

**LAND OFF WARDENTREE LANE,
SPALDING, LINCOLNSHIRE**

**ARCHAEOLOGICAL
TRIAL EXCAVATION REPORT**

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NGR: TF 2575 2560
Planning Ref. H14/0647/02
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Report prepared for Waterman Burrow Crocker

by

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Summary

- A programme of archaeological trial excavation was carried out prior to commercial development on land to the north of Wardentree Lane, Spalding, Lincolnshire.
- There is considerable evidence of medieval salt working in the vicinity of the site, and the west side of Pinchbeck parish has produced archaeological evidence dating between the prehistoric and modern periods. A previous fieldwalking survey of the area identified a low-density scatter of pottery of Saxo-Norman – early modern date, concentrated towards the north and north-west sides, and geophysical survey identified a series of former water courses and buried ditches.
- The trial excavation has confirmed and expanded the results of the geophysics, exposing a series of undated palaeochannels and two undated linear features.
- It is concluded overall that the archaeological potential of this site is limited.

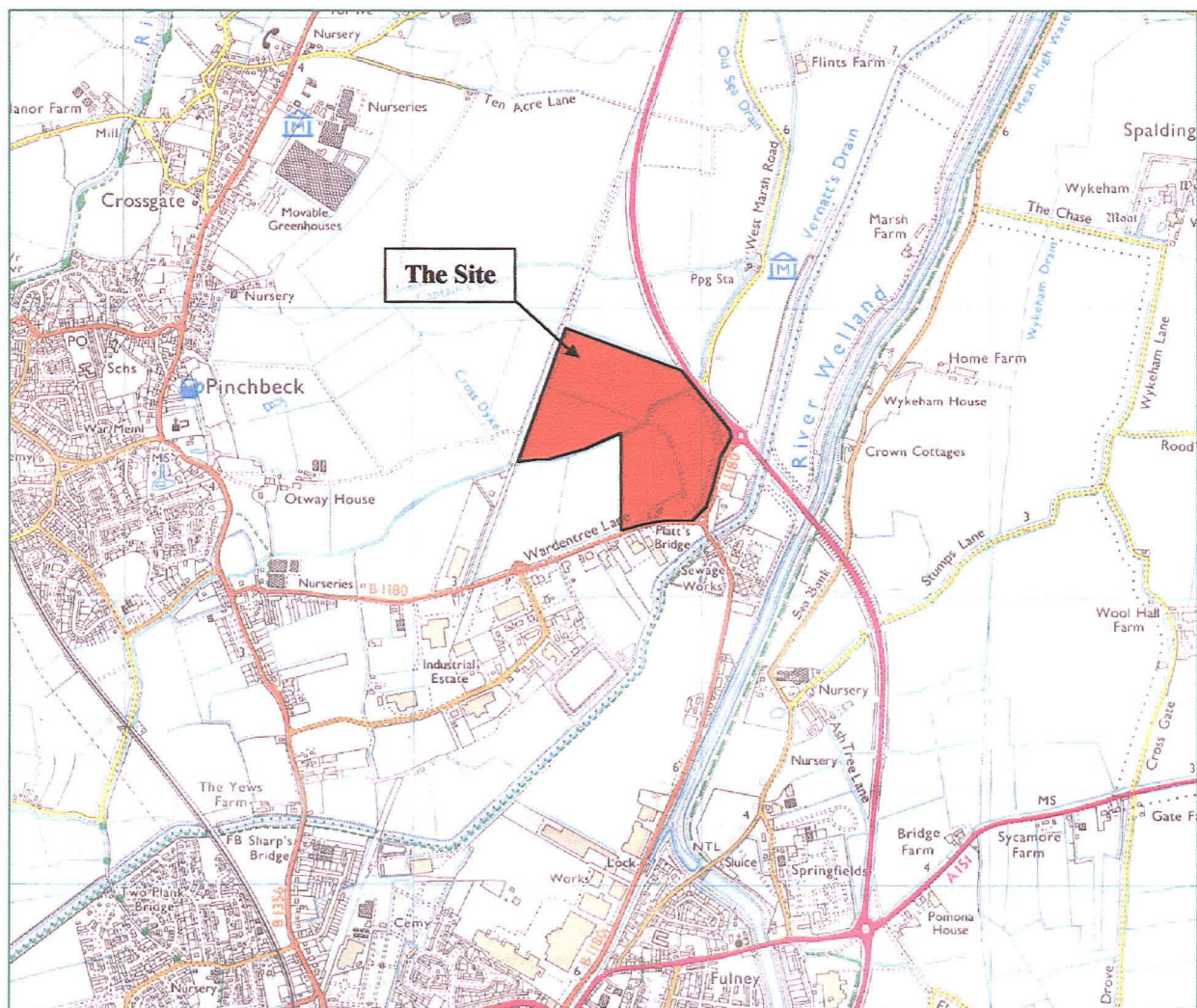


Fig.1: General site location (scale 1:25,000)
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1.0 Introduction

Pre-Construct Archaeology (Lincoln) was commissioned by Waterman Burrow Crocker to undertake a programme of intrusive archaeological field evaluation on land north of Wardentree Lane, Spalding, Lincolnshire. These works were required to fulfil the recommendations of the Senior Built Environment Officer of Lincolnshire County Council to advise an application for industrial development. This work complements preceding non-intrusive phases of fieldwork, involving fieldwalking and geophysical survey.

