

Leshner, C.M., Carson, H.J.E., and Houlé, M.G., 2019, Genesis of chromite deposits by dynamic upgrading of Fe ± Ti oxide xenocrysts: Geology, <https://doi.org/10.1130/G45448.1>

Supplementary Table 1. Classification of magmatic chromite deposits

Type	I: Stratiform		II: Podiform
Subtype	A: Layered Intrusion-Hosted	B: Magmatic Conduit-Hosted	
System	Periodically-replenished magma chambers	Continuously-replenished magma conduits	Tectonized upper mantle
Age	Post-Archean	Archean	Phanerozoic-Mesozoic
Setting	Intracratonic	Intracratonic	Ophiolites
Magma	Siliceous high-Mg basalt	Low-Mg komatiitic	Basaltic
Intrusion Size	Very large	Small(ish)	Large
Host Rocks	Peridotite, pyroxenite, gabbro, anorthosite	Dunite, peridotite, pyroxenite, gabbro, anorthosite	Tectonized/serpentinized dunite, harzburgite, wehrlite
Form	Laterally-extensive layers	Laterally-extensive layers and lenses	Discontinuous pods, layers, veins, and schlieren
Textures	Disseminated, patchy, net, semi-massive, massive	Disseminated, patchy, net, semi-massive, massive	Disseminated, semi-massive, nodular
Thickness	Up to 5 m	Up to 100 m	Variable
Ore Location	Layers at mafic/ultramafic transition	Varies, but normally within ultramafic portion of intrusion	Upper mantle section of complex
Ore-Forming Processes	Magma mixing ± contamination and/or physical transport	Magma mixing ± contamination ± oxidation and/or physical transport	Fractional crystallization and/or magma mixing
Examples*	Bushveld, Great Dyke, Stillwater	Black Thor-Blackbird, Kemi, Inyala, Ipueira-Medrado, Sukinda-Nuasahi	Cuba, Iran, New Caledonia, Philippines

*References in text

Supplemental Table 2. Key Characteristics of Type IB conduit-hosted chromite deposits

	Chromitite Thickness (m)	Host Unit (m)	Parental Magma	OXIF Country Rocks	Xenoliths
Black Thor – Blackbird	up to 100	1500	low-Mg komatiite	yes	BIF, gabbro
Inlaya – Rhonda	10s	100s	komatiitic	yes	none reported
Ipueira- Medrado	5-8	300	basaltic	none reported	none reported
Kemi	0.5-90, ave 20	up to 2000	basaltic	none reported	none reported
Peak – Railway Block	10s	100s	komatiitic	yes	basalt, BIF
Sukinda	3-4	up to 400	SHMB	yes	none reported
Uitkomst	up to 6	~800	high-Mg basalt	yes	dolomite, Mag-shale

OXIF – oxide-facies iron formation. **SHMB** – siliceous high-magnesian basalt. References in text.