South Wales RIGS Group Site Record
RIGS Description

SECTION A

General	South Wales
Site Name: Sully foreshore	**File Number:** Site_RSK_2
RIGS Number: 700	**Surveyed by:** T Sharpe
Grid Reference: ST 1610 6750	**Date of Visit:** 2011
RIGS Category: Scientific, educational	**Date Registered:**
Earth Science Category: palaeontological, educational	**Owner:** Unknown **Planning Authority:** Vale of Glamorgan Council
Site Nature: Foreshore	**Documentation prepared by:** T Sharpe
Unitary Authority: Vale of Glamorgan Council	**Documentation last revised:** 6th September 2011
OS 1:50,000 Sheet: 171	**Photographic Record:** Attached
OS 1:25,000 Explorer Sheet: 151	
BGS 1:50,000 Sheet: E263	

RIGS Statement of Interest:

The rocks of the upper foreshore at Sully Sports and Social Club are red and grey-green sandstones and siltstones which were deposited by rivers flowing to a large seasonal lake in the late Triassic Period, about 220 million years ago. The site is important as the rocks contain over 30 trackways made by dinosaurs and other related reptiles. Although individual footprints are not as well preserved as those at the nearby site of The Bendricks SSSI, the Sully site contains several long trackways, in one case with 29 individual footprints of a quadrupedal animal, and a running trackway made by a small theropod dinosaur, The sites at Sully and The Bendricks contain the oldest dinosaur footprints in Britain and are the only places where trackways of this age can be seen in situ in Britain.

Geological setting/context:

The upper foreshore south of the playing fields of Sully Sports and Social Club comprises several gently (5-8^{o}) southeastward-dipping bedding planes within late Triassic (?Norian) fluvial red sandstones and siltstones of the marginal facies of the Mercia Mudstone Group. These beds form the northern limb of a southwest-plunging open syncline whose southern limb can be seen on the northwestern side of Sully Island. They are cut by several approximately north-south minor faults, each of which has a small eastern downthrow. The rocks show poorly-preserved wave ripple-marks and display a grey-green reduction mottling.

Along a 240 metre length of the shore, eastwards of a point level with the western end of the playing fields above, several bedding surfaces contain alignments of oval depressions which are interpreted as the trackways of late Triassic terrestrial reptiles. There are at least 33 separate trackways, the longest of which contains at least 29 individual footprints. The trackways were produced by both bipedal and quadrupedal animals, most likely dinosaurs and other archosaurs. Most of the individual footprints are poorly preserved, making identification of individual trackmakers difficult. The best preserved trackway here is at the western end of the site and is that of a small theropod, with a track length of 10 cm and a stride of 167 cm, suggesting an animal moving at a speed of about 22 km/h. The majority of the trackways are oriented in a NNW-SSE direction and are parallel, or nearly so, with the orientation of ripple crests present on the same bedding planes, implying that most of the animals were moving along the shoreline of a body of water.

This site at Sully and the nearby site of The Bendricks SSSI are the only two sites where dinosaur tracks of Triassic age are preserved in situ in Britain. The trackways at these two sites are also the oldest dinosaur trackways in Britain.

References:

BENTON, M J, COOK, E, & TURNER, P. 2002. *Permian and Triassic Red Beds and the Penarth Group of Great Britain. Geological Conservation Review Series, 24.* Joint Nature Conservation Committee, xvi + 337pp.

LOCKLEY, M G, KING, M, HOWE, S R & SHARPE, T. 1996. Dinosaur tracks and other archosaur footprints from the Triassic of South Wales. *Ichnos*, 5, pp.23-41.

TUCKER, M E. 1977. The marginal Triassic deposits of South Wales: continental facies and palaeogeography. *Geological Journal*, 12, pp.169-188.

TUCKERS, M E & BURCHETTE, T P. 1977. Triassic dinosaur footprints from South Wales:their context and preservation. *Palaeogeography, Palaeoclimatology, Palaeoecology*,22, pp.195-208.

SECTION B

PRACTICAL CONSIDERATIONS:
Please score Accessibility and Safety Red Amber or Green

Accessibility:			X

Comment: The site is easily accessible at the western end of the section from the footpath along the cliff top at the southern end of Clevedon Avenue in Sully, or by walking along the shore westwards from Swanbridge. The site is not accessible at the highest tides.

Safety:			X

Comment: The site is a series of gently dipping bedding planes; there is a potential slip and trip hazard. The site is covered by the sea at the highest tides. The site is backed by low cliffs which present a low risk of rockfall.

Conservation status:

There are no known conservation designations of this RIGS

OWNERSHIP/PLANNING CONTROL:

Owner/tenant: Unknown

Planning Authority: Vale of Glamorgan

Planning status/constraints/opportunities:

There are no known planning constraints or opportunities

CONDITION, USE & MANAGEMENT:

Present use: Rock platform shoreline

Site condition: Good

Potential threats: Erosion and abrasion.

Site Management:

SITE DEVELOPMENT:

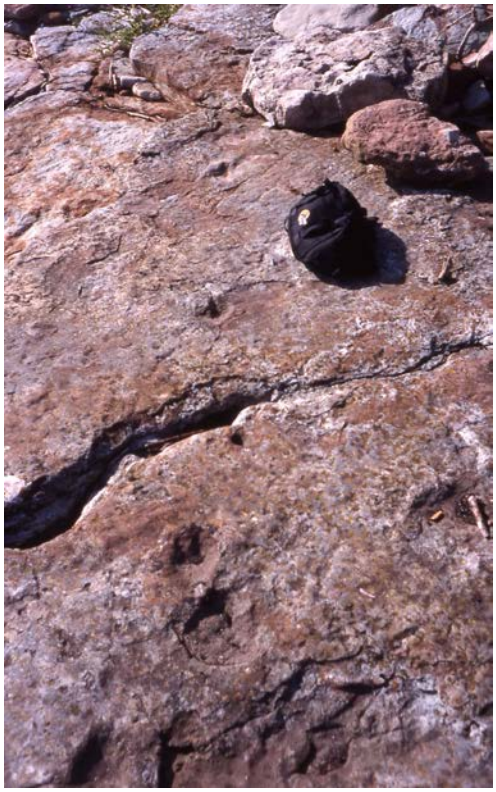
Potential use (general): The site is of value for academic study.

Potential use (educational): The site is of potential value for teaching.

Other comments:

Photographic Record

View east over site.



Trackway of a small running theropod

Trackways at Sully