

# Mineralization in Northern England

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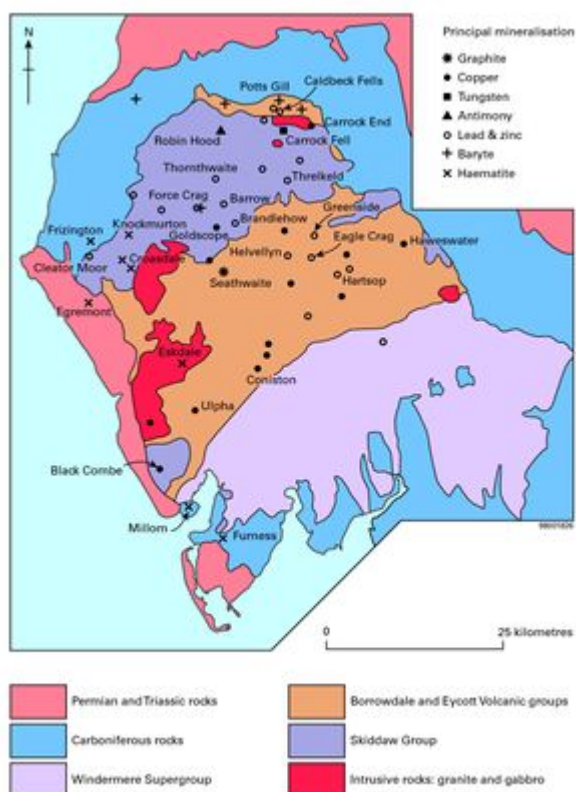
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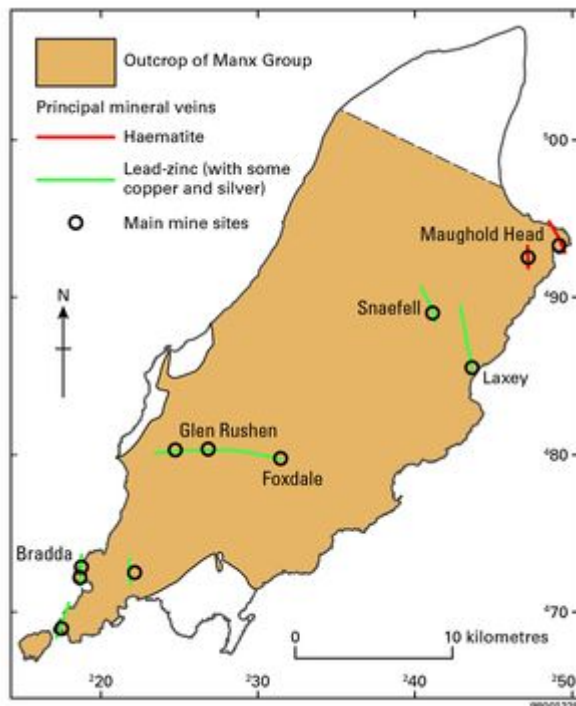
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## Introduction



Principal metalliferous mining sites of Cumbria and the Lake District. Named localities are those mentioned in the text. P916088.



Principal mineral veins and mining sites in the Isle of Man. P916090.

The rocks of northern England host a remarkable variety of epigenetic mineralisation styles, with examples concentrated mainly in the northern Pennines, the Lake District, west and south Cumbria, the Isle of Man and adjacent to the margins of the East Irish Sea Basin. Mineralisation ranges in age from Ordovician to Holocene. Metalliferous veins and related deposits comprise the bulk of this mineralisation, but the area also contains significant deposits of nonmetallic minerals, some of which have been of economic importance. Their essential features and the likely origins of the principal vein suites are discussed below. The deposits are epigenetic, that is they were formed at relatively high levels, near to the surface of the Earth; pressures and temperatures were accordingly low.

## Lake District

Epigenetic mineralisation within the Lower Palaeozoic rocks of the Lake District inlier is largely confined to the Skiddaw, Eycott Volcanic and Borrowdale Volcanic groups and the major igneous intrusions ([P916088](#))

## Haematite deposits of Cumbria

The Carboniferous limestones of west and south Cumbria host a large number of haematite orebodies. The west Cumbrian iron orefield, which comprises a comparatively narrow belt of country extending between Lamplugh and Calder Bridge, may be considered in two unequal parts.

- The large, exposed orefield north of Egremont ([P916088](#)) where Carboniferous limestone crops out at the surface.
- The southern, concealed portion of the orefield extends south of Egremont, where Carboniferous rocks pass beneath the unconformable cover of Permo-Triassic strata.

