

## 11. Glossary of terms

Term	Definition
<b>Complexation</b>	The process by which a metal ion bonds to a ligand (anion). For example: $\text{UO}_2^{2+} + \text{SO}_4^{2-} \rightarrow \text{UO}_2\text{SO}_4$ , here the uranyl ion forms a complex with sulphate.
<b>Disequilibrium</b>	In closed systems the radioactive decay of the parent radionuclide is in equilibrium with the daughter products since the rate of decay is equivalent to the rate of daughter element production. Disequilibrium is the disruption between the rate of decay and daughter element production through the removal or addition of either parent or daughter radionuclides.
<b>Gamma radiation</b>	High frequency electromagnetic radiation that occurs when an electron is captured by the nucleus of a radionuclide and the radionuclide is forced into a higher energy state. The excess energy is radiated away in the form of gamma rays (only applicable to radioactive decay, gamma radiation is produced by other methods as well).
<b>Geostatistics</b>	A branch of statistics that examines spatial and temporal data.
<b>Mobility (elemental)</b>	The ability of an element (metal) to move from its original location in soil, tailings or rock to another location.
<b>Oxidation</b>	A chemical reaction where electrons are removed (one element is oxidised and one is reduced when a chemical reaction occurs).
<b>Profile</b>	In this case, a profile refers to a section of a three-dimensional object that has been cut at a certain location and is represented in a two-dimensional environment with an outline of the object.
<b>Radionuclide</b>	An atom that does not have a stable nucleus and releases energy or particles to a form more stable nucleus.
<b>Reduction</b>	A chemical reaction where electrons are added (one element is oxidised and one is reduced when a chemical reaction occurs).
<b>Resource</b>	A supply of material which is of use to a consumer. In this case the resource refers to an ore material.
<b>Tailings</b>	The residue ore waste resulting from the mining of ore materials. It generally refers to the material that has undergone the process of ore extraction and is thus the waste material. The term 'tailings' does not include waste rock or other material, not processed for ore extraction (which may be included as waste resulting from mining).