



Leiston Abbey

Archaeological Evaluation

Interim Assessment Report and Updated Project Design

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with contributions by Jimmy Adcock, Hugo Anderson-Whymark, Raksha Dave, Kerry Ely, Lisa Gray, Richard Madgwick, Stuart Noon, Rebekah Pressler, Adam Stanford and Emma Wood.



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Archaeological Evaluation
Interim Assessment Report
And
Updated Project Design

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Executive summary

DigVentures Ltd was appointed by Pro Corda (an educational charity providing ensemble musical training for young people) to undertake a crowdfunded community-based archaeological research project at Leiston Abbey (hereafter 'the Site').

The central part of the Site is scheduled under the Ancient Monuments and Archaeological Areas Act 1979 (List Number 1014520), whilst four of the upstanding buildings on site are also listed under the Planning Act (listed Buildings and Conservation Areas) 1990. Scheduled Monument Consent was granted by the Secretary of State for Culture, Media & Sport on 5th July 2013, issued on the basis of a *Project Design for an Archaeological Evaluation* (Wilkins *et al* 2013), following consultation with Will Fletcher, Ancient Monuments Inspector, pursuant to wider consultation with English Heritage's specialist archaeological and scientific advisors.

Fieldwork took place between 28th June and the 14th July 2013. The project was designed to characterise undefined earthworks and settlement evidence in three different areas of the Site, with a programme of remote sensing including Ground Penetrating Radar (GPR), Magnetometry and Resistance Survey. The results of this work were used to target seven small-scale excavation trenches aiming to identify settlement evidence indicated by geophysical anomalies or extant earthworks. Additional work included a photogrammetry survey to produce a metrically accurate 3D digital elevation model of the Abbey Church and a low-level aerial photography survey using kite mounted cameras and UAV's to assess structural evidence for absent buildings associated with the eastern range.

The results presented in this report comprise the first Execution Stage of the project, and have been circulated for peer review and consultation with the wider specialist team (Review Point 3). The potential of these results to achieve the Aims and Objectives of the project are discussed in the final section of this report, followed by an Updated Project Design (Appendix 3) detailing the required actions, products and resources necessary to implement the next Execution Stage of the project.

Results Summary

Four trenches were excavated across earthworks and channels in the unscheduled area to the northwest of the Abbey (Trenches 1, 2, 3 and 6). These earthworks were contemporary with the monastic remains, and had been designed to channel floodwater away from higher ground above the claustral precinct, which may then have been harnessed for industrial purposes downslope. These channels had truncated a small number of later prehistoric features, represented by two parallel ditches and two postholes. GPR and Resistance survey also proved successful to the south of the Abbey complex where anomalies typical of wall lines were detected. Trench 7 confirmed that these high responses were the result of demolition spread of a substantial building, though insufficient evidence was recovered to determine the buildings original function. Trench 5 was excavated in an area currently used as a visitor car park, confirming the presence of a post-dissolution agricultural building and associated yard area identified by both the GPR and Resistance survey. A further trench (Trench 4) was excavated across an extant ditch to the rear of the Guesten Hall – previously interpreted as the potential remnant of an earlier phase of moated settlement predating the Abbey construction. Although it's size, scale and composition was certainly in keeping with this interpretation, logistical constraints of the adjacent building meant that the feature could not be excavated to its full depth.

Leiston Abbey Archaeological Evaluation

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Thanks to our project partners and current custodians of Leiston Abbey, Pro Corda, and in particular to Andrew Quartermain and Jonny Hodgeson who helped us throughout, and to Jon Ette, Pro Corda Board member, for introducing us to the site. Thanks are also extended to Will Fletcher, English Heritage Inspector, for helpful advice and direction throughout the project.

The project was managed for DigVentures by Brendon Wilkins, with Lisa Westcott Wilkins in the role of Project Executive. Raksha Dave and Kerry Ely led the project team, supported by Emily Woodburn, Mike Bamforth, Ben Beasley, Kelly Spampinato and Poly Heffer. Jimmy Adcock and Emma Wood from GSB Prospection Ltd and Mike Langton from Mala GPR undertook the Geophysical Survey, with aerial photography and photogrammetry managed by Adam Stanford from AerialCam Ltd. Off site specialists advice and assistance came from Hugo Anderson-Whymark, Lisa Gray, Richard Madgwick, Natasha Powers, Rebekah Presler and graphics were completed by Emma Wood (Geophysics) and Ronald Bake. Floatation equipment was kindly loaned by LP Archaeology for all on site sample processing.

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Figure 1 – A.W. Clapham's plan of the Abbey remains, indicating unpublished interventions undertaken by Valerie Fenwick in 1984

