

Mineral Report

Chrysocolla

Generated (UTC): 2026-02-22T21:25:49.423509232+00:00



Context

Audience

Purpose

Site Context

technical geologist

exploration briefing

pilot drill campaign

Physical and Chemical Snapshot

| | |
|-----------------------------------|--|
| Mineral Family | Silicates |
| Description | Blue-green, earthy to slightly waxy copper-bearing silicate coating and filling vugs on a brown, iron-oxide-rich host rock. The massive, porous texture and turquoise-green coloration are consistent with chrysocolla commonly formed in the oxidized zone of copper deposits, sometimes intergrown with quartz/opal and minor malachite. |
| Formula | $(\text{Cu,Al})_2\text{H}_2\text{Si}_2\text{O}_5(\text{OH})_4 \cdot n\text{H}_2\text{O}$ |
| Hardness (Mohs) | 2.50 |
| Hardness Band | soft |
| Density (g/cm³) | 2.20 |
| Density Band | light |
| Crystal System | Microcrystalline |
| Color | blue-green to green with brown host rock |
| Streak | White to pale blue-green |
| Luster | Dull to waxy/earthy |
| Dominant Element | O (52.0 wt%) |

Interpretive Summary

For technical geologist and the pilot drill campaign context, Chrysocolla is classified as soft with light density behavior. The chemistry is led by O (52.0 wt%), supporting exploration briefing decisions.

Major Elements

| Element | Weight % |
|---------|----------|
| O | 52.00 |
| Si | 18.00 |
| Cu | 16.00 |
| Fe | 9.00 |
| H | 3.00 |
| Al | 2.00 |

Recommendations

1. Prioritize samples of Chrysocolla where O enrichment is strongest.
2. Validate breakage and weathering rates early, as softer material can bias grade control.
3. Combine XRD with geochemistry to avoid over-reliance on density-based separation.
4. Archive this report against 'exploration briefing' objectives for reproducible decision records.

Field Notes

Chrysocolla is compositionally variable and often mixed with quartz/opal; hardness can range ~2–4 depending on silica content. Brown areas likely limonite/goethite or iron-stained rock; green may include minor malachite. Streak typically pale blue-green to white.