

Introduction

Gravel pits at Dunbridge, in the River Test valley, produced over 1,000 Lower Palaeolithic hand axes when they were being worked in the first half of the 20th century. A planning application for renewed extraction in 1987 met with stiff academic opposition as it threatened what was considered to be one of the most important, yet understudied sites in the Solent basin. As a result Wessex Archaeology undertook a geoarchaeological watching brief during the 17 years of gravel extraction at the pit. A project of this nature had not been attempted before. The methodology adopted and the results obtained have demonstrated that this response provides a relatively cost effective method by which important scientific data can be salvaged from commercial quarrying.

Sections were recorded and sampled and 198 artefacts, principally hand axes, collected with the primary aim of enhancing understanding of the geological context of this important Lower Palaeolithic location. The post-excavation, funded by English Heritage through the Aggregates Levy Sustainability Fund (ALSF), utilised bore-hole logs and drawn sections to compile a digital terrain model characterising the three-dimensional form of the fluvial geology. Two gravel terraces were confirmed the upper Belbin Formation, which contained most of the archaeological artefacts, and a lower Mottisfont Formation. These deposits relate both to the chronology of the Quaternary fluvial deposits in the River Test valley and artefact typology which are important to the development of Palaeolithic occupation in Britain. Results of specific note included recovery of artefacts demonstrating elements of 'proto-Levallois' technology from within the Belbin Gravel deposition. Fully developed Levallois technology was present across both the Belbin Gravel and the Mottisfont Formation at Dunbridge, the latter having an otherwise relatively sparse Palaeolithic content. Previously published results obtained using Optically stimulated luminescence (OSL) dating, supplemented by new data from Dunbridge, also funded through ALSF, has been combined with uplift modelling to suggest dates of MIS 9 (340-280 ka) and MIS 8 (280-250 ka), respectively, for these two gravels.