

**CPAT Report No 958**

# **Planning Application for a South Eastern Extension to Silica Sand Workings at South Arclid, Arclid Quarry, Near Sandbach, Cheshire**

**ARCHAEOLOGICAL ASSESSMENT**



**THE CLWYD-POWYS ARCHAEOLOGICAL TRUST**

**CPAT Report No 958**

**Planning Application for a South Eastern Extension  
to Silica Sand Workings at South Arclid,  
Arclid Quarry, Near Sandbach, Cheshire**

**ARCHAEOLOGICAL ASSESSMENT**

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May 2009

Report for Archibald Bathgate Group Ltd

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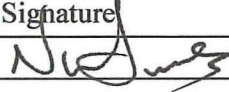
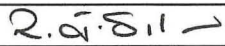
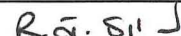
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## CPAT Report Record

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## NON-TECHNICAL SUMMARY

An assessment of the cultural heritage has been completed for the area of the proposed South Eastern Extension to South Arclid Silica Sand Quarry. This comprised a study of desk-based resources followed by a thorough field survey of the area for the proposed extension.

Four cultural heritage assets have been identified within the area of the proposed extension, of which three are considered to be of low significance, with no visible remains, while one is of medium significance. The last refers to a peat deposit (Site 1) which has already been examined as a condition of existing permissions. It is considered unlikely that the proposed extension will have a significant additional impact on the peat deposit, over and above that resulting from existing permissions.

As well as those cultural heritage assets within the area of the South Eastern Extension the assessment has also produced evidence which suggests that the wider area has been occupied and cultivated since at least the medieval period. In addition, there is also the potential for unrecorded archaeological remains to be affected during any sub-surface disturbance.

A mitigation strategy has been proposed which allows for a watching brief during the stripping of topsoil and overburden within the extension area, including provision for further archaeological recording, possibly including excavation, to be undertaken in the event that the watching brief reveals significant archaeological remains which cannot be investigated and recorded adequately at that time.



## **1 INTRODUCTION**

- 1.1 In October 2008 the Field Services Section of the Clwyd-Powys Archaeological Trust (CPAT) was invited by Sloane Mead, on behalf of Bathgate Silica Sand Ltd, to undertake an assessment of the cultural heritage in connection with proposals for an extension to Arclid Quarry, near Sandbach, Cheshire. The assessment forms part of a broader Environmental Impact Assessment, a statement on which is to be submitted in support of the application.
- 1.2 Three similar assessments have already been undertaken for the area within the existing planning boundary in connection with applications for the determination of new working conditions and a previous extension to the quarry workings (Jones 2000a, 2000b, and 2006). These identified a number of cultural heritage assets, of which only one lies partly within the area of the proposed South Eastern Extension. The present assessment consisted of a desk-based study and a field survey which investigated the whole area of the proposed South Eastern Extension. The results have been used to provide a historical background, to identify known cultural heritage assets and to assess the cultural heritage potential of the area concerned.

## **2 SITE DESCRIPTION**

- 2.1 Arclid Quarry lies 2.5km north-east of Sandbach, 8.5km west of Congleton and 5km south of Holmes Chapel (see Plan No.ABG/SEE/01 contained within the Environmental Statement). The A534 Congleton to Sandbach road splits the Quarry and crosses the M6 Motorway at Junction 17, some 300m west of the Quarry boundary. The A5022 joins the A534 some 200 metres west of the Quarry boundary. The Quarry is situated within Congleton District in the County of Cheshire.
- 2.2 That part of the Quarry lying to the south of the A543 Congleton to Sandbach road is known as South Arclid (centred at SJ 782616), and is located in a mainly rural area, which is crossed by a number of important road links.
- 2.3 South Arclid is the current, active, sand extraction area, although the north-western portion including the Western Extension, has not yet been worked and still comprises agricultural land. Currently sand extraction is taking place from the north-west and the south-east of South Arclid. Plan No.ABG/SEE/02 (contained within the Environmental Statement) shows the current working area as well as the South Eastern Extension and the Application Site. The quarry void lies approximately 1km from the processing plant at North Arclid and is linked to it by two parallel underground pipelines.
- 2.4 A full description of the current and proposed workings is provided in Section 4.3 of the Environmental Statement.
- 2.5 The present application relates to proposals to extend silica sand extraction into an area known as the South Eastern Extension (see Plan No.ABG/SEE/03 contained within the Environmental Statement), which occupies some 58 ha with a reserve of just over 7 million tonnes. The Application Site has a total area of some 105 ha and, besides the South Eastern Extension, includes the whole of the already permitted South Arclid and the Western Extension.



