

The open pits at Skuterud, Photo: T. Bjerkgård

## COBALT IN NORWAY

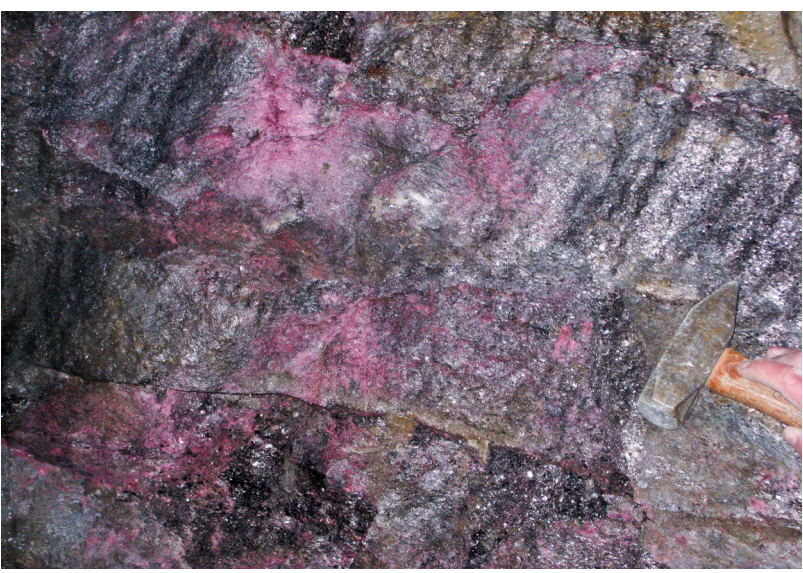
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The cobalt mines at Modum are famous for being the major source of cobalt blue pigment used in Europe during the late 18th and 19th centuries. The largest production came from the southern part of an extensive mineralized zone, in a place known as Skuterud, which is also the type locality for the cobalt-arsenide skuterudite ( $\text{CoAs}_3$ ). Ordinary production started in 1776, first from open pits, and after 1827 from underground mining. In the 1890's, ore reserves decreased rapidly, leading to the final shutdown of operation in 1898. The ore at Skuterud contained 0.1–0.3 % Co upgraded to 3 % Co by simple hand separation.

Because the mines at Modum were closed as early as 1898, the total cobalt production at Modum is uncertain, but is estimated to 1 Mt containing 0.2 % Co. Locally, the ore is enriched in gold (up to several ppm) and the main mineralization is enclosed by a copper-impregnated schist (8 m with 1.2 % Cu in core). The ore at Modum is hosted by a sequence of various paragneisses, but the genesis of the ore remains uncertain.

The Modum mineralizations are the only deposits which have been mined for cobalt as the primary commodity in Norway. However, cobalt was produced as a by-product

from nickel ore mining in the Bruvann deposit in North Norway between 1989 and 2001. Cobalt is enriched in several other deposit types, including sediment-hosted copper deposits, magmatic Ni-Cu deposits and some of the volcanogenic massive sulphide (VMS) deposits.



Erythrite after cobalt-sulpharsenides in the Skuterud cobalt mines, Photo J.S. Sandstad