Figure 2 – Proposed trench plan and remote sensing areas

Table 1 – Interfaces

Table 2 – Project Review Stages

Table 3 – Project Team Structure

Table 4 – Project stages, products and tasks

Table 5 – Project Task List

Table 6 – Budget by Stage and Financial Year

Table 7 – Linking methods with objectives

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1 INTRODUCTION AND SCOPE

1.1 Project Background

- 1.1.1 DigVentures Ltd was appointed by Pro Corda (hereafter 'the Client') to undertake a crowdfunded community-based archaeological research project at Leiston Abbey (hereafter 'the Site' – Figure 1). Following consultation with English Heritage, a project model was devised according to the MoRPHE framework (Management of Research Projects in the Historic Environment - 2006). This included Start-up, Review Point 1, Project Initiation and Review Point 2, culminating in the submission of a fully illustrated Project Design to DCMS outlining key archaeological research questions, roles, procedures, stages and outputs (Wilkins *et al* 2013).
- 1.1.2 Scheduled Monument Consent and Section 42 Geophysical Survey licence was granted by the Secretary of State for Culture Media & Sport, and the first Execution Stage of the project took place between 29th June and the 14th July 2013. The results presented in this report detail that work, and have been circulated for peer review and consultation with the wider specialist team (Review Point 3). This report is one of a number of archive and dissemination products to have been generated by the project, including a digital archive and metadata, paper archive, and artefact archive processed for temporary storage.
- 1.1.3 The potential of these results to achieve the Aims and Objectives of the project are discussed in the final section of this report, followed by an Updated Project Design (Appendix 3) detailing the required actions, products and resources necessary to implement the next Execution Stage of the project. Recommendations have been made for a further stage of fieldwork, following up on profitable research leads generated during the 2013 field season. This work is planned for the 7th-20th July 2014, and will focus on a programme of remote sensing and 3D photogrammetry survey followed by targeted test trenches in areas of the site that were unavailable during the 2013 field season.
- 1.1.4 The methodological approach to the 2014 field season, and the remaining steps required to bring the project to completion (including analysis and publication) are detailed in Appendix 3. This is issued as a separate MoRPHE compliant document (Updated Project Design), outlining key archaeological research questions, roles, procedures, stages and outputs.

1.2 Project Scope

- 1.2.1 Leiston Abbey is a nationally important Premonstratensian Abbey close to Sizewell on the Suffolk coast. It was originally founded in 1182 close to the coast at Minsmere, but was relocated to the present site at Leiston in 1363 when flooding made the first site unviable. Aside from small-scale and inadequately published excavations within the monastic precinct area, the Site has not been subject to coordinated multidisciplinary research, or an examination of the linkages between the abbey's first and second site. The

overarching aim of the project is rectify this, helping to define and characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation, obtaining baseline data that will facilitate its future management.

- 1.2.2 An assessment of all documentary sources held by English Heritage during the Project Design stage defined a number of questions warranting further archaeological research. These included characterising the poorly understood earthworks associated with the monastic outer precinct, obtaining evidence for an earlier phase of activity predating the Abbey construction, and identifying the location of key functional buildings associated with the Abbey complex.
- 1.2.3 This project was funded exclusively through public crowdfunded contribution, and the professional excavation team were assisted through crowdsourced voluntary public participation. Though the public engagement and outreach programme provided a significant ancillary rationale to the project, this report will focus exclusively on the archaeological results. An evaluation of the public and community archaeology aspects of the work (and assessment of the breadth, depth and diversity of audience reach and engagement), is beyond the scope of this document, and has been formulated into a separate report (Westcott Wilkins 2014, and Figure 20).

1.3 Site Description

- 1.3.1 Leiston Abbey is located on a gentle, south facing slope c.1.75km north of the centre of Leiston (TM 44395 64255). The Site is part owned by Pro Corda and the diocese of St Edmundsbury and Ipswich and the remains of the Abbey are currently in the guardianship of the Secretary of State, managed by English Heritage.
- 1.3.2 A complex of Grade II listed buildings built into the Abbey ruins and used during the post dissolution phase (Guesten Hall, 1268290; Barn, 1216380; and Retreat House, 1215754) are currently used by the musical charity Pro Corda. The central, inner precinct area of the Site is a Scheduled Ancient Monument (List Entry Number 1014520: *Leiston Abbey (second site) and moated site*). The Scheduled Monument includes most of the standing and buried remains of the monastic church and conventual buildings, together with adjacent earthworks, ponds, and the remnants of a potential moated surrounding the outer court. The field to the northwest of the claustral complex remains undesignated, and was a major area of focus of this phase of evaluation work.
- 1.3.3 Archaeologically, the site is considered to include some of the finest surviving monastic remains in Suffolk and is one of the most completely preserved examples of a Premonstratensian monastery in England. This overall research value is increased by proximity to the original abbey site in Minsmere. Preservation of the site of original founding (now an RSPB reserve) allows for the direct comparison of two chronologically and topographically distinct

sequences in its history. The evidence for earlier occupation of the site (potentially indicative of manorial status) offers the prospect of a direct comparison between the economic regimes centred on the moated site, the abbey and the Post-Dissolution farmstead. A synopsis of the known history of the Abbey is provided below, followed by a summary of the circumstances and dates of previous fieldwork.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction – The Premonstratensians

