
A1 D6 Denaby Lane

Site information

Site name: Denaby Lane

Site key: D6

Grid reference: [SK 489 995] (centred on)

Site type: cutting, road

Local authority: Doncaster Metropolitan Borough Council, South Yorkshire

Site dimensions: 30 m x 3 m

Site owner: Highways Agency

Conservation status: Regionally Important Geological Site **Date:** 14/9/97

Field surveyor: Scott Engering **Date:** 16/2/07

Stratigraphy and rock types

Time unit: Carboniferous, Westphalian **Rock unit:** Mexborough Rock, Pennine Middle Coal Measures Formation, Pennine Coal Measures Group

Rock type: Sandstone **Details:** Cross bedded fine to medium grained, buff and iron stained flaggy sandstone

Site map

(Figure 14) D6 Denaby Lane

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Site description

Limited outcrop of Mexborough Rock in roadside cutting [SK 48974 99510], with maximum section of 3 m. Exposure is sporadic along the length and is often largely overgrown. Where exposed, it comprises cross bedded, fine to medium grained flaggy sandstone with iron staining, especially to the surfaces of the joints. The highest levels of the exposed sections show advanced disruption by roots and the processes of soil formation.

The position of the roadside exposure coincides with a steep drop in the road down an escarpment that is formed by a south-west trending fault line, with a down throw to the north. The fault is part of the South and North Don Fault system and contributes to the topography of the Mexborough Rock, which forms a prominent ridge alongside the Hooton Roberts road. Where the rock mainly outcrops opposite Coalpit Road, there are good views of this topography and further down the hill at [SK 48894 99501] and [SK 48848 99473], the wetlands associated with a former meander of the River Don is seen. From this site, at [SK 4855 9865] to the north of the River Don and [SK 47859 99511] (Ferryboat Farm Fisheries), where there is part of an oxbow lake, a good appreciation of the geological structure and geomorphology of the area may be obtained.

The wetlands, river terraces etc associated with the meandering and floodplain of the Don and Dearne in this area merit further investigation and it is considered that a large area should possess Geodiversity value and not just single, isolated sites. There are strong links to biodiversity in this area.

RIGS assessment of site value

Ratings: 1–2 very poor; 3–4 poor; 5–6 acceptable/useful; 7–8 quite good; 9–10 very good/excellent; N/A not applicable; D/K don't know

Access and safety

Aspect/Description/Rating

Road access & parking Wide access road to industrial estate is located opposite the exposure with small parking area at [SK 48848 99473]. Rating: 7

Safety of access Accessible from public path on roadside. Rating: 7

Safety of exposure Some flaggy beds are slightly loose but there is no danger from rock overhangs. Rating: 7

Permission to visit Not applicable N/A

Current condition Much of the section is overgrown and would be improved by selective clearance and removal of large shrubs/small trees. Rating: 5

Current conflicting activities None envisaged

Restricting conditions No collecting at the site

Nature of exposure Roadside cutting but displacement of escarpment is evidence of faulting

Multiple exposures/prospect for trail

Notes Consider trail relating to exposures/dip and scarp topography of Mexborough Rock and geomorphology of river terraces, oxbow lakes, meanders, braiding

Culture, heritage & economic

Aspect/Description/Rating

Historic, archaeological & literary associations None known. Rating: 0

Aesthetic landscape Excellent. Very distinctive dip and scarp topography and fluvial morphology of the River Don with meanders and floodplains. Rating: 9

History of earth sciences Type locality for Mexborough Rock. Rating: 8

Economic geology Not applicable. Rating: 0

Notes

Education and science

Surface processes Modern and recent fluvial processes and landforms. Rating: 7

Geomorphology Folding and faulting, dip and scarp topography, meanders, oxbow lakes, braiding, river terraces.
Rating: 9

Sedimentary Cross bedding and lithology in Mexborough Rock. Patterns of fluvial deposition.. Rating: 8

Fossils Not seen although certain horizons within the formation are rich in fossil trees. Rating: 0

Igneous Not applicable. Rating: 0

Metamorphic Not applicable. Rating: 0

Tectonic: structural Folding, faulting and topographic evidence of the Don Monocline. Rating: 8

