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EarthResourceML - the CGI-IUGS Data Standard to Deliver Mineral Resource Data

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EarthResourceML (<http://www.earthresourceml.org>) is the international XML-based data transfer standard for the exchange of digital information for mineral resources and mining products and waste. EarthResourceML was initially developed for the Australian Chief Government Geologists Committee (CGGC) but is now under the governance of the Commission for Geoscience Information (CGI), a commission of the International Union of Geological Sciences (IUGS). EarthResourceML is the preferred standard for mineral resource data sharing initiatives and projects, such as the European Union's INSPIRE directive, EURare, Minerals4EU, and ProSUM projects, and the Australian AuScope, and Geoscience Portal projects.

EarthResourceML v2.0 is the current version released in October 2013. The main elements of the EarthResourceML model cover mineral occurrences, mines, and mining activity. The standard describes the geological characteristics and setting of mineral occurrences, their contained commodities, and their mineral reserve, resource and endowment. It is also able to describe mineral exploration, mines and mining activities including processing, and production of concentrates, refined products, and waste materials.

An additional EarthResourceML-Portrayal standard has recently been released. EarthResourceML-Portrayal delivers a simplified flat view of key elements of the full EarthResourceML data model. It can be used to standardise delivery of mineral resource data via Web Map Services (WMS) and simple features Web Feature Services (WFS SFO). EarthResourceML utilises the GeoSciML v3.2 Mapped Feature model [1] to describe spatial representations of mineral occurrences and mines, and the GeoSciML Earth Material model to describe host and associated materials.

The CGI Geoscience Terminology Working Group [2] provides a range of standard vocabularies that can be used to populate EarthResourceML data services. Currently the EarthResourceML v.2.0 model defines 24 code list vocabularies and 19 of these are already adopted [3].

References:

[1] <http://www.geosciml.org/geosciml/3.2/documentation/html/>

[2] http://www.cgi-iugs.org/tech_collaboration/geoscience_terminology_working_group.html

[3] <http://resource.geosciml.org/static/vocabulary/earthresourceml/>

