



South Wales RIGS Group Site Record

RIGS Description

SECTION A

General	South Wales
Site Name: Bute Iron Mine	File Number: Site_minescandb_66
RIGS Number: 670	Surveyed by: Russell Society
Grid Reference: ST 0500 8160	Date of Visit: 28 th August 2010
RIGS Category: Educational, historic, scientific	Date Registered:
Earth Science Category: Mineralogical, industrial, historical	Owner: Unknown Planning Authority: Rhondda Cynon Taff County Borough Council
Site Nature: Old mine site	Documentation prepared by: Lynda Garfield
Unitary Authority: Rhondda Cynon Taff County Borough Council	Documentation last revised: 26 th March 2012
OS 1:50,000 Sheet: 170	Photographic Record: Attached
OS 1:25,000 Explorer Sheet: 151	
BGS 1:50,000 Sheet: E262	
<p>RIGS Statement of Interest:</p> <p>Bute Iron Mine (or at least a part of it) is proposed as a RIGS because it was once the site of an extensive local iron industry. The western part of the Bute Iron Mine area, which is an easily accessible local amenity site in the centre of all the new housing estates around, is now the only accessible part and almost the only reminder of this former mining area. Hence, this western part is recommended as a RIGS as an educational and heritage/historical site. In detail, to the west of the new road linking the housing estates, there are two accessible "wild areas" of open hummocky woodland, either side of another new road, set up and used as a local amenity/recreation site. Accessible in a few places by stiles and crossed by many well-used paths, these areas correspond to the western part of the old workings and tips. There are plenty of dips and mounds, that is, old workings and spoil heaps. Host rock and minerals can easily be found with a small amount of digging in the tips. These include fragments of Carboniferous Limestone, the iron minerals goethite, haemetite and limonite, also calcite, quartz and baryte. There is also outcrop, an old face of Carboniferous Limestone, and an old adit, and in the area to the west, a line of 8 to 10 ?filled in shafts or cuts, three quite deep with outcrop at the bottom. Compared to the more productive nearby former mine area of Mwyndy to the east, there is significantly more still to be seen in the Bute mining area.</p> <p>The Bute Iron Mine is one of several old mines in the Taff's Well-Llanharry ore field, which extends for over 13 km from east to west. Hosted by Carboniferous Limestone, the origin of the iron ores has been keenly debated over the years, and is still not fully</p>	

understood. The minerals of the Bute site therefore have the potential to assist in the further study and understanding of the history of mineralisation, and its local variations, of this regionally once important orefield.

Geological setting/context:

The Bute Iron Mine extended west from the Llantrisant Road (A4119) just south of Mwyndy Cross, for about 700m, from ST04708167 to ST05408167, maximum north to south extent 200m (see map). The 1874 OS map indicates numerous shafts for iron, some “old” even then, plus two drifts and two engine houses and several quarries (some of which must have been former opencast mining areas).

Today, there is little left of this former industrial area, but evidence can be found if one searches, more so to the west. In one of the local amenity/recreation areas (ST050816), there are some old tips which are quite high, some 5-10m or so, and which seem to have been used from before 1874. There are also several “dips” and much hummocky ground. There is much reddened calcite veined limestone around in these tips, possibly some dolomitic conglomerate as well. Digging around soon finds iron rich material, including goethite, limonite, haemetite, “grey ore” with quartz, limonite and goethite (see photo), also calcite and baryte (see photos). At ST0496581581 there is an old vertical rock face about 5m high of reddened Carboniferous Limestone dipping north-east. Well bedded in its lower part, it becomes thinner bedded higher up. Part of the outcrop in the northern corner appears to show a zone of disturbance, a down moved block against a joint plane, or even ?Trias infill. Close by is vein calcite and a little flowstone. Above this face, to the north and along the zone of disturbance, there is an adit dipping 45° due north, ie away from the face. Moving west across the new road, the second area of accessible woodland (ST048817) is similarly hummocky; with an east-west line of 8-10 ?filled-in shafts or cuts, three quite deep (c3m) with outcrop at the bottom, immediately west from the south end of the roundabout (west of ST04908165). Bevins and Mason (2000) classify Bute as an “oxide-facies iron ore deposit chiefly in the Lower Carboniferous limestones” with “associated cavity-fill mineralisation”. They reported haematite, goethite, quartz, pyrite, calcite, baryte, limonite. Sibly indicated that the Bute Mine was worked from about 1854 until 1880, producing over 300,000 tons of ore. Later workings from further west, at Hendy, seem to have mined under part of the Bute mine. Sibly (1919, 1929) gives the best account of the mine.