The fieldwork and reporting methodologies that are described in this report are consistent with current archaeological/planning guidelines: *Archaeology & Planning: Planning Policy Guidance Note 16* (Department of the Environment, 1990), *Management of Archaeological Projects* (English Heritage, 1991), *Standards and guidance for archaeological watching briefs* (IFA, 1999), and the Lincolnshire County Council document *Lincolnshire Archaeological Handbook: a manual of archaeological practice* (LCC, 1998).

Copies of this report have been deposited with the commissioning body, the County Sites and Monuments Record for Lincolnshire and South Holland District Council. Reports will also be deposited at the City and County Museum, Lincoln, along with an ordered project archive for long-term storage and curation.

2.0 Topography and Geology

The development area is situated in the civil parish of Pinchbeck, which lies within the administrative district of South Holland. It is approximately 1.2km to the east of Pinchbeck Parish Church and c. 2km to the north of Spalding (Fig. 1).

The area of investigation consists of four adjoining fields known as Boot's Land, which extend to approximately 29 hectares. They form an irregular block, bordered by Wardentree Lane to the south and the A16 to the east (Fig 2). An embankment that formerly carried a railway line linking Spalding with Boston defines the western edge of the study area, while a track and flanking drain form the northern perimeter. The Blue Gowt Drain runs east to west across the centre of the site. Fields 1 and 4 are located on the northern side of the drain; Fields 2 and 3 to the south.

The soils of the area comprise permeable silty loams and silty clays of the Wisbech and Wallasea/Pepperthorne Associations (Hodge *et. al.*, 1984). These overlie a series of Quaternary drift deposits, which can be up to 20m in depth. The uppermost of these are the Terrington Beds, a series of sandy silts, sands and clays, which were deposited in a range of wetland environments, including tidal creeks, salt marshes, rivers and by marine inundation (BGS, 1992). Beneath the Terrington Beds are further drift deposits, possibly including Devensian Abbey Sand and Gravel, and beds of Glacial Sand and Gravel of Anglian age. These cover the uppermost formations of the solid geology, which consist of the mudstones of the Oxford Clay Series, deposited during the Upper Jurassic period.

The site is flat and low lying (below the 5m contour). It centres on NGR TF 2575 2560.

3.0 Planning background

Planning permission has been granted for industrial development (offices, warehouses etc., planning ref. H14/0647/02). This permission was granted subject to the undertaking of a programme of archaeological investigation.

This report details the results of the third and final phase of archaeological evaluation; involving the excavation of five trial excavation trenches, that were positioned to establish the date and significance of a series of magnetic anomalies (Fig 2).

4.0 Archaeological and historical background

The prehistoric and Roman Fenland witnessed sustained phases of water inundation that were linked to changes in contemporary sea levels, and at times it is likely that much of the region was unsuited to continued human occupation.

Borehole evidence suggests that the northern edge of the current site was only 250m inland of the probable Saxon coastline (BGS, 1992). The settlement of Pinchbeck, c. 1.2km to the east of the site, appears to have emerged by the 9th century AD, as documents record that Aelfgar, in AD810, and King Berhtwulf of Mercia, in AD851, granted lands in the parish to Siward, Abbott of Crowland (Sawyer, 1998). Following the Norman Conquest, land at Pinchbeck was in the possession of Guy de Craon and Ivo Tallboys, the latter's holding including four fisheries (Morgan & Thorne, 1986).

The Lincolnshire County Sites and Monuments Record records the presence of medieval saltern mounds extending across the area immediately to the north of the suggested Saxon coastline (SMR No. 23633). A medieval sea bank, known locally as '*Roman Bank*', runs along the east edge of the site. This feature defined the eastern edge of the land that had been reclaimed from the sea by c. AD1300. The geological map indicates that there were further medieval saltern mounds running along the eastern edge of this sea bank, adjacent to the area of investigation (BGS, 1992). Surviving documentary sources indicate that salt making was taking place around Pinchbeck by the early 13th century, continuing until at least 1477 (Hallam, 1960).

A parcel of land immediately to the south-west of the area of investigation is currently under development, and was the subject of previous archaeological investigations. An evaluation of the area identified linear and curvilinear features (Butler 1999, Albone 1999), some of these being ditches of 12th to 14th century date, others being 15th to 19th century. A small quantity of Romano-British pottery was recovered from secondary contexts.

In 2002, a fieldwalking survey was carried out on the site. A concentration of Saxo-Norman to medieval pottery was observed in Field 4, at the north end of the site, with a further, lower density scatter in Field 1, to the west. Small amounts of pottery was also recovered from Fields 2 and 3. A subsequent geophysical survey of the site

revealed a series of linear/curvilinear anomalies representing possible buried creeks and channels (Clay et.al., 2003).

5.0 Methodology

The recommendation of the Senior Built Environment Officer was the excavation of five trenches, located as follows:

Trench 1: This was 30m long and was aligned east to west towards the east of Area 2A, beyond the limits of the geophysical survey.

Trench 2: This 20m trench was positioned immediately to the south of the Blue Gowt Drain to intersect a series of possible rectilinear enclosures in Area 2A.

Trench 3: This was 20m long and was aligned north-west to south-east in the central part of Area 2A across a linear magnetic anomaly.

Trench 4: This was on the west side of Area 2A, orientated west-south-west to east-north-east, and crossing a possible ditch/palaeochannel. The trench was 20m long.

Trench 5: This was 50m long, aligned west-north-west to east-south-east in the north corner of Area 4A. The trench was positioned to traverse two possible ditches/palaeochannels.

