

## Appendix G

# Glossary

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**Alkaline:** A group of igneous rocks in which the alkalis ( $\text{Na}_2\text{O}$  and  $\text{K}_2\text{O}$ ) occur in high concentration relative to silica ( $\text{SiO}_2$ ).

**Asthenosphere:** The upper mantle. The layer or shell of the Earth below the lithosphere (below about 100 km), which is weak and in which isostatic adjustments can take place, in which magmas may be generated, and in which seismic waves are strongly attenuated.

**Base metal:** Any of the more common and more chemically active metals, e.g., lead, copper, zinc.

**Calc-alkaline:** A group of igneous rocks in which silica occurs in high concentrations relative to the alkalis. Many of these rocks have the mineral quartz.

**Ferrous metal:** Iron and the metals commonly alloyed with iron in steelmaking.

**Gondwana:** The hypothetical protocontinent of the Southern Hemisphere, also called Gondwanaland. The preponderance of modern evidence indicates that the present continents are fragments which have been separated from each other by some form of continental displacement with the aid of seafloor spreading.

**Granitic:** A term used to describe light-colored, medium to coarse grained crystalline rock containing more than 10 percent quartz and richer in alkalis relative to calcium, iron, and magnesium.

**Hydrothermal solutions:** Hot saline solutions that pass through fractures and pore spaces in rocks. Mineral deposits can form as precipitates from hydrothermal solutions.

**Iron-formation:** A sedimentary rock, typically thin bedded or finely laminated, containing at least 15 percent iron and commonly but not necessarily containing layers of chert. Also called jaspilite or taconite.

**Lithosphere:** The crust of the Earth and upper mantle having a total thickness of approximately 100 km.

**Mafic:** A term used to describe dark-colored igneous rocks composed chiefly of ferromagnesian minerals.

**Magmatic differentiation:** The process whereby crystallization and separation of early formed minerals leads to changes in bulk composition of the residual magmatic liquids. Certain economically important ore deposits may be formed by the process.

**Orogen:** An orogenic belt or linear region that has been subjected to folding and other deformation during a period of tectonic activity. These regions often become mountain belts.

**Placer:** A surficial mineral deposit formed by mechanical concentration (usually by water) of heavy mineral particles from weathered debris.

**Podiform:** A term used to describe an orebody that has an elongate, lenticular shape.

**Porphyritic:** A term used to describe an igneous rock in which larger crystals are set in a finer groundmass which may be crystalline, glassy or both.

**Precious metals:** A general term for gold, silver, or any of the platinum-group metals,

**Shield:** A large area of exposed basement rocks in a continental land mass surrounded by younger sedimentary rocks. The rocks of virtually all shield areas are Precambrian in age.

**Silicic:** A general term used to describe an igneous rock or magma in which silica constitutes at least two-thirds of the rock and usually contains free silica in the form of quartz. Granite is a typical silicic rock.

**Stratiform:** Having the form of a bed or layer consisting of roughly parallel bands or sheets. Used to describe a layered mineral deposit, such as chromite deposits which can occur in layers up to several feet thick of fairly uniform composition and extend over large areas.

**Stratigraphic trap:** The sealing of a reservoir bed as a result of lithologic changes, such as the gradation of permeable sediments into impermeable sediments thus forming a barrier that can trap migrating petroleum.

**Structural trap:** The containment of oil or gas within a reservoir bed as a result of folding to produce a dome or anticline or faulting to bring an impermeable bed into contact with the reservoir bed creating a barrier to migration.

**Ultramafic:** Very dark-colored igneous rock composed chiefly of heavy minerals high in iron and magnesium.