St. Matthew's Primary School, Norfolk Street, Cambridge.

Archaeological Evaluation

By Thomas Lyons BA

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HER Event No: ECB 3067
Date of Works: October 2008
Client Name: Mouchel
Client Ref: AUG 171/08
Planning Ref: n/a
Grid Ref: TL 4594 5841
Site Code: CAM SMS 08
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Receiving Body: CCC Stores, Landbeach

Prepared by: Thomas Lyons
Position: Project Supervisor
Date: December 2008

Checked by: Richard Mortimer
Position: Project Manager
Date: December 2008
Signed:

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Summary

On the 28th and 29th or October 2008, Oxford Archaeology East carried out an archaeological evaluation on the site of St. Matthew’s Primary School, Cambridge. 31.50m of trenching was opened at the south end of the site on the only piece of ground not occupied by buildings or tarmac. The site was found to have been heavily disturbed by probable 19th Century 'coprolite mining' which was a practice of comprehensively digging over fields to quarry phosphates. Large, parallel straight edged features were visible across the whole excavated area, having removed or 'up-ended' the natural geological sands and gravels. The remainder of the soil sequence above the quarry strips consisted entirely of made ground. Archaeological features which truncated the quarries were encountered and contained diagnostic 19th Century pottery. A half-metre thick 19th Century deposit sealed the quarrying activity, on top of which was a further layer of hard make-up material associated with the building of the school in the latter half of the 20th Century. Above this was a reinstated subsoil and topsoil.
1 INTRODUCTION

1.1 Location and scope of work

1.1.1 An archaeological evaluation was conducted at St. Matthew's Primary School, Norfolk Street, Cambridge.

1.1.2 This archaeological evaluation was undertaken in accordance with a Brief issued by Andy Thomas of Cambridgeshire County Council, supplemented by a Specification prepared by OA East (formerly Cambridgeshire County Council's CAM ARC).

1.1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in Planning and Policy Guidance 16 - Archaeology and Planning (Department of the Environment 1990). The results will enable decisions to be made by CCC, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.

1.1.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

1.2 Geology and topography

1.2.1 The site lies on 3rd terrace quaternary deposits just over 1 mile to the south of the river Cam (British Geological Survey 1981).

1.3 Archaeological and historical background

1.3.1 The site sits on the eastern edge of the historic city of Cambridge in an area developed in the Victorian period. It lies just west of the 19th century Mill Road cemetery where there are records of Early Saxon burials having been found (Historic Environment No. 04622).

1.4 Acknowledgements

1.4.1 The project was funded by Cambridgeshire County Council Schools through Slavica Mirovic of Mouchel. The fieldwork was carried out by Tom Lyons and Steve Graham. Taleyna Fletcher conducted the survey and the project was managed by Richard Mortimer. Andy Thomas from Cambridgeshire County Council visited the site and monitored the evaluation.
2 AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The objective of this evaluation was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.

2.2 Methodology

2.2.1 Machine excavation was carried out under constant archaeological supervision with a wheeled JCB-type excavator using a toothless ditching bucket.

2.2.2 The site survey was carried out using a Leica GPS which was located on the Ordnance Survey Grid. Drawn plans were incorporated within the survey data to accurately plot the position of the trenches.

2.2.3 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.

2.2.4 All archaeological features and deposits were recorded using OA East's pro-forma sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.

2.2.5 No environmental samples were taken

2.2.6 Site conditions were very good.
3 RESULTS

Trench results

3.1.1 A single trench was excavated in the south west corner of the proposed development area. It was aligned northwest to southeast and was 25m long, with a 7m extension to the north east close to its eastern end. The trench reached a maximum depth of 1.5m and was initially excavated to what was presumed to be the level of natural geological sand, subsequently seen to consist of redepsoited sand and subsoil. Large straight edged cuts were visible along the trench which had heavily disturbed the natural geology.

3.1.2 Several later features were cut through this redepsoited material and were clearly visible in plan from their relatively dark fills (105 & 107). Two were partially excavated, features 106 and 108. Feature 106 was 3m long and at least 1.5m wide and had almost vertical sides. It was not fully excavated. It appeared to have been cut into, and subsequently truncated by, separate episodes of strip quarrying. Feature 108 was at least 2m long and 1m wide. It was located against the west facing baulk of the north-south part of the trench and was not fully excavated to the base.

These features, and the strip quarries beneath them, were sealed by a thick layer, presumably deposited to level the disturbed ground (104, Section 2). This was a very compact dark grey silty clay with frequent pieces of brick, tile, pottery and other post-mediieval to modern materials. Above this was layer 103. This was a slightly paler grey and contained plastic bags, sacks and other patently modern material.

3.2 Finds Summary

3.2.1 16 sherds of 19th Century pottery, weighing a total of 1.136kg, were recovered from features 106 and 108. These were dated to between 1820 and 1860 AD (Alasdair Brooks Pers comm).
4 DISCUSSION AND CONCLUSIONS

4.1 Discussion
4.1.1 This evaluation has revealed the presence of large-scale quarrying activity on the site of the proposed development. It is likely that this quarrying was part of the 19th Century trend of what was known as 'coprolite mining'. This was the search for phosphates which were used as fertilisers and subsequently in the manufacture of gunpowder. The name derives from their appearance which was likened to dinosaur coprolites. The practice involved the comprehensive digging over of entire fields, in regular and straight patterns, and to a substantial depth. Such activity would have resulted in the destruction of any original soil sequences and certainly would have disturbed, if not totally removed, any archaeological deposits. It appears that this may not have all been done at one time as Feature 106 was cut into redeposited natural on its north side and then was truncated on its south side, presumably when the strip quarrying resumed (see Plate 2). Features 106 and 108 could have been associated with settlement along East Road, perhaps refuse pits dug at the rear of properties. The date of the pottery within these features (1820-1860) is consistent with expansion of settlement on the south side of East Road, which is present by the time of the Old Series OS map of 1836.