Initial excavation of Trenches 1 to 4 was carried out using a 360° tracked excavator, fitted with a 2m wide smooth ditching bucket. As this machine was not able to access Field 4, Trench 5 was excavated with a wheeled excavator with a 180° back actor fitted with a 1.6m wide bucket.

Topsoil and subsoil deposits were removed in spits not exceeding 0.2m, until the first archaeological or natural horizon was exposed. Where archaeological deposits were encountered, all further excavation was by hand.

Archaeological features were sample excavated to establish depths and profiles and, where possible, date and function. Features were recorded in plan and in section at appropriate scales (1:50 and 1:20), and written accounts were prepared on pro forma context record sheets. A colour photographic record was maintained throughout the project, and selected prints have been reproduced in this report.

The fieldwork was carried out by Chris Clay, assisted by four experienced field archaeologists. The excavations were carried out over a period of four days; Monday 21st to Thursday 24th July 2003.

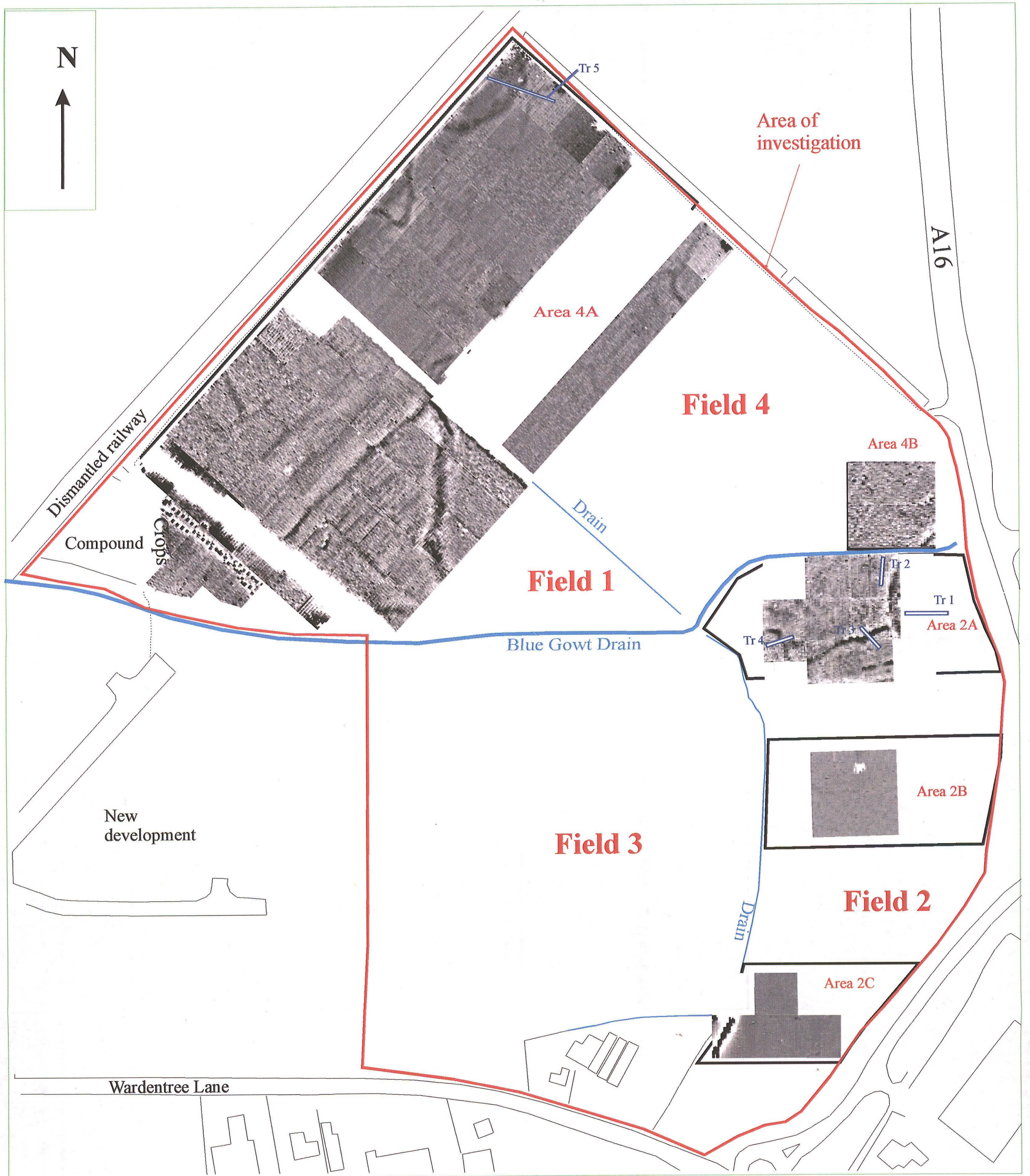


Fig. 2 : Plan showing geophysical survey results and location of trial trenches. 1:2,500.

6.0 Results

6.1 Trench 1 (Fig 3)

The uppermost deposit was a 0.35m deep ploughsoil, (105), consisting of dark grey/brown silty loam. This sealed a layer of mid brown silt, (108). Beneath (108), two linear features were exposed. The largest of these, [102], was orientated broadly north to south, and was approximately 9.5m wide, with shallow sloping sides. The feature contained two distinct fills of blue grey silt, (104) and (107), representing natural accumulations of waterborne deposits. The upper fill was a compact brown clay, (103). This feature was interpreted as a palaeochannel.

