

Crystal Data: Hexagonal. *Point Group:* 6/m 2/m 2/m. As thin platelets, occasionally with hexagonal outlines, to 100 μm .

Physical Properties: *Cleavage:* None. *Fracture:* Irregular to conchoidal. Hardness = 5 VHN = 460-540, 500 average (50 g load). D(meas.) = n.d. D(calc.) = 4.74

Optical Properties: Opaque. *Color:* Light gray in reflected light. *Streak:* n.d. *Luster:* Metallic. *Optical Class:* Anisotropic (weak). Very weakly birefractant; brown rotation colors. $n(\text{calc.}) = 2.30$ R₁-R₂: (470) 17.3-16.9 (5.37-5.13)_{oil}, (546) 16.8-16.35 (5.19-4.90)_{oil}, (589) 16.9-16.3 (5.29-4.92)_{oil}, (650) 17.1-16.4 (5.42-5.00)_{oil}

Cell Data: *Space Group:* P6₃/mmc. $a = 5.9369(1)$ $c = 5.233445(6)$ $Z = 2$

X-ray Powder Pattern: Calculated pattern.

2.641 (100), 2.795 (90), 1.634 (47), 1.481 (47), 2.437 (46), 2.963 (44), 1.676 (36)

Chemistry:	(1)	(2)		(1)	(2)
SiO ₂		0.06	V ₂ O ₃		0.21
TiO ₂	39.1	38.72	Cr ₂ O ₃	1.4	0.97
FeO	41.2	40.76	BaO	10.1	10.25
MgO	2.7	2.18	K ₂ O	1.42	1.37
MnO	0.80	1.27	<u>Na₂O</u>		<u>0.24</u>
NiO	0.25	0.10	Total	96.97	96.18
ZnO		0.05			

(1) Crater of Diamonds State Park, Pike County, Arkansas, USA; average of 56 electron microprobe analyses, Fe²⁺/Fe³⁺ calculated for charge balance; corresponds to Ba_{0.68}K_{0.31}Ti_{5.05}Fe²⁺_{3.91}Fe³⁺_{2.01}Mg_{0.69}(Cr,Mn,Ni)_{0.34}O₁₉. (2) Walgidee Hills, West Kimberley region, Western Australia; average of 12 electron microprobe analyses, Fe²⁺/Fe³⁺ calculated for charge balance; corresponds to (Ba_{0.7}K_{0.3}) $\Sigma=1.0$ (Ti_{5.0}Fe³⁺_{2.1}Cr_{0.1}Fe²⁺_{3.8}Mn_{0.2}Mg_{0.6}Na_{0.1}) $\Sigma=12$ O₁₉.

Mineral Group: Magnetoplumbite group.

Occurrence: As isolated crystals or in small groups within the reaction rims around serpentinized mafic xenoliths in olivine lamproite (Arkansas); in the groundmass of diamondiferous olivine lamproite pipes (Australia).

Association: Ti-K richterite, diopside, chrome-spinel, olivine (altered), ilmenite, jeppeite, priderite (Arkansas); Ti-phlogopite, diopside, Ti-K-richterite, olivine, leucite, priderite (Walgidee Hills).

Distribution: From the Prairie Creek lamproite, Crater of Diamonds State Park, near Murfreesboro, Pike County, Arkansas, USA. From the Walgidee Hills and the Ellendale 9 pipe, West Kimberley region, Western Australia.

Name: Honors Stephen E. Haggerty (b. 1938), Department of Geology, University of Massachusetts, USA, for his contributions to the understanding of the mineralogy and crystal chemistry of titanate minerals from the Earth's mantle.

Type Material: The Natural History Museum, London, England (BM 1997,14); the University of Massachusetts, Department of Geology (Amherst), and the Smithsonian Institution, Washington, D.C., USA.

References: (1) Grey, I.E., D. Velde, and A.J. Criddle (1998) Haggertyite, a new magnetoplumbite-type titanate mineral from the Prairie Creek (Arkansas) lamproite. *Amer. Mineral.*, 83, 1323-1329. (2) Jaques, A.L., F. Brink, and J. Chen (2020) Magmatic haggertyite in olivine lamproites of the West Kimberley region, Western Australia. *Amer. Mineral.*, 105, 1724-1733. (3) Holtstam D. and U. Hålenius (2020) Nomenclature of the magnetoplumbite group. *Mineral. Mag.*, 84, 376-380.