- 2.1.1 From St Augustine's mission to re-establish Christianity in AD 597 until the reign of Henry VIII, the eventual founding of over 700 monastic houses bears testament to monasticism's increasingly powerful grip on religious and secular life in the British Isles (Knowles 1949). Growing from austere beginnings, the enduring influence of monastic houses can be seen not only in the wealth of upstanding ecclesiastical remains, but also in patterns of landholding, as their substantial estates stamped their industrial and agricultural footprint on the wider landscape (Aston 1993).
- 2.1.2 Housing monks, canons, and sometimes lay brothers, monasteries were relatively closed communities living a common life of religious observance, bound under some form of systematic discipline. Leiston was a Premonstratensian Abbey – an order founded by Norbert, son of Heribert, Count of Geneppe of Xanten of the Lower Rhine in 1120 after a dream in which he saw white-clad figures carrying lights and crosses and singing as they walked in procession (Colvin 1951). Between 1143 and 1267 some 30 Premonstratensian abbeys, 3 nunneries and 6 cells were founded in England – numbers that remained relatively unchanged until the beginning of the 16th century.
- 2.1.3 The Premonstratensian orders, or 'White Canons', were not monks in the strict sense but rather communities of priests living together under a rule. The order was modelled on the Cistercian values of austerity and seclusion, in line with Norbert's own testament persuading the canons to 'fear the company of men as a fish shuns dry land' (Colvin 1951, P.7). The original siting of Leiston Abbey at Minsmere belonged firmly in this tradition, in which 'the apostolic element was overshadowed by the monastic, and a number of abbeys were founded, frequently in desolate or remote situations, several of which long retained their reputation for fervour' (Knowles 1949, 205, cited by Kerr, forthcoming). Unfortunately the original location proved a little too desolate and remote for practical purposes, leading to the wholesale relocation of the Abbey complex to the current site at Leiston, and the ambitious edifice that remains, in part, to this day.

2.2 The History of the Abbey

Minsmere – Leiston Abbey (First Site)

- 2.2.1 Dedicated to the Blessed Virgin and originally housing 26 canons, Leiston Abbey was founded at Minsmere in 1182 by Ranulph de Glanville, Chief

Justiciary to Henry II. Although the Minsmere site has never been excavated, the early history of the abbey can be reconstructed through a combined reading of early text sources with an analysis of fieldwork survey evidence.

- 2.2.2 The cartulary – a medieval manuscript roll containing transcriptions of original documents relating to the foundation, privileges and legal rights of the abbey – reveals an ambitious development at Minsmere (Mortimer 1979). Ranulph de Glanville's original endowment included the manor of Leiston and the churches of St Margaret, Leiston and St Andrew Aldringham. According to the foundation charter these were originally granted to the Augustinian canons of Butley Abbey, of which de Glanville was also patron. Once reassigned to Leiston, the Abbey was further enriched by later endowments and appropriations, growing from an annual value given in the taxation roll of 1292 as 130 pounds 15s 7d, to the valuation of 1535 as 181 pounds 17s 1d (the largest part of which derived from the manor of Leiston).
- 2.2.3 Described by contemporaries as 'the swampy site near the sea,' these funds became increasingly necessary as the landscape conditions at the Abbey's first site continued to deteriorate. Minsmere was prone to flooding, leading to catastrophic inundation in 1362 that weakened the abbey's foundations beyond repair (Mortimer 1979, 7). The canons were granted a papal licence in 1365 to move to a more favourable spot inland at Leiston. The original site was retained as a monastic cell, with the church and other claustral buildings demolished and rebuilt, recycling stone and other building materials wherever possible in the new structure.
- 2.2.4 A late medieval rectangular chapel is all that remains of this phase of Leiston Abbey at Minsmere (Scheduled Monument No. 21404), with cropmarks indicating that the ruin lies within the cruciform outline of a much larger cruciform church (Boulter 2003). Remote sensing of a seven-hectare area surrounding the chapel has delineated the outline of a cloister to the north of the church (contrasting with Leiston's second site) with associated buildings, ponds and water channels (Black 2008).

Leiston Abbey (Second Site) – Pre-Monastic Evidence

- 2.2.5 In addition to the various bureaucratic procedures that had to be worked through with church authorities to sanction the move to Leiston's second site, dismantling, transporting and rebuilding a structure of this size on a site approximately five miles away was no simple undertaking. The bulk of the cost was borne by Robert de Ufford, who had been granted patronage of the abbey by the crown in 1350. However, the cartulary also intimates that this posed a significant cost burden to the Abbey itself. Measures were taken to increase the profitability of existing land holdings, alongside spiritual incentives to encourage penitents to give alms to the abbey's reconstruction.
- 2.2.6 This may also have contributed to the decision of where to locate the new abbey – with a conveniently sited settlement donated by a sympathetic almsgiver. Various landscape features indicate that the abbey was unlikely to have been reconstructed on a 'blank canvas', and residual eleventh and

twelfth century pottery recovered from previous excavations (Kerr, forthcoming) supports the interpretation that the site was already occupied before the re-siting of the abbey. Although substantial evidence is yet to be produced, a working hypothesis is that this was a moated manor site (defined in the present day layout by the ditch and fish pond surrounding three sides of the outer court) that could have been appropriated for the new construction.