Minerals Not applicable. Rating: 0

Stratigraphy Good opportunity to correlate Mexborough Rock with the same formation in Rotherham and Barnsley. Type locality. Rating: 7

Notes Potentially an excellent area to study structures, dip and scarp topography and fluvial geomorphology at A level upwards

Geodiversity value

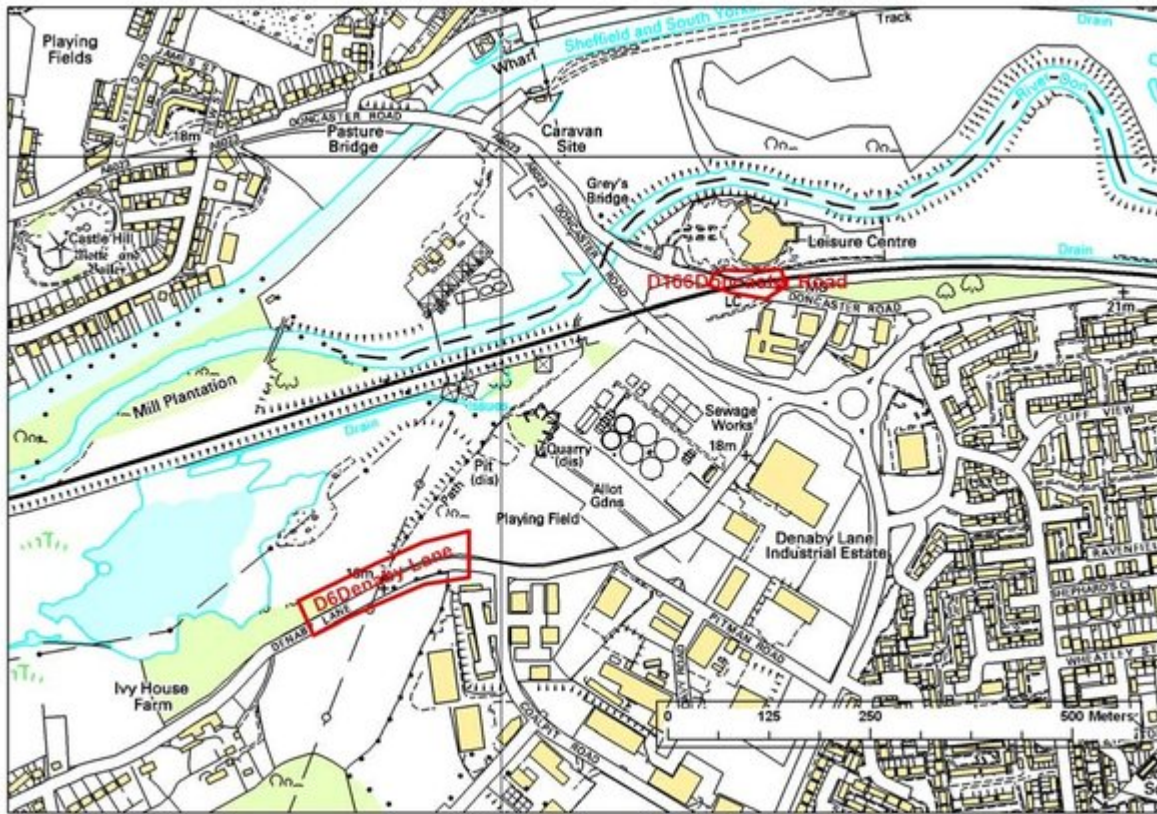
Excellent geodiversity site (to be extended) for geology and a wide variety of landforms and fluvial geomorphology.
Rating: 9

Site photographs

(Figure 15) Road cutting exposure of Mexborough Rock with vegetation overgrowth.[SK 48974 99510].

(Figure 16) Wetlands associated with the former course of the River Don. [SK 48894 99473].

(Figure 17) View to the Don Valley over a fault and down the escarpment. [SK 48870 99500].



(Figure 14) D6 Denaby Lane.



(Figure 15) Road cutting exposure of Mexborough Rock with vegetation overgrowth.[SK 48974 99510].



(Figure 16) Wetlands associated with the former course of the River Don. [SK 48894 99473].



(Figure 17) View to the Don Valley over a fault and down the escarpment. [SK 48870 99500].