### 3 DESK-BASED STUDY

- 3.1 Stage one of the assessment involved the examination of all readily available primary and secondary records relating to the proposed South Eastern Extension, including documentary, cartographic and aerial photographic sources. Archives and repositories consulted included the following: the Cheshire Historic Environment Record (CHER) and Department of Environmental Planning, Cheshire County Council; and Cheshire County Records Office (CCRO), Chester.
- 3.2 A search of the CHER revealed that there were no recorded cultural heritage assets within the proposed South Eastern Extension, although seven assets lay within 1km of the site boundary, including six listed buildings (Record nos 1105/1, 1104/0/1, 1104/0/2, 1308/1, 1308/2, 1308/0/1 and an undefined cropmark (Record no. 1179). The listed buildings included Arclid Hall Farmhouse (Record no 1105/1), a brick-built house dating from c.1700, which lies immediately to the north of the Application Site. The farmhouse, which was owned by the Moreton family during the 19<sup>th</sup> century, probably stands on the site of an earlier building which was formerly the seat of the Arclyds and Mainwarings (Earwaker 1972, 112; Ormerod 1882, 117).
- 3.3 Arclid is first recorded as *Erclid* between 1188 and 1209. The placename underwent numerous changes in spelling over the centuries, but is thought to have been originally derived from the old Norse or Danish meaning 'Arnkell's hill-side' (Watts 2004, 16). The placename might therefore suggest that there has been some form of occupation in the general area from at least the early medieval (pre-Norman) period. The name Arclid Green, referring to the small settlement immediately to the north of South Arclid Quarry, also suggest a possible medieval origin as 'Green' placenames are often first recorded at this time, although some may be as late as the 15<sup>th</sup> or 16<sup>th</sup> centuries (Prof. N Higham, pers comm.).
- 3.4 Selected cartographic sources have been used to undertake a map regression analysis of the South Eastern Extension from the 18<sup>th</sup> century to the present day, illustrating the changes in field patterns and the development of the area. There is no substantive information for the area until the earliest available cartographic source, which was an 18<sup>th</sup>-century estate map depicting lands belonging to Mr John Sutton of Arclid Hall, and Mrs Thornycroft of Moreton. Although this gives an indication of the field pattern at the time, it provides no information regarding potential cultural heritage assets within the South Eastern Extension.
- 3.5 The Tithe Survey for Arclid Township in Sandbach parish dates from 1840. A study of the fieldnames listed in the Tithe Apportionment provides useful information regarding the cultural heritage potential of the area. A number of fieldnames relate to the existence, or former existence, of peat deposits which can be mapped to indicate the likely extent of peat deposits at this time, which include a small area within the South Eastern Extension on the south-east side of the existing workings. Numerous pits and pools shown on the Tithe Map and later cartographic sources may well have been a source of clay for marl, which consists of clay mixed with calcium carbonate and was used as a soil improver (Field 1972, 134).
- 3.6 The Ordnance Survey 1<sup>st</sup> edition 25" map, surveyed in 1873-4, shows most of the area little changed from the 1840 Tithe Survey. The map depicts a rifle range with marker posts every 50 yards, at the south-eastern end of which is a shooting butt (Site 2) and a flagstaff (Site 3), both of which lie within the area of the South Eastern Extension.
- 3.7 An examination of the aerial photographic sources revealed an area of ridge and furrow (Site 4) towards the northern end of the South Eastern Extension. Ridge and furrow earthworks, which are formed by the action of ploughing, are indicative of an agricultural practice known as strip field cultivation and although some can date from the medieval period the narrow ridging in this case suggests a later origin.

