

Critical Minerals in Ores - geochemistry database

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Abstract

This database contains geochemical analyses of over 7000 samples collected from or near mineral deposits from 60 countries, compiled by the Critical Minerals Mapping Initiative (CMMI), a collaboration between Geoscience Australia (GA), the Geological Survey of Canada (GSC) and the United States Geological Survey (USGS). Data was compiled from a number of publicly-available sources, including federal and provincial government mineral deposit and geochemistry databases, and the ore samples normalised to average crustal abundance (OSNACA) database compiled by the Centre for Exploration Targeting at the University of Western Australia. Geochemical data cover the majority of the periodic table, with metadata on analytical methods and detection limits. Where available, sample descriptions include lithology, mineralogy, and host stratigraphic units. Mineral deposits are classified according to the CMMI mineral deposit classification scheme (Hofstra et al., 2021). Location information includes deposit or prospect name, and sampling location (i.e., mine, field site, or borehole collar). This dataset will be updated periodically as more data become available. Geoscience Australia: D Champion, O Raymond, D Huston, M Sexton, E Bastrakov, S van der Wielen, G Butcher, S Hawkins, J Lane, K Czarnota, I Schroder, S McAlpine, A Britt Geological Survey of Canada: K Lauzière, C Lawley, M Gadd, J-L Pilote, A Haji Egeh, F Létourneau United States Geological Survey: M Granitto, A Hofstra, D Kreiner, P Emsbo, K Kelley, B Wang, G Case, G Graham Geological Survey of Queensland: V Lisitsin

Product Type

dataset

eCat Id

145496

Contact for the resource

Point of contact

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Contact instructions
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Resource provider

Keywords

theme.ANZRC Fields of Research.rdf

- GEOLOGYGEOCHEMISTRYEARTH SCIENCES

(Feature type)

- mineral deposit

(Theme)

- critical minerals

(Theme)

- ores

- Published_External

Publication Date

Creation Date

Security Constraints

Australian Government Security ClassificationSystem [_](#)

Classification - unclassified

Legal Constraints

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Access - license

Use - license

Status

onGoing

Purpose

Although designed to document the concentrations of critical minerals for a range of mineral deposits and deposit types, the dataset also has a range of other potential uses, including establishing the full geochemical characteristics of deposit types for mineral exploration, geochemical classification of deposits, establishing potential environmental hazards and ore processing. The current limitation of the dataset for the data mining purposes and for relating geochemical features to particular deposit environments, groups and types are the existing gaps in the open and compiled data.

Maintenance Information

asNeeded

Topic Category

geoscientificInformation

Series Information

Lineage

The data is sourced from multiple databases maintained by Geoscience Australia (OZMIN, GEOCHEM), Geological Survey of Canada and provincial Canadians geological surveys, US Geological Survey (MRDS and others), Geological Survey of Queensland, and Curtin University (OSNACA). The data has been collated into a central database maintained by Geoscience Australia, standardised, QA checked, and is delivered as an OGC web service using Geoserver.

Parent Information

Extents

[-85.00, 85.00, -180.00, 180.00]

Reference System

WGS 84 (EPSG:4326)

Spatial Resolution

Service Information

Associations

Association Type - operatedOnBy

Critical Minerals in Ores WMS [_](#)

eCat Identifier - 145525,

UUID - c5bd89f4-5f98-4221-b3c7-76f3a3781edc

Association Type - operatedOnBy

Critical Minerals in Ores WFS [_](#)

eCat Identifier - 145527,

UUID - ae697115-f0bd-49f4-94d0-17c35059a5dd

Downloads and Links

Critical Minerals in Ores WFS [_](#)

[Critical Minerals in Ores WMS](#) _

[Download dataset \(csv\) \[14 MB\]](#) _

[Link to CMMI portal](#) _

Source Information

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