

CO₂ Mineralization for *in situ* Storage and *ex situ* Enhanced Metals Recovery



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Mineralogist/biogeochemist with ~20 years experience in CO₂ mineralization using mineral wastes and waste brines.

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Technology or focus area

- Enhanced weathering as an ore processing technique for both critical metal recovery and CO₂ mineralization

Ideas, Interests, Concepts to be Explored

- Geometallurgy for CO₂ mineralization and critical metal recovery -- from ore to tailings
- Landscape-scale monitoring and quantification of CO₂ storage and metal/metalloid mobility
- Leveraging mineral behaviour to improve reactivity to CO₂ and metal resource recovery

Enhanced weathering to make artificial nickel laterites

- 8.5% of total Mg leached from serpentinite using 0.08 M H_2SO_4
- Leachate pH > 9.5
- Ni concentrated to several wt.% (up from 0.1–0.2 wt.%)
- Scalable using heap leaching

