: To honor Stanley Field (1875–1964), former Chairman of the Board of Trustees of the Field Museum of Natural History, Chicago, Illinois, USA, during whose tenure the Museum's meteorite collection reached major proportions.

Type Material: Masses of the Estherville meteorite are at: The Natural History Museum, London, England; Natural History Museum, Paris, France; Natural History Museum, Vienna, Austria; Field Museum of Natural History, Chicago, Illinois; Harvard University, Cambridge, Massachusetts; National Museum of Natural History, Washington, D.C., USA.

References: (1) Fuchs, L.H. (1967) Stanfieldite: a new phosphate mineral from stony-iron meteorites. *Science*, 158, 910–911. (2) (1968) *Amer. Mineral.*, 53, 508 (abs. ref. 1).