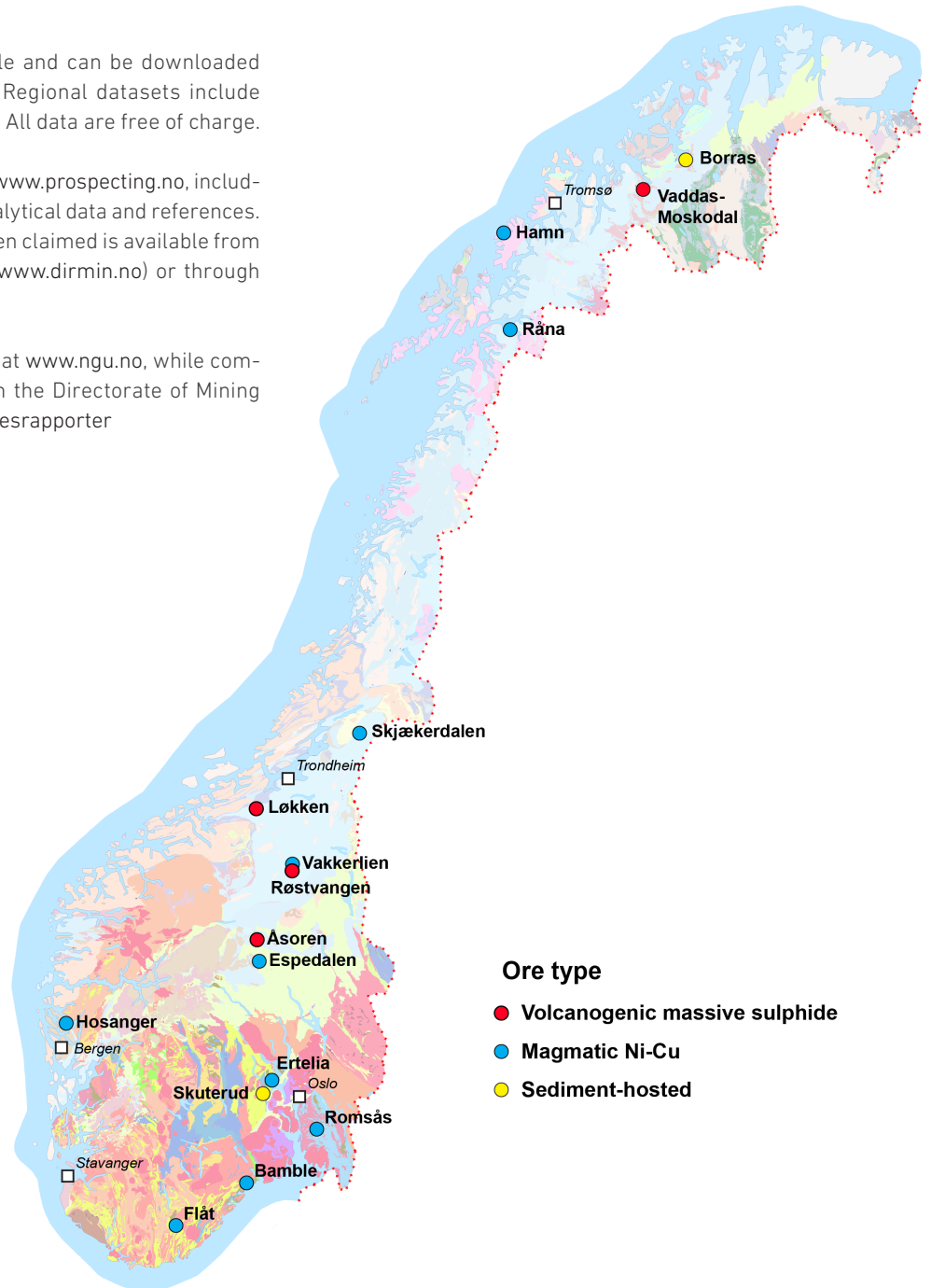


## DATA AND MORE INFORMATION

Maps and geological data are available and can be downloaded from the NGU website ([www.ngu.no](http://www.ngu.no)). Regional datasets include geophysics, geochemistry and geology. All data are free of charge.

Data on deposits are available through [www.prospecting.no](http://www.prospecting.no), including location, geology, mining history, analytical data and references. Information about areas which have been claimed is available from the Norwegian Directorate of Mining ([www.dirmin.no](http://www.dirmin.no)) or through [www.prospecting.no](http://www.prospecting.no).

NGU Reports on deposits are available at [www.ngu.no](http://www.ngu.no), while company reports can be downloaded from the Directorate of Mining website: <https://dirmin.no/undersokelsesrapporter>



## MORE INFORMATION, PLEASE CONTACT:



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