- 3.8 The South Eastern Extension includes part of a peat deposit (Site 1) which was identified during previous archaeological assessments. A recent programme of palaeoenvironmental sampling has been undertaken as a condition of the existing planning permission, comprising three cores. The programme of sampling was carried out in order to assess the depth, condition and potential of the deposit as a palaeoenvironmental resource. A sub-sample was extracted from the base of the deepest core for palynological (pollen) analysis and radiocarbon dating to determine the date of peat initiation. The study indicated a peat depth of up to 4.8m within a relatively steep-sided, narrow hollow around 100m wide which extends for about 750m in a north-west to south-east direction. The peat consists primarily of wood and monocot peats with a layer of poorly decomposed wood towards the south-eastern end of the deposit. Radiocarbon dating suggested that the peat formation began around  $4480 \pm 50$  BP, during the mid to late Neolithic period, at which time the local vegetation consisted of dryland oak and hazel dominated woodlands with an alder carr, with sedge, birch and marsh-loving herbs occupying the mire (Grant 2006). The presence of a band of sand intercalating the basal peat deposits within one core suggests that the mire may have formed within a linear, salt subsidence hollow. A similar formation process is suggested for Brookhouse Moss c.2.5km to the east (Leah *et al.* 1997, 187).

#### 4 FIELD SURVEY

- 4.1 The whole of the proposed South Eastern Extension was examined by a thorough field survey undertaken on 17 April 2009 to identify any surviving upstanding cultural heritage assets and to assess the potential for surviving subsurface deposits.
- 4.2 At the time of the field survey the area of the proposed South Eastern Extension comprised eight fields, of which two fields were under permanent pasture, two contained a grazed root crop, while the remaining fields were under rotational pasture. In addition, the southernmost field was also partly occupied by a landing strip for light aircraft.
- 4.3 An area of the peat deposit (Site 1) associated with a former basin mire has already been lost to quarrying within the existing extraction area. The surviving area of peat lies along the north-western boundary of the proposed extension, occupying an area of around 3ha within the fenced boundary surrounding the present quarry.
- 4.4 The survey revealed no visible evidence for the area of ridge and furrow (Site 4), or the two features associated with the former rifle range (Sites 2-3). The majority of marl pits recorded by the Ordnance Survey in 1873-4 have since been taken into cultivation, although they can still be identified as shallow depressions, together with a number of other, similar depressions which are also presumably former marl pits.
- 4.5 No previously unrecorded cultural heritage assets were identified during the field survey.