4.1.2 Recent evaluation work on the gravels some 3km to the northwest, between Huntingdon Rd and Madingley Rd, have recorded very similar strip-mining evidence. (Mackay et al 2002).

4.1.3 The site of this quarrying appears to have been deliberately levelled, or raised by the deposition of a thick layer of made ground (104). The ground was further built up during preparatory ground work for the building of St Matthew's Primary School which currently occupies the site. Layer 103 represents 20th Century deposition of made ground above which was a reinstated subsoil and topsoil, presumably part of the same ground works.

4.2 Significance
4.2.1 Although it is now unlikely that any archaeology survives beneath the site of St Matthew's school, the discovery of what is probably coprolite mining in this part of Cambridge is of local significance. This archaeologically damaging practice was hitherto unknown in this part of the city; it could have extend beyond the boundaries of the current development area along the length of East Road, prior to the later 19th Century development of the area around the Railway Station and Mill Road. The Old Series OS map for Cambridge (1836) shows occupation and settlement along the south east side of East Road (Margary 1987) perhaps giving an end date for the strip quarrying, although it is also possible that the quarrying, or at least some of it, could be contemporary with this settlement.

4.3 Recommendations
4.3.1 Recommendations for any future work based upon this report will be made by the County Archaeology Office.
APPENDIX A. TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

| Trench 1 |
|------------------|------------------|
| General description | Orientation |
| Trench devoid of natural geology having been heavily disturbed by quarrying. Original soil sequence removed and replaced by more than 1m of made ground. | E-W & N-S |
| Avg. depth (m) | 1.4 |
| Width (m) | 1.6 |
| Length (m) | 31.5 |

| Contexts |
|------------------|------------------|
| context no | type | Width (m) | Depth (m) | comment | finds | date |
| 101 | Layer | - | 0.28 | Topsoil | - | Modern |
| 102 | Layer | - | 0.22 | Subsoil | - | Modern |
| 103 | Layer | | | Made Ground | | Modern |
| 104 | Layer | | | Made Ground | | Modern |
| 105 | Fill | | | Fill of [106] | Y | Modern |
| 106 | Cut | | | Cut of Feature | | Modern |
| 107 | Fill | | | Fill of [108] | Y | Modern |
| 108 | Cut | | | Cut of Feature | | Modern |
APPENDIX B. BIBLIOGRAPHY

Mackay, D., Mortimer R., & C. Evans, 2002 Gravel Hill Farm, North-west Cambridge. An Archaeological Evaluation, Cambridge Archaeological Unit Report No.513

### Project Details

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### Type of Project/Techniques Used

- **Prompt**: Direction from Local Planning Authority - PPG16
- **Development Type**: Public Building

#### Please select all techniques used:

- Aerial Photography - interpretation
- Aerial Photography - new
- Annotated Sketch
- Augering
- Dendrochronological Survey
- Documentary Search
- Environmental Sampling
- Fieldwalking
- Geophysical Survey
- Grab-Sampling
- Gravity-Core
- Laser Scanning
- Measured Survey
- Metal Detectors
- Photographic Survey
- Photogrammetric Survey
- Photophotography
- Remote Operated Vehicle Survey
- Sample Trenches
- Survey/Recording Of Fabric/Structure
- Targeted Trenches
- Test Pits
- Topographic Survey
- Vibro-core
- Visual Inspection (Initial Site Visit)

### Monument Types/Significant Finds & Their Periods

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### Project Location

- **County**: Cambridgeshire
- **District**: SCDC
- **Parish**: Cambridge
- **HER**: Cambridgeshire
- **Study Area**: Cambridgeshire
- **Site Address (including postcode if possible)**: St Matthew's Primary School, Norfolk St, Cambridge
- **National Grid Reference**: TL 4594 5841
## Project Originators

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<tr>
<td>Project Brief Originator</td>
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### Digital Media

- Database
- GIS
- Geophysics
- Images
- Illustrations
- Moving Image
- Spreadsheets
- Survey
- Text
- Virtual Reality

### Paper Media

- Aerial Photos
- Context Sheet
- Correspondence
- Diary
- Drawing
- Manuscript
- Map
- Matrices
- Microfilm
- Misc.
- Research/Notes
- Photos
- Plans
- Report
- Sections
- Survey
### Drawing Conventions

#### Plans
- Limit of Excavation
- Deposit - Conjectured
- Natural Features
- Sondages/Machine Strip
- Intrusion/Truncation

#### Sections
- Limit of Excavation
- Cut
- Cut-Conjectured
- Deposit Horizon
- Deposit Horizon - Conjectured
- Intrusion/Truncation
- Top Surface/Top of Natural
- Break in Section/
- Limit of Section Drawing

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**Convention Key**

- Cut Number: 118
- Deposit Number: 117
- Ordnance Datum: 18.45m OD
- Inclusions: \( G_0 \)
Figure 1: Location of trench (black) with the development area outlined (red)
Figure 2: Trench plan (1:100) and section drawing (1:20)

Section 2

Orientation of coprolite mining

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Report Number 1070
Plate 1: North East facing section of trench

Plate 2: Feature 108 with edges of strip quarrying in foreground and background