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The screenshot shows a web browser window displaying the ScienceDirect website. The address bar shows the URL: <http://www.sciencedirect.com/science/article/pii/S0301926802001456>. The page features a navigation menu with options like Home, Browse, Search, My settings, My alerts, and Shopping cart. The main content area is titled "Precambrian Research" and includes a table of contents with 9 items. The primary article is "Stratigraphy and sedimentary petrology of an Archean volcanic-sedimentary succession at Mt. Goldsworthy in the Pilbara Block, Western Australia: implications of evaporite (nahcolite) and barite deposition" by Kenichiro Sugitani, Koichi Mimura, Kazuhiro Suzuki, Koichiro Nagamine, and Ryuichi Sugisaki. The article is from Volume 120, Issues 1-2, 10 January 2003, Pages 55-79. A search box on the right indicates "16 articles match your search: 'mount goldsworthy ore composition'". The page also includes a "Share" section with "citeulike", "Like", and "Tweet" buttons. The Windows taskbar at the bottom shows the time as 10:38 PM on 26/04/2012.

## Abstract

A approximately 3.3 Ga sedimentary succession at Mt. Goldsworthy in the northeastern Pilbara Block, Australia contains beds composed of silicified pseudomorphs of nahcolite ( $\text{NaHCO}_3$ ) or barite ( $\text{BaSO}_4$ ). This sedimentary succession correlates with the Corboy Formation and consists of lower, middle and upper sedimentary units, which conformably overlie mafic to ultramafic volcanic and volcanoclastic rocks. The lower and middle units are predominantly siliciclastic, whereas the upper unit is characterized by ferruginous cherts and banded iron-formations with minor proportions of intercalated mature sandstone. The succession defines an overall upward fining and deepening trend. The detrital materials were derived from older greenstone successions, volcanoclastics and reworked precipitative beds. Silicified pseudomorphs of nahcolite crystals up to 40 cm in length occur in a 20 m thick bed in the upper

portion of the lower unit. The formation of this unit was initiated by deposition of immature terrigenous clastic sediments and followed by the precipitation of nahcolite from  $\text{Na}^+\text{-HCO}_3^-$  brines in a closed or semi-closed evaporitic basin. Bladed barite deposits occur mainly in the middle unit, which was deposited in a sub-aerial to shallow marine environment. Barite may have precipitated as a result of mixing of  $\text{SO}_4^{2-}$ -rich seawater and  $\text{Ba}^{2+}$ -rich hydrothermal fluids. The Mt. Goldsworthy sedimentary succession records an Archean shallow to sub-aerial sedimentary environment that probably developed in a continental margin setting.

### Keywords

- Pilbara;
- Corboy formation;
- Nahcolite;
- Barite;
- Hydrothermal