The west edge of [102] was cut by a linear ditch [100], running north-west to south-east. It was 1.04m wide and 0.32m deep, and it contained an undated homogenous fill of grey/brown clay (101).

6.2 Trench 2 (Fig 4)

The deposits in Trench 2 were masked by a dark brown ploughsoil, (203), that was 0.3 – 0.4m deep. Beneath this were laminated bands of greyish yellow silt, (202), extending beyond the limit of excavation. These deposits were cut by a single linear feature, [200], running longitudinally along the west side of the trench. The feature contained a fill of brownish grey clay, (201), incorporating occasional fragments of mussel shell, representing alluvial deposition in very slow moving or standing water. It is uncertain whether this was a natural feature or an artificial ditch. Its fill was archaeologically sterile and homogenous, suggesting a natural origin.

6.3 Trench 3 (Fig 5)

The trench was sealed by a 0.4m deep ploughsoil, (305), beneath which was a layer of pale yellowish brown silt, (304). Towards the north-west end of the trench this was cut by a shallow linear feature, [300], approximately 4.4m wide and 0.5m deep. Three fills were examined within the feature; a primary deposit of blue-grey silt, (303), sealed by a layer of dark brown silty clay, (302), and an upper fill of dark brown clay, (301). All of these deposits were archaeologically sterile, and the feature was interpreted as a natural palaeochannel.

A second probable palaeochannel was exposed, approximately 6m to the south-east of the above. This feature, [307] exhibited a shallow profile, and it contained a distinct group of fill deposits. The primary fill was a light grey clay, (314), sealed beneath a blue-grey silt, (313), a grey silty clay, (312), and a yellowish brown clay/silt, (311). The full extent of the feature was not established as it extended beyond the trench.

The upper fill of the above was cut by another large linear feature, [310]. This was 4.5m wide and had a shallow irregular edge on its north-west side, with a steeper south-eastern edge. The feature contained an homogenous fill, (309); a greyish brown clay incorporating lenses of silt.

Feature [310] was cut by a further, steep-sided, linear feature, [308], of similar orientation. This contained a fill of yellowish brown silt, (306).

6.4 Trench 4 (Fig 6)

A mid brown silty loam ploughsoil, (402) was the sealing deposit. Beneath this, at the east end of the trench, a series of features, probably of natural derivation, were investigated. The largest of these, [400], was 4.5m wide, and appeared to be a former water channel. It was cut through a layer of naturally accumulated alluvial silt, (407). The channel contained a basal fill of pinkish-grey silt, (406), sealed by a layer of grey silt mixed with lenses of grey clay, (405). The bulk fill, (404), was a brown silty clay with flecks of grey clay. To the west of this was a smaller channel, [401], that contained a basal fill of dark grey clay, (410). This was also sealed by deposit (404). This suggests that the two channels are broadly contemporary, or possibly form part of a braided channel.

(404) was cut by a third channel, [403]. This contained two fills; a mid grey clay with brown clay flecks, (409), sealed by a pale brownish grey clayey silt, (408). Another small channel, [412] was immediately to the west of [403], also cutting (404). This contained a primary fill of light grey clay, (411), and was sealed by (408). The irregular profiles and lack of artefactual material strongly suggests a natural origin for these features.

A sondage was excavated at the west end of the trench, exposing a layer of archaeologically sterile grey alluvial silt, (413), sealed beneath (407).

6.5 Trench 5 (Fig 7)

The uppermost deposit was a brown silty loam ploughsoil, (504). This sealed a series of laminated bands of yellowish-brown silt, (503), approximately 0.45m deep. Beneath (503), a wide linear feature, [500] was exposed, running broadly north-east to south-west across the centre of the trench. This was 8.3m wide and was excavated to a depth of 0.7m (further excavation was prevented by rising ground water). The feature contained a bulk fill, (502) consisting of laminated bands of greyish brown silt, reflecting natural waterborne accumulation.

Approximately 5m to the east of the above was a second, presumed natural, feature, [501]. This was a mere 0.2m deep and it varied in width between 0.8 and 2.1m. It contained a fill of blueish-grey silt with orange mottling, (506).

7.0 Discussion and conclusion

Almost no evidence of past human activity was observed within any of the excavated trenches. Only two ditches were exposed: in Trenches 1 and 3. The date of these features was not established, and all other features appeared to be of an entirely natural character, representing buried watercourses of varying dimension. The deposits within these palaeochannels were archaeologically sterile alluvial silts and clays, representing natural accumulations formed by slow moving or possibly stagnant water.

The proximity of the site to the former coastline suggests that much of the proposed development area was unsuitable for human occupation until the construction of sea defences and the reclamation of land in the Middle Ages; with the seasonal flooding of the region by marine inundation. However, the presence of two linear features exposed by this phase of evaluation, coupled with pottery scatters that were identified during fieldwalking does suggest a limited degree of human activity, largely represented by agricultural practices.

These results largely seem to agree with the results of the geophysical survey. The principal features exposed in Trenches 3, 4 and 5 can be seen to relate to the anomalies interpreted as possible palaeochannels detected by gradiometry, and to confirm that interpretation.

8.0 Effectiveness of methodology

The methodology that has been applied at Wardentree Lane has been an appropriate form of evaluation. The initial use of non-intrusive methods allowed a rapid assessment to be made of the whole development area, which was then followed by a programme of targeted trial excavation on areas of greatest perceived archaeological potential. The overall conclusion of this multi-phase approach is that the site is of **limited archaeological potential**, and that development of the area will have a minimal or negligible impact on archaeological resources.