Leiston Abbey (Second Site) – Monastic Evidence

- 2.2.7 The building plan for Leiston's second site was expansive, continuing in the ambitious spirit of its founder to be 'the greatest of all the houses of our order in England' (Colvin 1951, 119). Disaster soon struck however, when a fire destroyed all but the church in 1380, burdening the abbey with further debt and putting pay to all such aspirations.
- 2.2.8 Much of the plan of the abbey complex survives, including the church, and associated claustral buildings predominantly dating to the late 14th century (Clapham 1923). Aside from the relatively standard plan, a mix of features and styles in the building fabric reflects an eventful past. Stone capitals from the original 12th century abbey are re-set into the Presbytery crossing, and an inner gatehouse, constructed in the late 15th/early 16th century, remains upstanding. Medieval fabric can also be seen in ancillary buildings beyond the claustral complex – the so-called tithe barn and Guesten Hall buildings in the outer court.
- 2.2.9 Earthwork evidence dating to this period has also been identified in the fields to the north and south of the Abbey. In the ploughed field east of the claustral buildings, cropmarks, geophysics and excavation has identified a large rectangular structure, probably the infirmary hall, and a 4 metre wide ditch thought to mark the eastern boundary of the monastic precinct. Two rectangular terraced platforms, c.0.5m high, one above the other, have also been identified on a south-facing slope immediately to the west of the claustral precinct. The specific form and function of these features awaits further archaeological investigation.
- #### **The post-dissolution site**
- 2.2.10 The abbey was among those suppressed in 1536 and in 1537 was granted, with its possessions, to Charles Brandon, Duke of Suffolk. The site was later occupied by a farmstead, and parts of the church and monastic buildings incorporated in the farmhouse and various associated outbuildings.
- 2.2.11 The northern chapel was re-roofed and reformed to provide a grain store; the Abbey House was converted from the south aisle, and later, a Georgian front was added to the house, which was extended in the 1920s. A thatched farm building was also constructed along the north wall of the nave, though this was burnt down in 1938.
- 2.2.12 In 1928 Ellen Wrightson bought the Abbey ruins and farm for use as a religious retreat. When she died in 1946, she bequeathed the house, ruins, land and buildings to the Diocese of St Edmundsbury and Ipswich. It was purchased in

1977 by the Pro Corda Trust, with more recent buildings and conversions brought into use as a residential music school.

2.3 Previous Work and Current Initiatives

- 2.3.1 The inner precinct at Leiston Abbey has been subject to sporadic archaeological investigation from the 1920s onwards, with the first published plan appearing in Suckling's *History of Suffolk* (1846). A more detailed phased plan was published in Clapham's *The architecture of the Premonstratensians, with special reference to their buildings in England* (1923) and it is likely that the Site was subject to exploratory 'wall chasing' investigations during this period.
- 2.3.2 The site was scheduled in 1949, and taken into the guardianship of English Heritage. All subsequent archaeological investigation or development work has therefore been relatively small-scale, focussing on the inner precinct and claustral range and designed to assist with the management and interpretation of the Site.
- 2.3.3 In 1974 a geophysical survey was undertaken by the Ancient Monuments Laboratory in the fields to the east of the Abbey to establish the presence of structures indicated on Aerial Photographs (AML report G 3/74). This involved resistivity traverses, followed by augur boring to select areas for detailed survey. The data were processed and a plot produced which showed high resistance anomalies, indicating features such as walls and solid surfaces to the east of the current boundary hedge.
- 2.3.4 Valerie Fenwick excavated the Site in 1984, with the aim of improving the display and interpretation of the monument to visitors in advance of reconsolidation works at the Tudor gatehouse, the day stair and the reredorter. A short summary note detailing this work was published in *Medieval Archaeology* XXIX (1985, 200) with a further summary account drawn together by Kerr (Forthcoming).
- 2.3.5 Immediately following this work, the Central Excavation Unit (English Heritage) carried out a targeted trial trench excavation in December 1985 (Kerr, Forthcoming, and see 2.2.9 above). This focussed on the field immediately to the east of the guardianship area, confirming the remains of monastic buildings that had previously been indicated by aerial photographs and the 1974 geophysical survey. Situated to the east of the main claustral buildings and on the same alignment, these buildings probably formed an outer range or court beyond the dormer. Based on other Abbey ground plans, these structures were interpreted as the remains of the infirmary buildings (Coppack 1990, 77, though see 2.3.6 below for alternative). Evidence was also found for a ditch that may have formed the eastern edge of the monastic precinct, with residual sherds of eleventh-twelfth century Thetford ware pottery hinting at the possibility of earlier occupation of the Site prior to the re-siting of the Abbey.

- 2.3.6 A community project in 2004 led by Suffolk County Council targeted three trenches in the inner precinct area, with a trench in the remains of a 19th century cottage (adjacent to the North Aisle, see 2.2.11 above) and a trench in what was presumed to be the kitchen building to the south of the refectory (LCS 136). Two burials were identified (recorded but not excavated) in the cottage trench, below construction and demolition debris associated with the later farm building. The trench to the south of the refectory was positioned to recover evidence for the monastic kitchen building where the uneven ground surface indicates the survival of buried foundations. Although a structure was identified in this area, the function of the building was not conclusive, and was interpreted as a potential infirmary building.
- 2.3.7 A series of relatively small-scale development-led archaeology projects have also been undertaken in recent years with varied results.
- Two machine excavated trenches (6 x 1.5m x 0.5m) were excavated SW of Guesten Hall in advanced of development. No archaeological artefacts recovered from either trench (SCCAS 1996).
 - The footprint for an extension to The Barn was stripped of its overburden in 2003, with a view to revealing any archaeological deposits prior to the construction of a new extension (LCS131). The original medieval wall and gable end was identified, with a secondary phase of building, possibly due to structural failure.
 - In 2004 archaeological monitoring was undertaken for a 0.4m deep cable trench extending from the farmhouse building through the abbey church to the Lady Chapel (LCS 155). The shallow depth of the trench resulted in various post-dissolution finds associated with a series of disturbed and re-deposited layers.
- 2.3.8 Aside from small-scale and inadequately published excavations within the monastic precinct area, the Site has not been subject to coordinated multidisciplinary research, and the location of key functional buildings still remains unknown. The Site has also suffered from an investigatory bias on the inner precinct area (in keeping with similar Abbey locations) resulting in a general dearth of knowledge for how the outer precinct functioned.
- 2.3.9 The potential research dividend from further archaeological work at Leiston is amplified by recent Geophysical and Building Recording work at the original Abbey location in Minsmere (Boulter 2008; Black and Black 2008), potentially allowing for the direct comparison of two chronologically and topographically distinct sequence in the Abbey's history. Of particular relevance to this question is the reuse of building material at the site, and the extent to which 12th century stylistic elements survive in the 14th century building. Any other material culture evidence linking the two sites will be pertinent, as will comparing and contrasting how the two sites were originally laid out and used.

