
58 Sellafield

Theme: Heritage and mining

Location

58 Sellafield — story of proposed underground storage of UK nuclear waste. Take the coast path north from Seascale for 2 kilometres [NY 026 033].

Description

There isn't another location in Cumbria, and maybe in the UK, whose rocks have been investigated so thoroughly or argued over so much.

Between 1989 and 1997 Sellafield, more precisely Longlands Farm, was proposed by Nirex (originally the Nuclear Industry Radioactive Waste Executive) as the site of a Rock Characterisation Facility (RCF) to study the suitability of storing radioactive waste underground. Provided safety criteria can be met, geological disposal of nuclear waste was (and is) thought by many to be the optimum way to deal with a problem that is not going to go away. Sellafield is currently storing a large volume of waste at the surface.

The geology beneath Longlands farm is essentially three layers. Up to about 100 metres of glacial sediments lie above approximately 500 metres of 250-million-year-old Triassic and Permian sandstones and mudstones. Beneath this are about 2000 metres of 450-million-year-old Ordovician volcanic rocks, a continuation of those found at the surface in the Lake District. The concept was to investigate the rocks, and the movement of water through them, in situ, to assess whether waste could be safely contained in a complex of engineered chambers within the Ordovician rocks. 65 boreholes were drilled, around 19 kilometres of drill core analysed, many geophysical surveys were done and water samples taken; multiple reports, maps and 3 dimensional models were made.

The plan for the RCF was rejected by the planning authority, Cumbria County Council. Nirex appealed. Following a public inquiry in 1995-96, the inspector ruled that the properties of the rocks at the site were not sufficiently well understood and rejected the appeal. The challenge of disposing of nuclear waste remains and as society grapples once more with how to resolve it, not only here but in North America and northern Europe, the geological and political issues raised more than 25 years ago are relevant again.

Photographs

(Photo 58-1) 58 Sellafield from Ponsonby Church.

(Photo 58-2) 58 Sellafield.



(Photo 58-1) Sellafield from Ponsonby Church.



(Photo 58-2) Sellafield.