DESCRIPTIVE MODEL OF BUSHVELD Cr

By Norman J Page

SYNONYM Stratiform mafic-ultramafic Cr.

DESCRIPTION Layered chromitite in lower intermediate zone of large repetitively layered mafic-ultramafic intrusions (see fig. 5).

GEOLOGICAL ENVIRONMENT

Rock Types Intrusion may contain norite, gabbro-norite, dunite, harzburgite, peridotite, pyroxenite, troctolite, anorthosite, and gabbro.

Textures Cumulate textures; layers with gradational proportions of euhedral crystals; locally with poikilitic matrix.

Age Range Generally Precambrian, but may be as young as Tertiary.

Depositional Environment Intruded into granitic gneiss or into volcanic-sedimentary terrane.

Tectonic Setting(s) Cratonal, mostly in Precambrian shield areas.

Associated Deposit Types Stillwater-Ni-Cu, Merensky Reef PGE, and Bushveld Fe-Ti-V deposits. PGE placers.

DEPOSIT DESCRIPTION

Mineralogy Chromite ± ilmenite ± magnetite ± pyrhotite ± pentlandite ± chalcopyrite ± PGE minerals (dominantly laurite, cooperite, and braggite).

Texture/Structure Massive to disseminated layers, cumulus texture.

Alteration None related to ore.

Ore Controls May be in dunite, orthopyroxenite, or anorthosite. Thickness of chromite increases in basinal depressions in layering.

Weathering Abundant blocks of chromitite in soil and alluvium.

Geochemical Signature Cr, PGE. High Mg; low Na, K, P.

EXAMPLES

Bushveld Complex, SAFR	(Cameron and Desborough, 1969)
Stillwater Complex, USMT	(Jackson, 1969)
Great Dyke, ZIMB	(Bichan, 1969)