

Site Name

Chamberlain's Barn Quarry, Leighton Buzzard

BEDFORDSHIRE LOCAL GEOLOGICAL SITE DESIGNATION FORM

SITE LOCATION, ACCESS, OWNERSHIP, STATUS & SUITABILITY

(1) **Name of site:** Chamberlain's Barn Quarry, Leighton Buzzard, Bedfordshire

(2) **National grid reference:** SP 928 267

(3) **Unitary authority:** Central Bedfordshire

(4) **Site access and local amenities**

Site access is off the main road between Heath & Reach and Leighton Buzzard. It can only be visited (with permission and accompanied) on weekdays or Saturday mornings, and there are no facilities onsite.

(5) **Site ownership:** Sibelco UK Ltd.

(6) **Mineral rights ownership:** Sibelco UK Ltd.

(7) **Is permission needed to access the site?**

a. No

b. Yes ✓

If yes, from whom?

Quarry Manager
Tony Pigeon
Double Arches Quarry
Eastern Way
Heath & Reach
Bedfordshire
LU7 9LF

Tel: 01525 234 200

(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 hundred metres, depending on workings.		
(14) Main interest(s):	a. Structural	b. Geomorphological
	c. Mineralogical	d. Palaeontological ✓
	e. Petrological	f. Stratigraphical ✓
(15) Summary description and reason for designation Lower Cretaceous Woburn Sand Formation present, overlain by Gault Clay. A stratigraphically important and extensive exposure.		
(16) What threats exist for the site? Quarrying is actively renewing the exposure, but will eventually this will cease and the pit will be infilled.		
(17) What additional work is required to enhance the site? The B&LGG could make a full recording of the sequence as it is exposed, but in practice this is difficult because it would require frequent access.		
(18) Published/unpublished references to the site and wider area Eyers, J. 1992. <i>Lithostratigraphy of the Lower Greensand and Gault (Lower Cretaceous) of the Bedfordshire Province, England</i> . Unpublished PhD Thesis, Open University. Owen, H. G. 1972. The Gault and its junction with the Woburn Sands in the Leighton Buzzard area, Bedfordshire and Buckinghamshire. <i>Proceedings of the Geologists' Association</i> , 83 , 287-312. Shephard-Thorn, E. R. <i>et al.</i> 1986. An outline study of the Lower Greensand of parts of south-east England. <i>Technical Report of the British Geological Survey</i> , WF/MN/86/1. Shephard-Thorn, E. R. <i>et al.</i> 1994. <i>Geology of the country around Leighton Buzzard</i> . Memoir for the 1:50 000 geological sheet 220 (England and Wales), London, HMSO. Smart, P.J. 1994. Two rare shark teeth from Leighton Buzzard. <i>Bedfordshire Magazine</i> , 24 , 293-295. Smart, P.J. 1995. Hexanchid shark teeth (Chondrichthyes, Vertebrata) from the Lower Cretaceous Albian sediments of Leighton Buzzard, South-central England. <i>Proc. of the Geologists' Association</i> , 106 , 241-246. Smart, P.J. 1996. Five fossil shark teeth from Leighton Buzzard. <i>Bedfordshire Magazine</i> , 25 , 151-153 Smart, P.J. 1997. The basal Gault and Gault-Woburn Sands junction beds in Chamberlain's Barn quarry, Leighton Buzzard, Bedfordshire. <i>Proceedings of the Geologists' Association</i> , 108 , 287-292. Smart, P.J. 2007. Anacoracid shark teeth (Chondrichthyes, Vertebrata) from the early Cretaceous Albian sediments of Leighton Buzzard, south-central England. <i>Proc. of the Geologists' Association</i> , 118 , 375-380.		

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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 ✓
	d. Regional significance ✓	c. Local significance ✓
	e. National significance ✓	
(22) List of confirmed fossils, minerals, etc: Fossils, particularly ammonites and shark teeth, from the Woburn Sands-Gault junction beds and the overlying Gault Clay (see references for details).		

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 This site has been worked for many years and has been extensively backfilled with Gault overburden material. The Woburn Sand and Gault Clay successions periodically exposed here are of historical significance because of their stratigraphic completeness (see Owen, 1972, for a literature review) The 'Silver Sands' and 'Red Sands' of the Woburn Sands Formation are up to 6m thick and the overlying transitional beds that pass up into the Gault Clay are occasionally represented by the 'Carstone Conglomerate' (Shephard-Thorn <i>et al.</i> , 1994, p.48). The Gault Clay is up to 11m thick. Recently, Smart (2007) recorded an assemblage of ammonoids that included several species of <i>Cleoniceras</i> and <i>Protanisoceras</i> , as well as the Middle Albian shark tooth <i>Squalicorax primaevus</i> .		

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) Site condition at February 2009 is GOOD DECLINING; assessed by Martin Whiteley.

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