3 PROJECT AIMS & OBJECTIVES

3.1 Background

3.1.1 The following is based on the project aims detailed in the *Project Design for an Archaeological Evaluation* (Wilkins *et al* 2012, Section 2.1). The business case for this work has been designed in accordance with the fundamental principles of SHAPE (Strategic framework for the Historic Environment: Activities and Programmes in English Heritage, 2008).

3.1.2 The overarching aim of the project is to define and characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation, obtaining baseline data that will facilitate its future management (SHAPE sub-programme number 11111.130: development of a sound evidence base for specific locales and historic assets). This has been used to formulate an UPD with recommendations for further work (see Appendix 2). The high-level aims of the project have been formulated as a series of key questions (objectives), which provide a framework for the methods, stages, products and tasks set out in later sections of this project design.

3.1.3 The wider objectives of Pro Corda to understand, manage, and promote the archaeology of Leiston Abbey fall under separate SHAPE sub-programmes (31521.110 and 12212.110) and although these formed a major consideration of the project, the 'public archaeology' dimension has been assessed and reported on in another document (Westcott Wilkins 2013).

3.2 Aim 1: Define and establish the precise physical extent and condition of the site with a programme of remote sensing and metric survey.

- **Q1:** Can the layout of the precinct and associated sub-surface archaeology be established by remote survey?
- **Q2:** What are the earthworks to the northwest of the scheduled area, and are they associated with the main claustral complex?
- **Q3:** What is the condition of the upstanding building remains?
- **Q4:** Can we identify the location of the original Abbey gatehouse, or can we establish the position of other 'lost' structures such as the infirmary?
- **Q5:** Is it possible to trace the abbey's water supply and management system in detail?

3.3 Aim 2: Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of trial trenching and test pits.

- **Q6:** Is it possible to corroborate the location of the gatehouse, precinct wall or infirmary, as defined in Aim 1?

- **Q7:** Is there any evidence for earlier settlement at Leiston prior to the construction of the Abbey church?
- **Q8:** How were the earthworks to the northwest of the scheduled area used, and what functions and activities took place in this part of the site?
- **Q9:** What can we say about their scale and nature?

3.4 Aim 3: Understand the palaeoenvironmental conditions at the site.

- **Q10:** What is the current state of the archaeological and palaeoenvironmental material across the site?
- **Q11:** Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing or industrial activities?
- **Q12:** Can we increase our understanding of the local environment in the medieval period?

3.5 Aim 4: Develop an Updated Project Design with recommendations for further work.

- **Q13:** What can an integrated synthesis of the results of this work with previous interventions tell us about the site and its setting?
- **Q14:** How well do deposits survive, and how deeply are they buried?
- **Q15:** Assess the state to which the archaeological and palaeoenvironmental resource at Leiston Abbey is being successfully preserved *in situ*.
- **Q16:** Formulate recommendations for further archaeological and palaeoenvironmental study at Leiston Abbey based on Aims 1-3.

4 METHODOLOGY

4.1 General Requirements

4.1.1 The archaeological fieldwork was carried out in accordance with the methodology defined in the *Project Design for an Archaeological Evaluation* (Wilkins *et al* 2013, Section 5). All work was undertaken in conjunction with best practice, national guidelines and published standards (*ibid*, Section 1.6). Methodological summaries are presented below, following detailed descriptions in the Project Design linking specific techniques to aims and objectives (*ibid*, Section 5).

4.1.2 An array of non-invasive survey techniques, including resistivity, magnetometry, Ground Penetrating Radar, topographic survey, Lidar and low-level aerial photography was applied to three main areas of the Site (see Figure 1). Low-level aerial photography field to the east of the claustral buildings containing the buried remains of a large rectangular structure and

precinct ditch was also subject to low-level aerial photography, but remained out of bounds for further investigation.

4.1.3 Each area was targeted with a specific archaeological purpose in mind, the intention being to use the combined non-invasive results to accurately position trial trenches for the following purposes:

- **North-West Area:** to characterise undefined settlement evidence potentially associated with an outer precinct in an unscheduled area to the north west of the claustral complex.
- **Car Park Area:** to identify the position of the gatehouse, presumed to be located to the north of the Abbey church.
- **Abbey Complex:** to investigate buried foundations to the south of the refectory, interpreted variously as a monastic kitchen or infirmary.

4.1.4 Following remote sensing work, a limited number of targeted machine trenches (North-West Area) and hand dug test pits (Car Park and Abbey Complex) were excavated, with their final position determined by the results of remote sensing, in collaboration with Will Fletcher, English Heritage Inspector of Ancient Monuments (Figure 3). One 3.5 x 20 metre and three 1.8 x 20 metre trenches were excavated in the North-West Area (to assess upstanding earthworks); one 2 x 5 metre trench was excavated in the Car Park Area (to assess geophysical evidence for a demolished building); and one 2 x 5 metre trench was excavated in the Abbey Complex (to assess geophysical evidence for a circular building). A further trench was excavated across the potential moat at the edge of the scheduled area (Area 1 – 12 x 1.9 metres) to recover any evidence for an earlier phase of activity on the Site.