9.0 Acknowledgements

Pre-Construct Archaeology (Lincoln) would like to thank Waterman Burrow Crocker for this commission. Thanks also go to the site team; Dave Bower, Aaron Chapman, Katie Cook, Suzy Matthewson and Rob Schofield.

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11.0 Site archive

The documentary archive for the site is currently in the possession of Pre-Construct Archaeology. This will be deposited at Lincoln City and County Museum within six months. Access to the archive may be gained by quoting the global accession number 2003.272.

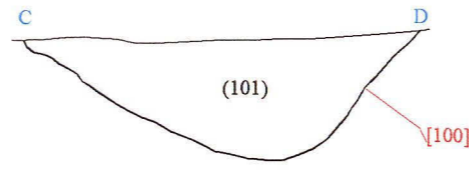
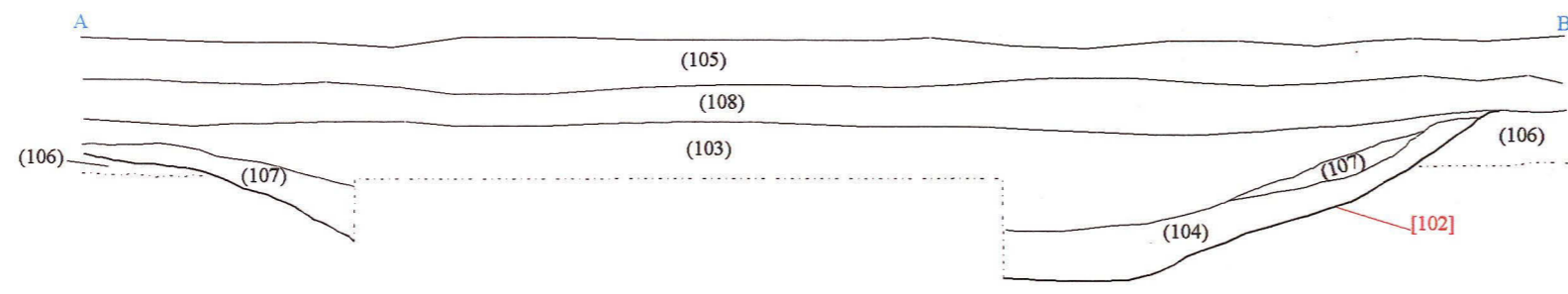
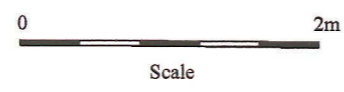
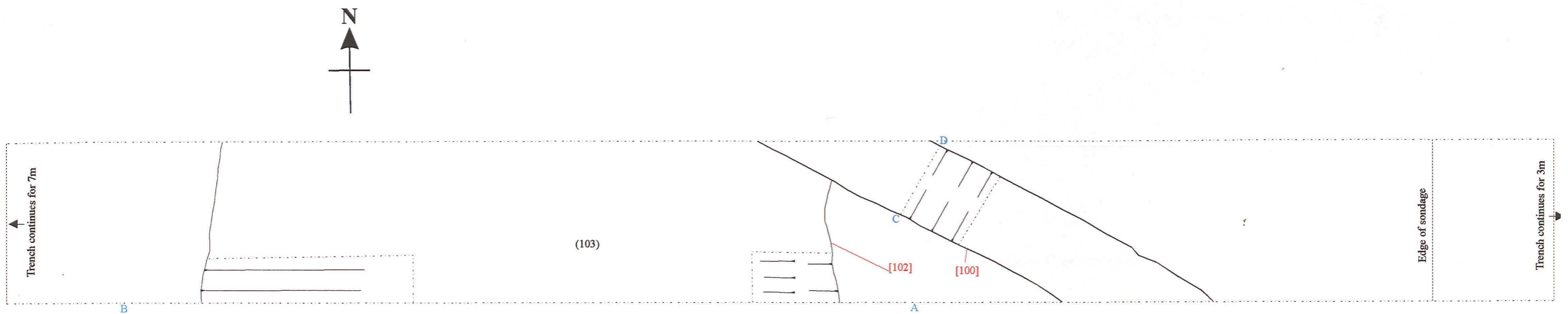


Fig. 3 : Trench 1, shows portion containing investigated features and recorded sections. Plan and main section at 1:50, smaller section at 1:20.