The Bute Iron Mine is part of the Taff’s Well-Llanharry ore field, the paragenesis of the iron ores has been discussed and several theories have been advocated over the years (Bevins and Mason 2000). Hosted by Carboniferous Limestone, the ore occurs for the most part at the top of the Limestone, beneath later rocks, these at Bute being Triassic dolomitic conglomerate which outcrops a short distance to the north. There is plenty of potential for further study.

References:

BEVINS, R E and MASON, J S. 2000. Welsh Metallophyte and Metallogenic Evaluation Project.

Results of a mineralogical site survey of Glamorgan and Gwent compiled by the National Museum and Galleries of Wales (for CCW).







North, F J. 1962. Mining for Metals in Wales, National Museum of Wales

SIBLY, T F. 1919. Special Reports on the Mineral Resources of Great Britain. Vol X
The
Haematites of the Forest of Dean and South Wales. Memoir of the Geological Survey

SIBLY, T F. 1929. –ditto— second edition revised by Lloyd W.

In addition, archaeogeologist Dr Tim Young has made a study of the iron ores of South Wales, and of the origin and paragenesis of iron ores in general.

SECTION B

PRACTICAL CONSIDERATIONS: Please score Accessibility and Safety Red Amber or Green			
Accessibility:			X 
Comment: Access via stiles and paths into the wooded amenity area			
Safety:			X 
Comment: Care needs to be taken in crossing the hummocky ground			
Conservation status: There are no known conservation designations of this RIGS			

OWNERSHIP/PLANNING CONTROL: Owner/tenant: Unknown Planning Authority: Rhondda Cynon Taff County Borough Council Planning status/constraints/opportunities: There are no known planning constraints or opportunities

CONDITION, USE & MANAGEMENT: Present use: Local amenity recreation area Site condition: Woodland, mostly not too overgrown Potential threats: There are several new housing estates around, the old wooded mine area having been left. It is possible that the area could be cleared, levelled and used for further housing in the future. Site Management: Little, apart from ensuring relevant parts do not become too overgrown.
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SITE DEVELOPMENT: Potential use (general): There is plenty of potential for leaflets, signboards etc to inform local residents of their local heritage. Potential use (educational): Good site for those interested in the study of iron ores, particularly those of the Taff's Well-Llanharry field, and in the origin and paragenesis of iron ores in general.

Other comments:

Photographic Record

Site visit to **Bute Mine**, 28 August 2010

(Below, right) Two views of the accessible west central part of the old mine site, with tips and workings, not too overgrown. Photo below looks up one of the tips (note person near top of footpath) taken from ST0500381578, lower right photo is close to an area of mineral finds at ST0502281605



West end of the west central area, old working/quarry, disturbed area (shown right), Carboniferous Limestone, ST0496581581. Adit above at ST0496081607

Looking down into one of the steep hollows, western part, exposure at bottom, ST04858163



Minerals found in the tips

The photos on this page are of hand sized specimens, a few cm across.



Botryoidal goethite



Goethite pseudomorphing octahedral pyrite



Quartz crystals



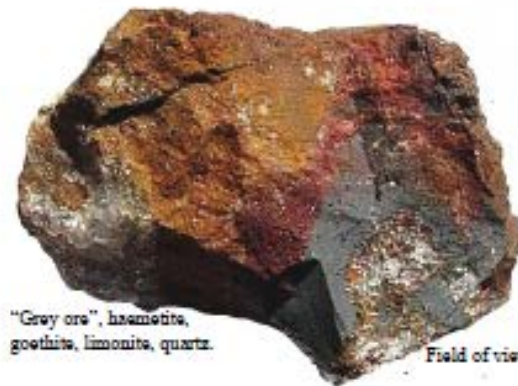
Iron ochre and euhedral crystals of baryte



Metasomatic replacement of limestone by quartz and iron minerals



Goethite, limonite, calcite, quartz



"Grey ore", haemetite, goethite, limonite, quartz.

Field of view 6cm

Field of view 4cm