4.2 Remote Sensing and Metric Survey

4.2.1 The first phase of site work (29th – 30th June 2014) was designed to address the research questions associate with Aim 1 (Wilkins *et al* 2013, Section 5.3). This entailed a combination of non-intrusive geophysical survey (resistivity, magnetometry and Ground Penetrating Radar) in combination with a GIS analysis of historic mapping, lidar survey, and documentary research to determine likely features for targeted trenching. MIRA traverse positioning was carried out using a Trimble S6 Robotic Total Station.

4.2.2 The geophysical survey areas were geo-referenced relative to the Ordnance Survey National Grid using a Trimble R8 Real Time Kinematic (RTK) GPS to collect reference points within the survey area, as well as local detail, and subsequently corrected to the Leiston Abbey site plan. Geoplot 3 (Geoscan Research), Mala Rslicer, GPRSlice and in-house GSB software was used to process and present the data. Due to logistical constraints and height of crop, the field to the east of the Abbey complex could not be surveyed except by low-level aerial photography (see 4.3 below).

4.3 3D Modelling and Low-level Aerial Photography

- 4.3.1 A pole and mast mounted photographic survey was undertaken on the upstanding Abbey remains (Abbey church), to produce a metrically accurate 3D digital surface model (DSM). The resulting DSM is intended to provide researchers with an accurate and versatile record of the form and condition of the upstanding structure for immediate analysis as well as providing a baseline dataset for comparison with future surveys to determine weathering rates and potential damage. This was supported by low-level aerial photography using kite mounted and UAV mounted cameras to investigate potential crop marks and landscape features adjacent to the Abbey.

4.4 Excavation Methodology

- 4.4.1 The second phase of site work (2nd – 14th July 2013) addressed the research questions associated with Aims 2 and 3, with a programme of targeted interventions designed to 'ground-truth' the results of remote sensing and metric survey, identifying and investigating any archaeological features encountered, and obtaining appropriate samples for archaeological, artifactual and palaeoenvironmental assessment.
- 4.4.2 A total of four machine-excavated trial trenches and three hand-dug trenches were excavated during the project (Figure 3). All trenches were marked out on the ground using a GPS prior to the commencement of work, and initially scanned for surface finds with a metal detector prior to excavation. Machine excavation was carried out using a JCB 3CX fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, under the constant supervision of an experienced archaeologist.
- 4.4.3 Trenches were subsequently hand-cleaned, planned and photographed prior to hand-excavation. Any archaeological features and deposits exposed in the evaluation trenches were hand cleaned and excavated to determine their nature, character and date. Carefully chosen cross-sections were then excavated through features to enable sufficient information about form, development, date and stratigraphic relationships to be recorded. All excavated features were 100% dry-sieved for artefacts using a 5mm gauge, and/or wet-sieved on site using a standard archaeological floatation device.
- 4.4.4 All interventions were surveyed using a GPS tied into the Ordnance Survey grid and all recording was undertaken using DigVentures *pro forma* recording system. A complete drawn record of the evaluation trenches comprises both plans and sections, drawn to appropriate scales and annotated with coordinates and AOD heights.
- 4.4.5 A single context recording system was used to record the deposits. A full list is presented in Appendix 1. Layers and fills are recorded (001). The cut of the feature is shown [001]. Each number has been attributed to a specific trench

with the primary number(s) relating to specific trenches (i.e. Trench 1, 1001+, Trench 2, 2001+).

4.5 Health and Safety

- 4.5.1 All work was carried out in accordance with its company Health and Safety Policy, to standards defined in *The Health and Safety at Work etc. Act 1974*, and *The Management of Health and Safety Regulations 1992*, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) health and safety manual *Health and Safety in Field Archaeology* (1996), and DigVentures' health and Safety Policy.

5 REMOTE SENSING RESULTS

By Emma Wood & Jimmy Adcock

5.1 Introduction

- 5.1.1 This chapter presents the results of a geophysical survey undertaken by Jimmy Adcock, Emma Wood and Mike Langton between 29th and 30th June 2013 (Adcock and Wood 2014, including archive CD of raw data). The principle purpose of the work was to 'define and establish the precise physical extent of the site' (Aim 1) with each survey area designed to address a specific research objective (See Section 3.2 and 4.1.3 above). Figure 2 shows the overall location of each targeted area, and Figures 3 – 9 provide summary data depth-slices, greyscales and interpretations.
- 5.1.2 The overall survey area extended to approximately 2.5 Hectares, with methods including detailed magnetometer survey (fluxgate gradiometer), earth resistance and ground penetrating radar (GPR). Soils in this area comprise Newport 4 association (551g), deep well drained sandy soils, in addition to some very acidic soils with bleached subsurface horizon especially under heath or in woodland (SSEW 1983). Bedrock geology consists of crag group – sand, and superficial deposits belong to the Lowestoft formation (BGS 2014).

5.2 Method and Data Processing

- 5.2.1 All survey work is carried out in accordance with the current English Heritage guidelines (EH 2008) and following the method outlined in Section 4.2 above.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1m	0.25m
Resistance	Geoscan Research RM15/MPX	1m	1m

Technique	Instrument	Traverse Interval	Sample Interval
GPR	Mala MIRA 8-channel 400MHz	0.08m	0.08m
GPR	Mala X3M 250MHz	0.5	0.05m

Table 1 – traverse and sample interval by technique

- 5.2.2 Data processing was performed as appropriate using both in-house and commercial software packages (GeoSuB, Geoplot, GPR Slice, Rslicer) as outlined below.