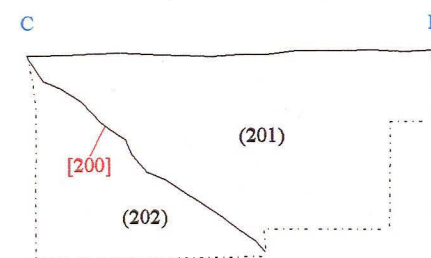
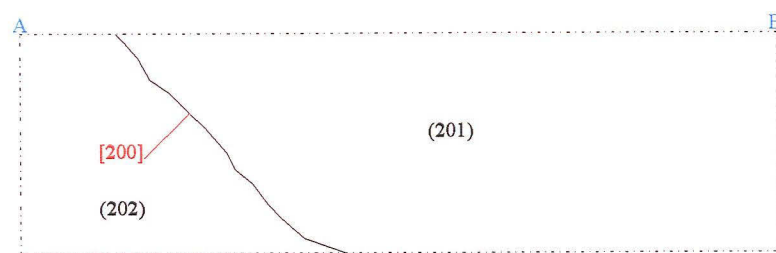
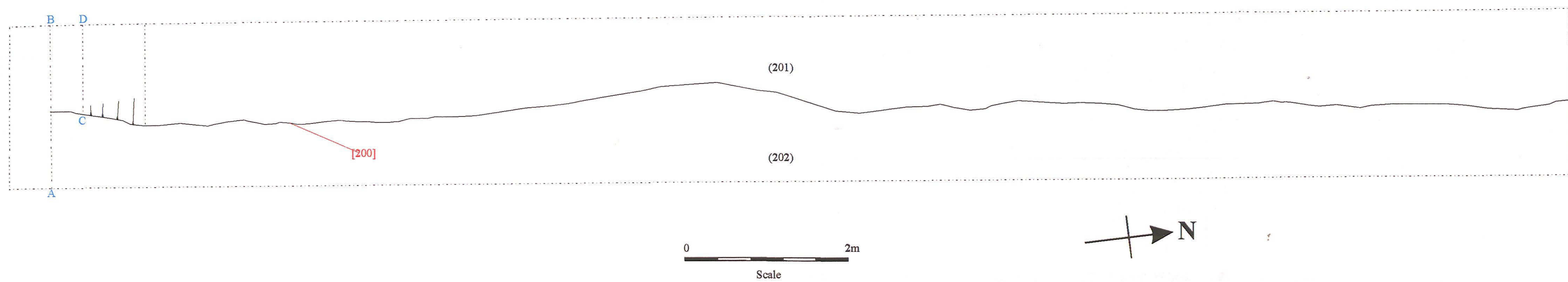


Fig. 4 : Trench 2, shows palaeochannel [200] and recorded sections. Plan at 1:50, sections at 1:20

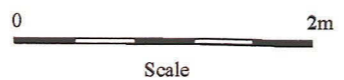
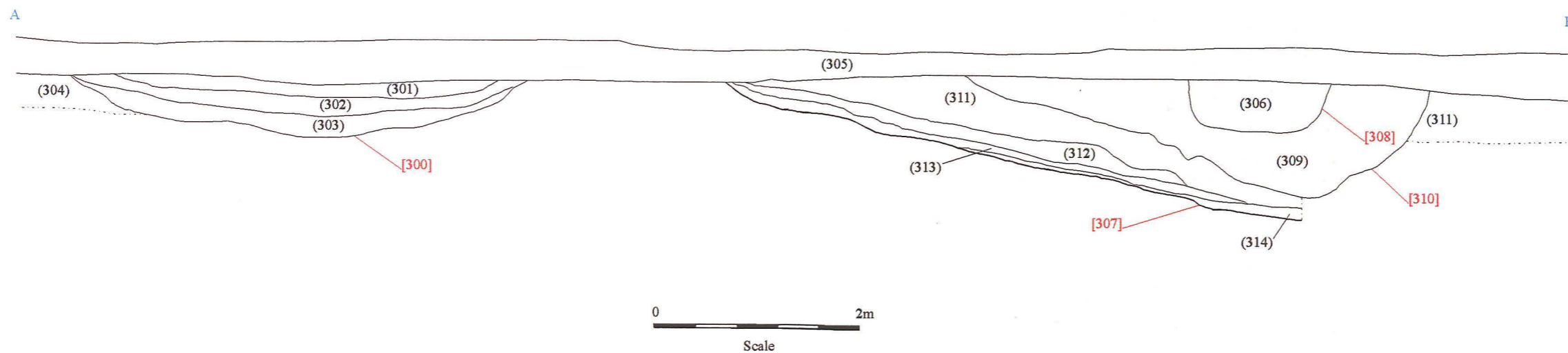
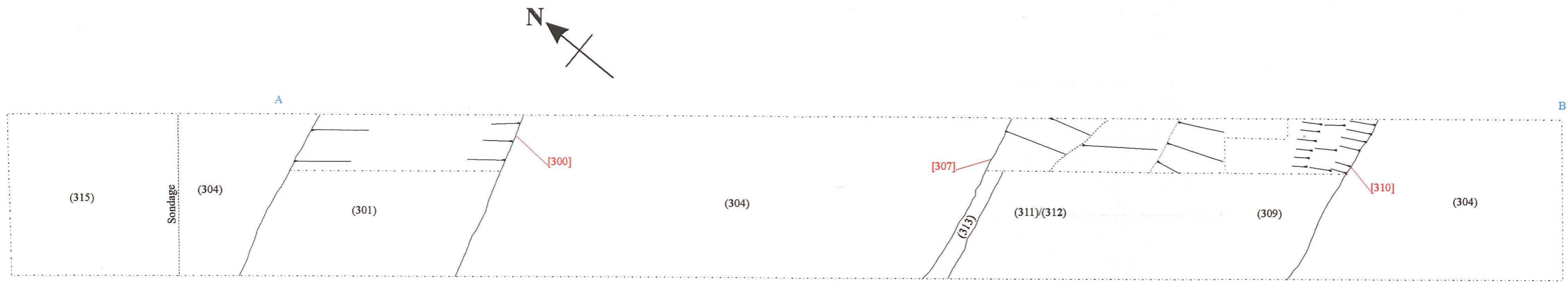


Fig. 5 : Trench 3, shows palaeochannels [300] and [310] plus ditch [308] in plan and section. Scale 1:50