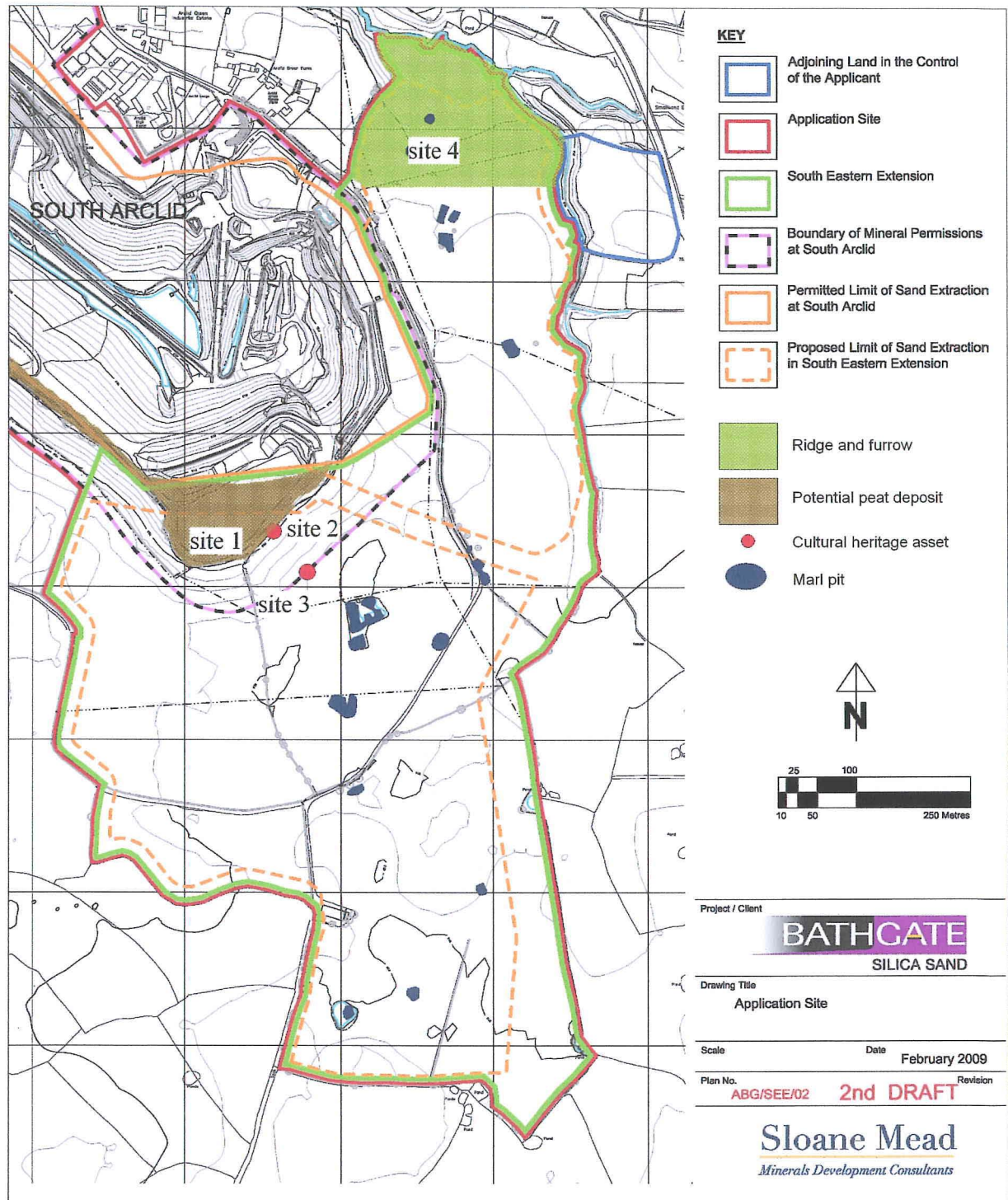


Fig. 1 South Eastern Extension and known archaeological sites

## 5 CULTURAL HERITAGE SUMMARY (Fig. 1)

- 5.1 In evaluating the cultural heritage resource each site of cultural heritage interest, or asset, identified during the desk-based study and field survey which lies within the study area has been classified according to its perceived significance as it appears to us at present. The categories are those given in the *Design Manual for Roads and Bridges Volume 11 Section 3 Part 2* (2007, section 5.30). The value of each asset has been ranked according to the following scale:

**Very High:** World Heritage Sites and other assets which are either of international importance or which can contribute significantly to international research objectives.

**High:** Monuments that are scheduled and protected under the Ancient Monuments and Archaeological Areas Act (1979); those suitable for scheduling; listed buildings of Grade I and Grade II\*; and those considered by us using professional judgment to be of national importance but not covered by the official criteria for scheduling; and parks and gardens identified in the Historic Parks and Gardens Register. It is assumed that these sites can provide a significant contribution to national research objectives.

**Medium:** Sites listed in the Historic Environment Record (HER) or other sources which are of a reasonably well-defined extent, nature and date and are significant examples within the regional context, or which contribute to regional research objectives; also listed buildings in Grade II; Conservation Areas; and National Trust gardens.

**Low:** Sites listed in the HER or other sources that are of local importance, which may contribute to local research objectives. These may be of limited value or are compromised by poor preservation and/or survival; some landscapes and features designated as of historic or archaeological value in a Local Plan (note: subject to their value, these may be of greater, regional or national importance).

**Unknown:** Sites whose importance has not been ascertained, and where further work will be required to establish their true nature.

<b>Site 1</b>	<b>Type:</b>	Peat	<b>Period:</b>	Unknown	<b>Form:</b>	Document
	<b>NGR:</b>	SJ 78116142 (centre)			<b>Condition:</b>	Damaged
	<b>Source:</b>	Tithe Survey of 1840 Field survey				
	<b>Description:</b>	Peat deposit associated with former basin mire, the larger part of which has already been lost to the quarry.				
	<b>Value:</b>	medium				
<b>Site 2</b>	<b>Type:</b>	Shooting butt	<b>Period:</b>	19 <sup>th</sup> Century	<b>Form:</b>	Document
	<b>NGR:</b>	SJ 78616107			<b>Condition:</b>	Destroyed
	<b>Source:</b>	Ordnance Survey 1st edition 1874 Ordnance Survey 2nd edition 1896-7				
	<b>Description:</b>	Part of the Volunteers Rifle Range consisting of a shooting butt and flagstaff at the south-east end and marker posts at 50yd intervals to 800yds at the north-west end.				
	<b>Value:</b>	low				
<b>Site 3</b>	<b>Type:</b>	Flagstaff	<b>Period:</b>	19 <sup>th</sup> Century	<b>Form:</b>	Document
	<b>NGR:</b>	SJ 786661			<b>Condition:</b>	Destroyed
	<b>Source:</b>	Ordnance Survey 1st edition 1874 Ordnance Survey 2nd edition 1896-7				



**Description:** Part of the Volunteers Rifle Range consisting of a shooting butt and flagstaff at the south-east end and marker posts at 50yd intervals to 800yds at the north-west end.