Magnetic Data

Zero Mean Traverse, Step Correction (De-stagger) and Interpolation (on the Y axis).

Resistance Data

Despike, High Pass Filter, Interpolation (on both X & Y axes).

GPR Data

GPR Slice – Manual gain, de-wow/DC-shift plus background removal and migration (where indicated) Rslicer – Spherical divergence gain, antenna ring-down correction, band-pass filtering, migration.

5.3 Interpretation

- 5.3.1 All GPR interpretations were based on analysis of both raw and filtered depth-slice datasets as well as radargram analysis. A selection of raw and processed depth-slices can be found on the accompanying Archive CD for more detailed viewing (Adcock and Wood 2014).
- 5.3.2 When interpreting the results several factors were taken into consideration, including the nature of archaeological features being investigated and the local conditions at the site (geology, pedology, topography etc.). Anomalies were categorised by their potential origin. Where responses could be related to very specific known features documented in other sources, this was done (for example: Abbey Structure Wall, Precinct Ditch). For the generic categories levels of confidence were indicated, for example: Archaeology – ?Archaeology. The former was used for a confident interpretation, based on anomaly definition and/or other corroborative data such as cropmarks. This disparity can be due to poor anomaly definition, a lack of clear patterns to the responses and an absence of other supporting data reduces confidence, hence the classification – ?Archaeology.

5.4 General Considerations

- 5.4.1 Generally conditions for survey were good; all areas were flat and weather fine and dry throughout. Ground cover comprised pasture in all areas.

- 5.4.2 Any depths referred to in the interpretation of GPR data are only ever an approximation. The conversion from delay time to depth depends upon the propagation velocity of radar waves through the ground; this can vary significantly both laterally and vertically on some sites. An average velocity of 0.09m/ns has been used after an iterative process of fitting hyperbolic curves to point-source reflections. Where there is a strong electromagnetic contrast, the GPR signal can be inter-reflected or reverberated, producing a delay in the reflection of the signal. This is termed 'ringing' and happens to some extent with all reflections, resulting in a greater apparent depth extent than actually exists. As a result, it is often not possible to detect the base of features; only the tops of buried deposits are detected with any kind of certainty (Annan 1997). Particularly strong ringing is often seen when buried metallic debris is encountered and this material is generally assumed to be of modern origins unless the site-type dictates otherwise.
- 5.4.3 The MIRA GPR data was collected with equipment kindly loaned by MALA Geoscience. All processing was completed on site at the time of survey and processed images were provided to GSB and DigVentures for inclusion within this report. As such raw plots cannot be included as part of this archive. Raw time-slices and radargrams are included for the data from the X3M system; the radargrams show the in-line co-ordinates along the bottom axis, whilst their traverse position is noted immediately above each plot.
- 5.4.4 In the following text, letters in square brackets refer to specific anomalies highlighted on the interpretation diagram. Depths noted on the diagram refer to the approximate distance below ground level to the top of the interpreted feature.

5.5 Survey Results – GPR Survey (Figures 4 & 5)

North-West Field

- 5.5.1 Given the lack of obvious archaeological features within the magnetic data from the northern field (see 5.7.1 below), GPR survey was confined to collecting a small strip of data running across one of the earthwork platforms and corresponding channel. This was also designed to encompass a ferrous-like cluster of magnetic responses observed in this area.
- 5.5.2 All that was recorded were a zone of reflections [A] coincident with the magnetic response. Although a pit containing strongly magnetic material would account for this correlation between the magnetic and GPR datasets, more recent debris within the topsoil could equally have caused the responses; this is especially true when one considers the lack of archaeological-type responses across the field as a whole. Some faint linear responses were identified which are likely to be plough marks. From the strength of the geophysical evidence it is unlikely that the earthworks in this field represent settlement activity, and are more indicative of water management features.

Car Park Area

- 5.5.3 This area was comprehensively surveyed with the MIRA system, resulting in few responses of significant archaeological potential. The exception was an enigmatic circular response [B], but this had no associated magnetic signature and originated immediately below the turf, with the feature visible in the data from as shallow as 0.02m. Given this response, the likelihood was that this feature represented a relatively modern agricultural origin – perhaps footings for a grain silo or similar. With depth a more rectilinear spread of reflections [C] became apparent but their strength, alignment and proximity to the assumed modern feature lessened the potential for this representing a significant archaeological feature. Some isolated responses were assumed to be relatively modern, again potentially associated with the agricultural activity on site.
- 5.5.4 The first edition Ordnance Survey map (OS2014) was reviewed to assess these features further. Although a circular feature was visible in this general vicinity, it appeared to be much nearer existing buildings, and beneath the present-day track. Trench 5 was therefore positioned to extend equally across the circular feature and rectilinear spread to assess their significance (See Section 6.5 below).