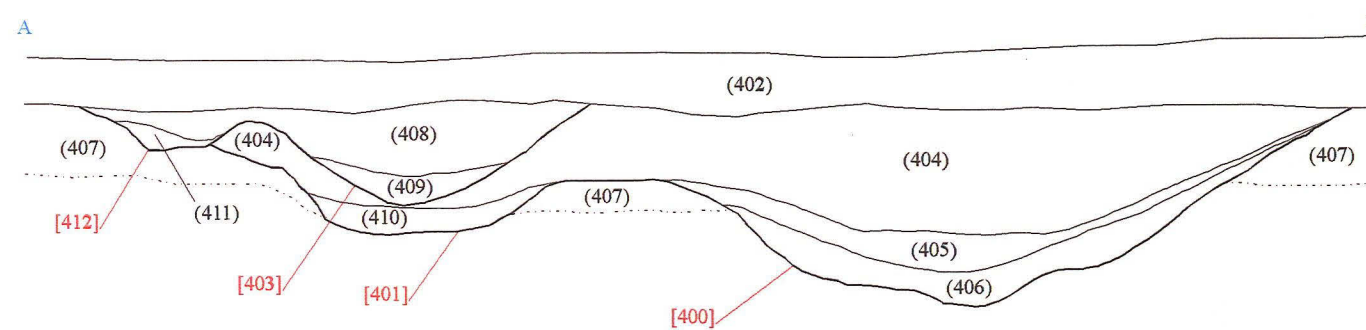
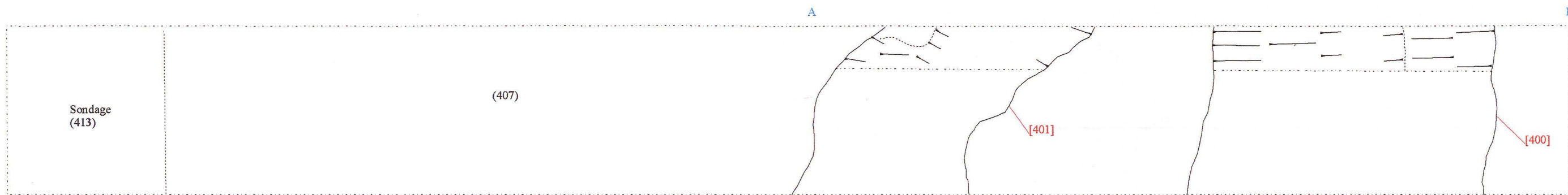


Fig. 6 : Trench 4, shows palaeochannels [400], [401], [403] & [412]. Plan and section at 1:50.

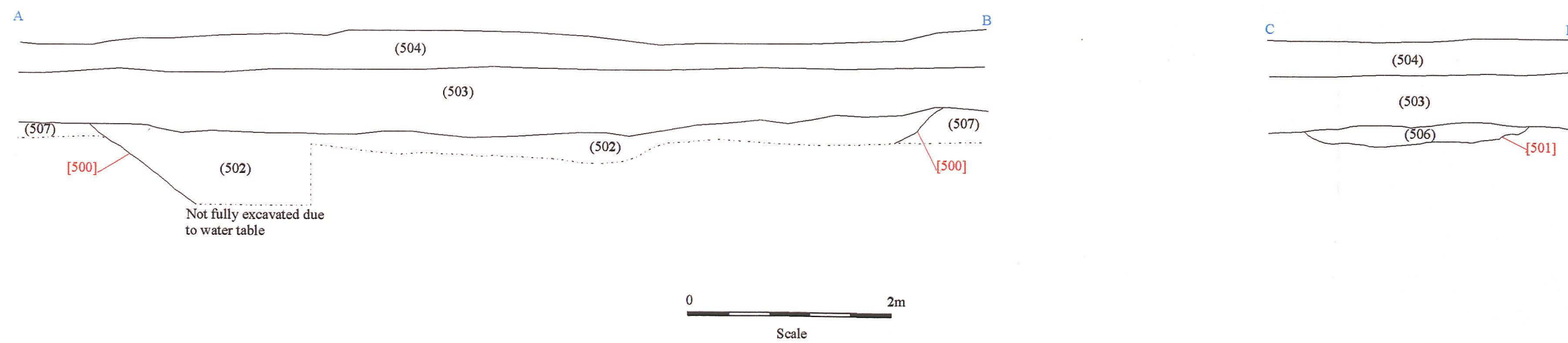
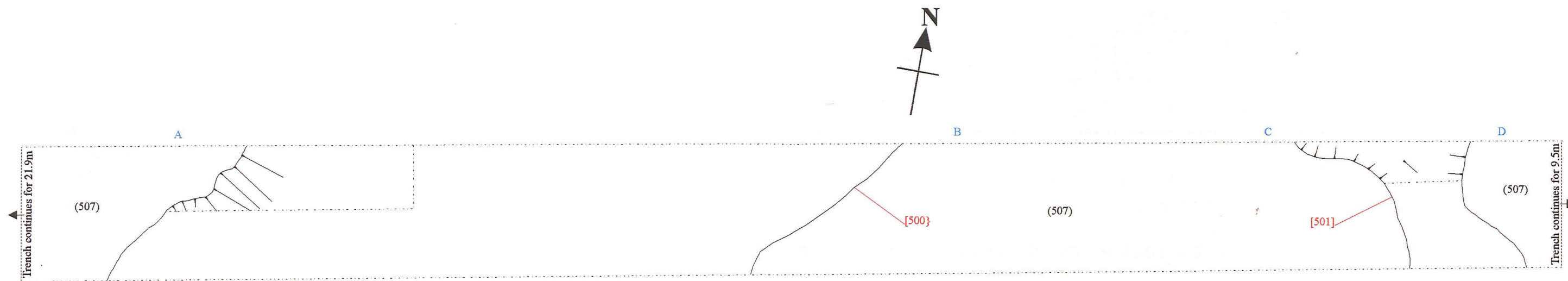


Fig. 7 : Trench 5, shows palaeochannels [500] and [501] plus recorded sections. All at 1:50.

