Site Name **Churchway's Quarry, near Heath & Reach**

BEDFORDSHIRE LOCAL GEOLOGICAL SITE DESIGNATION FORM		
SITE LOCATION, ACCESS, OWNERSHIP, STATUS & SUITABILITY		
(1) **Name of site:** Churchway's Quarry, near Heath & Reach, Bedfordshire		
(2) **National grid reference:** SP 937 294		
(3) **Unitary authority:** Central Bedfordshire		
(4) **Site access and local amenities** Site access is from Eastern Way, Heath & Reach. The quarry has a sign at the entrance and is easy to locate at the end of Mile Tree Road, where it joins Eastern Way. Parking is available inside the site on a concrete driveway. There are no facilities onsite and visits must be prearranged and accompanied.		
(5) **Site ownership:** Aggregate Industries Ltd.		
(6) **Mineral rights ownership:** Aggregate Industries Ltd.		
(7) **Is permission needed to access the site?**	a. No	b. Yes ✓
If yes, from whom? Quarry Manager Graham Turk Eastern Way Heath & Reach Bedfordshire LU7 9LF Tel. 01525 237 911		
(8) **Site status:** Active ✓ Disused Historical Managed Restored New Other		
(9) **Suitable for visits by:**	a. General public	b. Small parties ✓	c. Large parties
	d. Primary school	e. National Curriculum	f. AS/A-Level
	g. Adult ✓	h. Undergraduate teaching ✓	i. Research ✓
(10) **Site suitable for frequent visits by parties?**		a. No ✓	b. Yes
(11) **Should collecting and hammering be encouraged at the site?**		a. No	b. Yes ✓

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SITE DESCRIPTION		
(12) **Exposure type:**	a. Inland natural outcrop	b. Road cutting
c. Railway cutting	d. Active quarry/pit ✓	e. Disused quarry/pit
f. Old mine workings	g. Mine dump	h. Active mine
(13) **Dimensions of exposure of interest:** Several long working faces.		
(14) **Main interest(s):** a. Structural	b. Geomorphological	c. Mineralogical
d. Palaeontological	e. Petrological ✓	f. Stratigraphical
(15) **Summary description and reason for designation** The site displays a good section through the Lower Cretaceous Woburn Sands Formation ('Brown Sands'). It has several faces which show excellent sedimentary structures that are typical of this stratigraphic interval. The contact with the overlying 'Silver Sands' is usually exposed. It is an excellent teaching site for undergraduates or geology groups.		
(16) **What threats exist for the site?** Quarrying activity continues to expose and improve the exposures, but eventually they will be removed and another use found for the site.		
(17) **What additional work is required to enhance the site?** None essential at this stage. Generic information on the Woburn Sands is available through a B&LGG information leaflet (see below).		
(18) **Published/unpublished references to the site and wider area** Allen, J. R. L. 1981. Lower Cretaceous tides revealed by cross-bedding with mud-drapes. *Nature,* **289**, 579-581. Eyers, J. 1991. The influence of tectonics on early Cretaceous sedimentation in Bedfordshire, England. *Journal of the Geological Society of London,* **49**, 405-414. Schiavon, N. 1988. Goethite ooids: growth mechanism and sandwave transport in the Lower Greensand (early Cretaceous, southern England*). Geological Mag*azine, **125,** 57-62. Shephard-Thorn, E. R. *et al.* 1986. An outline study of the Lower Greensand of parts of south-east England. *Technical Report of the British Geological Survey,* WF/MN/86/1. Shephard-Thorn, E. R. *et al.* 1994. *Geology of the country around Leighton Buzzard.* Memoir for the 1:50 000 geological sheet 220 (England and Wales), London, HMSO. *The Lower Greensand – the basics.* B&LGG information leaflet. www.bedsrigs.org.uk		

SCIENTIFIC SIGNIFICANCE		
(19) **Does the site exhibit features of local/regional importance?**	a. No	b. Yes ✓
(20) **Is the site already a designated SSSI?**	a. No ✓	b. Yes
(21) **Collector interest:** a. Rare species	b. Common species	c. Local significance
d. Regional significance	e. National significance	
(22) **List of confirmed fossils, minerals, etc:** N/A		

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HISTORICAL/AESTHETIC VALUE		
(23) **Does the site have important historical associations?**	a. No ✓	b. Yes
(24) **Does the site form a key part of an attractive or evocative landscape?**	a. No ✓	b. Yes

(25) **Full description of site and its significance**
The site displays a good section through the lower part of the Woburn Sands Formation ('Brown Sands'). It has several faces which show excellent sedimentary structures, including clay-draped ripples and cross-bedding (showing bi-directional forms and exceptional tidal bundles).There are also trace fossils – typical annelid and shrimp burrows, but also large, vertical (crustacean?) burrows.

The contact between the 'Brown Sands' and the overlying 'Silver Sands', which are separated by an ironstone horizon, is usually exposed. There are also smaller, separate, mostly degraded sections in the iron-stained 'Silver Sands'. These are homogenous and show no sedimentary structures. The overlying (Gault) section is not visible due to degradation of the upper slope and vegetation cover.

RECORDER'S DETAILS	
(26) **Name:** Dr Jill Eyers	(27) **Organisation:** Consultant geologist working on behalf of B&LGG
(28) **Date of designation:** January 2007	

CURRENT SITE CONDITION

(29) The 'Brown Sands' are still visible, making this one of the very few sites in the county where they are still exposed. Although the face is somewhat degraded, excellent sedimentary structures are evident.

The quarry is being worked and it is clear that management will be required to preserve any representative exposure once extraction ceases. Site condition at March 2009 is GOOD DECLINING; assessed by Jill Eyers.

NOTES

(30) Form revised and updated by Dr Martin Whiteley, B&LGG Local Geological Site Manager, November 2009. For further details contact mjwhiteley@yahoo.co.uk