Site Name: Esgairfraith Mine Grid Ref: SN 742 912

RIGS Category: Educational & Scientific
Earth Science Category: Mineralogy
1:50,000 Geological: BGS Sheet 163, Aberystwyth

RIGS Statement of Interest:

The spoil tips at Esgairfraith Mine are of regional importance because they contain, in abundance, excellent representative material from six of the twelve major primary mineral assemblages that were deposited in the Central Wales Orefield during a prolonged period of tectonic and hydrothermal activity. The mineralization is located within a WNW-striking lode hosted by mudstones, siltstones and sandstones of the Lower Silurian (Llandovery Series) Cwmere and Devil's Bridge formations. Each formation is repeated along the lode walls by several Caledonian strike-parallel faults. In situ mineralization is exposed in the sides of two shafts, but these are not readily accessible.

At Esgairfraith, a polymetallic assemblage containing chalcopyrite, galena plus uncommon nickel, cobalt and iron-bearing minerals has been re-brecciated and cemented by abundant ferroan dolomite. This has in turn been veined and locally brecciated with deposition of quartz, galena and chalcopyrite. Later phases of mineralisation comprise galena and sphalerite with quartz and common late-stage marcasite, minor pyrite, calcite and quartz. The site therefore makes an ideal venue for paragenetic studies of multiphase mineralisation and is an important source of teaching samples.

The tips also host a range of common to rare secondary minerals formed by weathering, which took place in situ over a long period of geological time and also during the post-mining years.

Surveyed by: J.S. Mason