APPENDIX 1 : Colour plates



Pl. 1: General view of site, looking NW. Trenches 1-4 in foreground, Trench 5 in background.



Pl. 2: Ditch [101], looking ENE. The ditch can be seen cutting through palaeochannel [100] to the south.



Pl. 3: Trench 2 pre-excitation, looking SSE. The laminated bands of silt are visible in section. Palaeochannel [200] runs to the west of the scales.



Pl. 4: Section through palaeochannel [200], looking S.



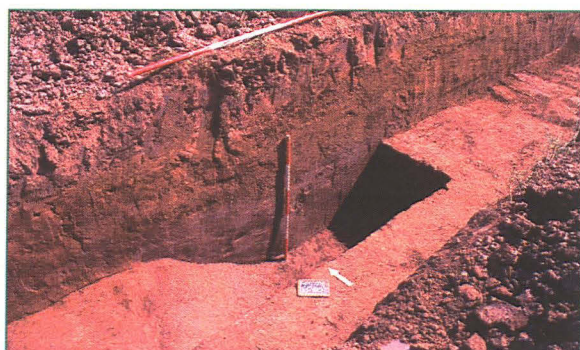
Pl. 5: Trench 3 pre-excitation, looking SE.



Pl. 6: Section through palaeochannel [307]. Also shows palaeochannel [310] and ditch [308]. Looking W.



Pl. 7: Section through palaeochannel [400], looking S.



Pl. 8: Section showing west edge of palaeochannel [500], looking NE.

APPENDIX 2: List of archaeological contexts

<i>Context</i>	<i>Type</i>	<i>Description</i>
100	Cut	Ditch cut, undated, cuts palaeochannel [102]
101	Fill	Grey/brown clay, fill of [100]
102	Cut	Palaeochannel, cut by [100]
103	Fill	Compact brown clay, upper fill of [102]
104	Fill	Blue/grey silt, alluvial deposit within [102]
105	Layer	Dark grey/brown silty loam - ploughsoil
106	Layer	Mid-brown silt - alluvial deposit
107	Fill	Blue/grey silt, alluvial deposit within [102]
108	Layer	Laminated bands of orange/brown silt, alluvial deposit
200	Cut	Cut for probable palaeochannel, runs N-S
201	Fill	Brownish grey clay, fill of [200]
202	Layer	Laminated bands of greyish yellow silt, alluvial deposit
203	Layer	Dark brown silty loam - ploughsoil
300	Cut	Shallow east - west linear feature - palaeochannel
301	Fill	Dark brown clay, upper fill of [300]
302	Fill	Dark brown silty clay, secondary fill of [300]
303	Fill	Blueish grey silt, primary fill of [300]
304	Layer	Yellowish brown silt - alluvial deposit
305	Layer	Mid brown silty loam - ploughsoil
306	Fill	Yellowish brown silt, fill of ditch [308]
307	Cut	Large, shallow sided palaeochannel, extends beyond trench
308	Cut	Steep sided ditch cut, cuts palaeochannel [310]. undated
309	Fill	Greyish brown clay, occ. silt lenses - fill of [310]
310	Cut	Palaeochannel, cuts [307], cut by [308]
311	Fill	Yellowish brown clay/silt, upper fill of [307]
312	Fill	Grey silty clay, tertiary fill of [307]
313	Fill	Blueish grey silt, secondary fill of [307]
314	Fill	Light grey clay, primary fill of [307]
315	Layer	Dark grey silt, exposed in sondage.
400	Cut	Palaeochannel, possible braided channel - same as [401]?
401	Cut	Palaeochannel, possible braided channel - same as [400]?
402	Layer	Mid-brown silty loam - ploughsoil
403	Cut	Palaeochannel - possible braided channel, same as [412]?
404	Fill	Brown silty clay, upper fill of [400]/[401]
405	Fill	Grey silt, lenses of clay - secondary fill of [400]
406	Fill	Pinkish grey silt, primary fill of [400]
407	Layer	Yellow/brown silt, alluvial deposit
408	Fill	Brownish grey clay/silt, upper fill of [403]/[412]
409	Fill	Mid grey clay, primary fill of [403]
410	Fill	Dark grey clay, primary fill of [401]
411	Fill	Light grey clay, fill of [412], sealed by (408)
412	Cut	Palaeochannel - possible braided channel, same as [403]?
413	Layer	Mid grey alluvial silt, exposed in Trench 4 sondage
500	Cut	Irregular linear feature - palaeochannel
501	Cut	Narrow, very irregular linear feature - palaeochannel
502	Fill	Greyish brown silt, fill of [500]
503	Layer	Laminated bands of yellow/brown silt - alluvial deposit
504	Layer	Brown silty loam - ploughsoil
505	-	Number not used
506	Fill	Blueish grey silt, orange mottling, fill of [501]