## **Northern Pennine Orefield**

The comparatively thin succession of Carboniferous rocks on the Alston Block are cut by an extensive suite of veins and related deposits which collectively make up the Northern Pennine Orefield. The orefield coincides closely with the uplands of the northern Pennines, but extends eastwards to include parts of the Durham Coalfield. A group of richly mineralised faults close to the southern margin of the Northumberland Trough in the Haydon Bridge area, are generally regarded as comprising an outlying portion of the orefield.

## **Isle of Man**

Epigenetic mineralisation within the Isle of Man comprises a range of vein deposits ([P916090](#)). The most significant of these are associated with steeply inclined faults in the Tremadoc to Arenig, turbiditic strata of the Manx Group, although some veins in the Foxdale area pass into granite at depth.

## **Basin margin mineralization**

An en échelon belt of faulting extends from the Cumbrian coast near Maryport to the Northumberland coast at Cullercoats. It includes the Maryport, Gilcrux, Stublick and Ninety Fathom faults, which together define the boundary between the Lake District and North Pennine blocks, and the Solway-Northumberland Trough.

## **Links to key articles**

[Lake District](#)

[Haematite deposits of Cumbria](#)

[Isle of Man](#)

[Northern Pennine Orefield](#)

[Basin-margin mineralisation](#)

## Bibliography

- Bouch, J E, Naden, J, Shepherd, T J, McKervey, J A, Young, B, Benham, A J, and Sloane, H J. 2006. Direct evidence of fluid mixing in the formation of stratabound Pb-Zn-Ba-F mineralisation in the Alston Block, North Pennine Orefield (England). *Mineralium Deposita*, Vol. 41, 821-835.
- Cooper, M P, and Stanley, C J. 1990. *Minerals of the English Lake District - Caldbeck Fells*. (London: British Museum, Natural History.)
- Crowley, S F, Bottrell, S H, McCarthy, M D B, Ward, J, and Young, B. 1997  $\delta^{34}\text{S}$  of Lower Carboniferous anhydrite, Cumbria and its implications for barite mineralization in the northern Pennines. *Journal of the Geological Society of London*, Vol. 154, 597-600.
- Fortey, N J, Ingham, J D, Skilton, B R H, Young, B, and Shepherd, T J. 1984. Antimony mineralisation at Wet Swine Gill, Caldbeck Fells, Cumbria. *Proceedings of the Yorkshire Geological Society*, Vol. 45, 59-65.
- Ixer, R A, Stanley, C J, and Vaughan, D J. 1979. Cobalt-, nickel-, and iron-bearing sulpharsenides from the North of England. *Mineralogical Magazine*, Vol. 43, 389-395.
- Ixer, R A, Young, B, and Stanley, C J. 1996. Bismuth-bearing assemblages from the Northern Pennine Orefield. *Mineralogical Magazine*, Vol. 60, 317-324.
- Lowry, D, Boyce, A J, Pattrick, R A D, Fallick, A E, and Stanley, C J. 1991. A sulphur isotopic investigation of the potential sulphur sources for Palaeozoic-hosted vein mineralization in the English Lake District. *Journal of the Geological Society of London*, Vol. 148, 993-1004. 272
- Millward, D, Beddoe-Stephens, B, and Young, B. 1999. Pre-Acadian copper mineralisation in the English Lake District. *Geological Magazine*, Vol. 136, 159-176.
- Milodowski, A E, Gillespie, M R, Naden, J, Fortey, N J, Shepherd, T J, Pearce, J M, and Metcalfe, R. 1998. The petrology and paragenesis of fracture mineralization in the Sellafeld area, west Cumbria. *Proceedings of the Yorkshire Geological Society*, Vol. 52, 215-241.
- Shepherd, T J, and Goldring, D C. 1993. Cumbrian hematite deposits, northwest England. 419-443 in *Mineralization in the British Isles*. Patrick, R A D, and Polya, D (editors). (London: Chapman and Hall.)
- Stanley, C J, and Vaughan, D J. 1982. Copper, lead, zinc and cobalt mineralization in the English Lake District: classification, conditions of formation and genesis. *Journal of the Geological Society of London*, Vol. 139, 569-579.
- Vaughan, D J, and Ixer, R A. 1980. Studies of the sulphide mineralogy of north Pennine ores, and their contributions to genetic models. *Transactions of the Institution of Mining and Metallurgy*, Vol. 89, B99-100.
- Young, B. 1985. The distribution of barytocalcite and alstonite in the Northern Pennine Orefield. *Proceedings of the Yorkshire Geological Society*, Vol. 45, 199-206.
- Young, B. 1987. *Glossary of the minerals of the Lake District and adjoining areas*. (Newcastle upon Tyne: British Geological Survey.)
- Young, B, Styles, M P, and Berridge, N G. 1985. Niccolite-magnetite mineralization from Upper

Teesdale, North Pennines. *Mineralogical Magazine*, Vol. 49, 555-559.

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