**Value:** low

<b>Site 4</b>	<b>Type:</b>	Ridge/Furrow	<b>Period:</b>	Post Medieval ?	<b>Form:</b>	Document
	<b>NGR:</b>	SJ 78856162 (centre)			<b>Condition:</b>	Destroyed
	<b>Source:</b>	RAF 1947 vertical aerial photograph				
	<b>Description:</b>	Area of narrow ridge and furrow aligned north to south				
	<b>Value:</b>	low				

## 6 CONCLUSIONS, POTENTIAL AND PREDICTED IMPACTS

- 6.1 The assessment of the cultural heritage has been completed by undertaking a study of desk-based resources followed by a thorough field survey of the area for the proposed South Eastern Extension. As a result, four cultural heritage assets have been identified within the area of the proposed extension, together with evidence which suggests that the wider area has been occupied and cultivated since at least the medieval period.
- 6.2 A peat deposit (Site 1) associated with a basin mire extends into the western side of the proposed South Eastern Extension. Such deposits may contain preserved organic remains, but perhaps more significantly could provide important information relating to the floral and faunal history of the area. A significant area of peat deposits formerly existed within the area of the present quarry workings, and a programme of sampling and analysis has already been completed as a condition of existing permissions. Evidence from elsewhere in the county would suggest that such deposits frequently have associated evidence for prehistoric activity in the form of worked flints, much of which belongs to the late Neolithic and Bronze Age (c. 6700-3200 cal BC), although occasionally to the late Mesolithic and early Neolithic (c. 6700-3200 cal BC). However, the finds imply nothing more than occasional visits to the fringes of wetlands from the later Mesolithic onwards and may be part of a wider picture so that at present there is no evidence for specific wetland-edge activity (Leah *et al.* 1997, 87-90 and 149).
- 6.3 The field survey revealed no visible remains for the shooting butt (Site 2) and flagstaff (Site 3) associated with the 19<sup>th</sup>-century Volunteers Rifle Range, or the area of ridge and furrow (Site 4). It is considered unlikely that any of these sites will preserve significant subsurface remains and do not therefore warrant any specific mitigation.

### Potential impact of existing permissions

- 6.4 The baseline conditions set out in the existing planning permission include an extraction boundary which incorporates the majority of the surviving peat deposit (Site 1) which extends into the proposed South Eastern Extension, and is likely to be affected by the gradual drainage of the area as extraction progresses. A programme of environmental sampling has already been undertaken in connection with the existing planning permission.

### Potential impact of the proposed extension

- 6.5 The proposed extension will directly affect the peat deposit which extends into the north-western part of the area. However, the majority of the deposit lies within the area of existing permissions and the continued extraction within this area will gradually drain the whole peat deposit and degrade its palaeoenvironmental potential. The proposed extension is therefore



unlikely to have a significant additional impact on the peat deposit, over and above that resulting from existing permissions.

- 6.6 There is also the possibility that unrecorded archaeological remains will be affected during any sub-surface disturbance.

## **7 MITIGATION**

- 7.1 A condition should be attached to allow for a watching brief during the stripping of topsoil and overburden onto the surface of the natural subsoil. The potential for further, unrecorded archaeological features and/or artefacts cannot be discounted, and a watching brief is therefore considered sufficient mitigation to enable adequate recording should any archaeological features or deposits be revealed during the stripping of topsoil. The condition should also include provision for further archaeological recording, perhaps including excavation, to be undertaken in the event that the watching brief reveals significant archaeological remains which cannot be investigated and recorded adequately at that time.
- 7.2 The programme of environmental sampling which has already been undertaken to investigate the peat deposit (Site 1) is considered sufficient and no further sampling is proposed.

## **8 ACKNOWLEDGMENTS**

- 8.1 The writer would like to thank the following for their assistance: Ian Grant, CPAT; Malcolm Sloane, Sloane Mead; Rob Edwards, HER Officer, and Mark Leah, Cheshire County Council, Environmental Planning; the staff of Cheshire County Records Office, Chester.

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18<sup>th</sup>-century map of Arclid. Area of Arclid Hall Farm. CCRO DDX 139

1840 Tithe Survey of Sandbach Parish CCRO EDT 351/2a

1840 Tithe Survey of Arclid Parish CCRO EDT 18/2

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