



South Wales RIGS Group Site Record

RIGS Description

SECTION A

General	South Wales
Site Name: Cilfynydd coal waste tips	File Number: Site_RS_10
RIGS Number: 673	Surveyed by: Russell Society
Grid Reference: ST 0910 9340	Date of Visit: 12 th February 2011
RIGS Category: Scientific, educational	Date Registered:
Earth Science Category: Mineralogical, industrial, historical	Owner: ?The Coal Authority
Site Nature: Colliery waste tip	Planning Authority: Rhondda Cynon Taff County Borough Council
Unitary Authority: Rhondda Cynon Taff County Borough Council	Documentation prepared by: Russell Society
OS 1:50,000 Sheet: 170 and 171	Documentation last revised: 12 th February 2011
OS 1:25,000 Explorer Sheet: 166	Photographic Record: Attached
BGS 1:50,000 Sheet: E249	
RIGS Statement of Interest:	
<p>The site is recommended as a RIGS because, although the “Upper Palaeozoic Millerite-bearing ironstones of the South Wales Coalfield” were designated as having GCR status in 2010 (Bevins and Mason 2010), no specific sites were able to be identified. The Cilfynydd tips are highlighted now because they are still extant, there appear to be no plans to develop them, the site is easy of access, and the nodules within do yield typical coalfield minerals, if not in the greatest abundance.</p> <p>Claystone-ironstone nodules are found throughout much of the South Wales Coalfield in the mudstones of the Upper Carboniferous (Westphalian) coal bearing sequences. In some parts, more so towards the northern part of the coalfield, the nodules occur in bands above the coal seams, and in many places were mined as ore for the South Wales iron industry. In the coal mines, they were usually part of the waste material. Sometimes they were left underground, sometimes they were dumped on the coal waste tips.</p> <p>Many of the claystone-ironstone nodules carry an interesting selection of minerals in septarian cracks that developed during diagenesis. The minerals, of which millerite is the most well known, include a range of sulphides, hydrocarbons, quartz and other minerals with carbonate(s), usually siderite. Over the years, coal waste tips have become a good source of claystone-ironstone nodules for those interested in the minerals they may contain. Cilfynydd coal waste tips have been no exception. However, because many of the coal waste tips have been reclaimed in recent years, sites where the nodules can be found and examined have diminished substantially, hence the recommendation of Cilfynydd coal waste tips as a RIGS.</p>	

Geological setting/context:

The coal waste tips, old tips from the Abercynon Colliery started in 1890, extend for about 1km length NW and 300m across. Different parts of the area have received coal waste at different times.

Minerals of interest occur in claystone-ironstone nodules in the waste. Some of the nodules have moved down the sides of the tips towards the base, others can be more readily found in gullies eroded on the sides of the tips.

The claystone-ironstones can be recognised by their brown colour, their higher density, and their septarian internal textures with minerals. Minerals found over the years include siderite, quartz, chalcopyrite, malachite, sphalerite, galena, cerussite, pyrite, baryte, millerite, dickite, fluorapatite, hatchettite and (an)other hydrocarbon(s), hemimorphite and siegenite. Of particular note at Cilfynydd are baryte (rarely found elsewhere in the coalfield), quartz ("Merthyr diamonds"), sphalerite and at least two forms of hydrocarbon.

This site is not as prolific as other coalfield sites, but looking at the reports of site visits over the years, it has always yielded a good range of minerals. The 2011 site visit was no exception; all the minerals expected, apart from fluorapatite, hemimorphite and siegenite, were found although some were only found in small quantities after extensive searching.

Over the years, it is the south-west part of the tips that has been the most productive. The 2004 report gives "this part of the tip....gives those new to coal field minerals a good insight into the ironstones, their septarian structure, the cavities, siderite, and the range of minerals to be found, albeit mainly as micros". The extent of this area is about 60m by 200m. For the RIGS itself, an area 700m by 200m is recommended (see map).

References:

BEVINS, R E and MASON, J S. 2000. Results of a mineralogical site survey of Glamorgan and Gwent compiled by the National Museums & Galleries of Wales. Welsh metallophyte and metallogenic evaluation project, CCW.

BEVINS, RE and MASON, J S. 2010. Wales, p199-381. In Bevins RE, Young B, Mason JS, Manning DAC and Symes RF (2010) Mineralization of England and Wales, GCR Review Series no. 36, Joint Nature Conservation Committee.

The Russell Society. 2004. Minerals from the Abercynon colliery coal waste tips (Cilfynydd); Programme and field notes for The Russell Society AGM and conference 2004 held 16-18 April 2004

GARFIELD, L. 2004. Cilfynydd (Abercynon) dumps, Cilfynydd, South Wales [ST090925] Sunday 18 April 2004, field visit report, Newsletter of The Russell Society September 2004, p39.

SECTION B

PRACTICAL CONSIDERATIONS:

Please score Accessibility and Safety Red Amber or Green

Accessibility:



Comment: Although the site is open to access with no barriers, for serious collecting permission should be obtained (in 2004 this was from the Coal Authority).

Safety:



Comment: Some of the slopes of the tips are steep

Conservation status:

Coalfield sites were designated as having GCR status in 2010, although no specific site was highlighted

OWNERSHIP/PLANNING CONTROL:

Owner/tenant: ?The Coal Authority

Planning Authority: Rhondda Cynon Taff County Borough Council

Planning status/constraints/opportunities: None known

CONDITION, USE & MANAGEMENT:

Present use: Waste ground, open to access from all directions, used by walkers, the local hunt, and more.

Site condition: Rough ground, slowly becoming grassed over, but the exposed west and south sides still show tip material that can be readily examined.

Potential threats: The site is slowly becoming grassed over.

There is quite a lot of coal in the tips; there is a possibility that this coal could be reworked in the future. Elsewhere in the coalfield this has usually been followed by redevelopment or reclamation (eg grassing over). Should this happen, there is always the opportunity to collect many of the ironstones in the process, but once done, the tip is then no longer available for mineral collection (ie lost for ever).

Site Management: Should it become too grassed over, it would not be feasible to keep the whole site clear, but a small part of the more productive southern part could be selected for ongoing periodic clearing.

SITE DEVELOPMENT:

Potential use (general):

Potential use (educational): An excellent site for those interested in the minerals of the claystone-ironstone nodules in the South Wales coalfield, whether new to these minerals, or interested for research or other purposes.

Other comments:

Site visit to **Cilfynydd waste tips**,
12 February 2011

Approaching the south corner of the site from the off road car parking area (ST092931), view north. Note tips grassing over, but still with some tip material exposed. This has been, over the years, the more prolific part of the site.



View north from the top of the mound (ST0902393429) in the above photo, towards another even higher mound. Note person to right of white post for scale. Note gullies and less grassed over areas on the south and west side of the mound. Arrow joins photos of the same tree.



View north of part of the second mound, higher up. Some of the brown fragments on the tip are claystone-ironstone nodules. Note two people for scale.



View south from the top of the second mound above (ST0903693531 height c220m) across the south mound, Cilfynydd village on the right in the valley



Minerals from Cilfynydd (several visits)



Two pieces of claystone-ironstone, showing septarian texture



Millerite radiating from a galena crystal with brown hydrocarbons. Field of view 3cm



Sphalerite with quartz



Galena



Baryte veins in-filling septaria, field of view 3cm



Small "balls" of red hydrocarbon on siderite



Quartz



Small chalcopryite crystals on siderite