Abbey Complex

- 5.5.5 A series of unrecorded “search” traverses were collected with the MIRA system over what would become the project’s temporary campsite (on the northern side of the Abbey remains) in addition to a number of traverses along the Abbey’s main entrance driveway. The purpose of this was to identify any structural evidence relating to the inner precinct, or identify the return of the precinct boundary ditch below the entrance driveway. There was no suggestion of these features in the data, and detailed GPR survey was concentrated elsewhere.
- 5.5.6 In the south of the abbey complex more data were collected using the more rugged X3M cart, adjacent to the standing remains. This, perhaps unsurprisingly, yielded a far ‘busier’ data set than seen elsewhere on site. However, the pattern of response was more complex than had been expected suggesting multiple phases of post-dissolution activity. Whilst individual building footprints of the medieval layout are unclear, there are a series of anomaly groups that warrant discussion.
- 5.5.7 A linear band of strong reflections [D] was identified on the same strike as the standing remains – but this does not guarantee a medieval origin. The fact that the feature seems to curve round to the south at its western end does not tally with this being part of a building, unless it has been reused in a subsequent phase, possibly a garden. The return to the north [E] seems far more consistent with this being part of a structure. The eastern end of [D] lies within a complex of rectilinear trends and stronger anomalies, all of which share the same alignment as the Abbey. There are parallel linear anomalies whose spacing may hint at corridors or walkways, but these are difficult to identify clearly. The general increase in response through this area may also be evidence of a cluster of demolition material.

- 5.5.8 A corresponding zone of increased responses along the southern side of the extant structures were also interpreted as demolition material. Two groups of stronger, better defined, anomalies [F] and [G] were noticeable here, with a largely rectilinear distribution. From [G] a trend continued west before turning south towards a final concentration of responses [H]. As with the previously highlighted zones, these seemed to be predominantly running in two directions, either perpendicular or parallel to the Abbey. A strong reflector, which runs along the southern edge of the survey area, is believed to be a relatively shallow service pipe or culvert.
- 5.5.9 Given the complexity of the anomalies in this area, attributing these features to specific phases is beyond the bounds of possibility using geophysics alone. Though distinct features can be identified, their partial survival makes it extremely difficult to differentiate between separate periods of activity, or later reoccupation. Many of the highlighted responses could potentially be attributed to something as simple as a former garden layout, and this could explain some of the more ephemeral trends seen through the survey area. Trench 5 was therefore located to assess a linear band of strong anomalies [D] and areas hinting at potential walkways on the same alignment to the Abbey (See Section 6.6 below).

5.6 Survey Results – Resistance Survey (Figures 6 & 7)

Car Park Area

- 5.6.1 A weak semi-circular response [1] within the data is shown on the interpretation diagram as ?Archaeology. This feature corresponds with the circular response [B] in the GPR data (See Paragraph 5.5.3 above).
- 5.6.2 A rectilinear zone of high resistance [2] measuring approximately 7m x 5m was located in the north the area, and interpreted as modern in origin, It may be associated with the digging of the service trench as it abutted a modern pipe.
- 5.6.3 Further trends within the data with an Uncertain Origin are likely to be associated with agricultural activity i.e. drains.

Abbey Complex

- 5.6.4 High resistance anomalies [3] were associated with the Abbey itself, reflecting the foundations. A curving zone of similar response [4] in the southern area suggested an apse of some sorts. However this interpretation must remain cautious due to lack of supporting evidence. The response may be associated with garden remains or paths.
- 5.6.5 Anomalies [5], to some extent correlate with the GPR responses [D & G] but are of differing alignments. It is possible that the resistance survey is detecting a spread of demolition material associated with a previous structure. Linear trends [6] are on the same alignment as the Abbey and also correspond with GPR anomalies [H].

- 5.6.6 To the north of the Abbey, a large zone of high resistance [7] was classified as Uncertain Origin. This may also be associated with demolition material but could equally be natural or geological. The ?Archaeology trend to the north of this response are on a similar alignment to the remains and may be associated with the Abbey.
- 5.6.7 Further trends within this northern area are of an uncertain origin as they are on differing alignments. A pipe was identified leading to the north-eastern corner of the Lady Chapel, corresponding to a similar anomaly in the magnetic data (Paragraph 5.7.3).

5.7 Survey Results – Gradiometer Survey (Figures 8 & 9)

North-West Field

- 5.7.1 Given the large number of earthworks in this field, magnetic survey was undertaken to help provide insight into their use or purpose, or identify enhanced soils indicative of settlement debris. Unfortunately no anomalies associated with archaeological remains were detected in this area. A small number of trends were identified and though marked as Uncertain Origin, they are likely to be the result of recent agricultural activity. The majority of the responses are of a ferrous nature, and are almost certainly of a modern origin.

Abbey Complex

- 5.7.2 Magnetic survey was limited to the northern part of the Abbey complex, resulting in scant evidence of definite archaeological remains. The responses were largely due to magnetic disturbance from the abbey itself, and other buildings within the site. A pipe was detected, corresponding with an anomaly also seen within the resistance data (Paragraph 5.6.7).
- 5.7.3 A linear anomaly, classed as Uncertain Origin was identified on the same alignment as the Abbey, broadly corresponding with similar trends in the resistance data. There may be a possibility that it is associated with the Abbey, however it could equally be of modern origin.

5.8 Conclusions

- 5.8.1 Three different geophysical techniques were used at Leiston Abbey, helping to corroborate and reinforce what would otherwise have been a variable set of results. GPR survey was most successful in the south of the Abbey complex, detecting wall lines on the same alignment as the abbey suggesting corridors and walkways. A circular and rectilinear feature was also identified in the car park area. Resistance survey has supported these findings, and helped to target hand dug trenches to 'ground truth' these anomalies. Magnetic survey was less successful in terms of targeting trenches the north-west field, failing to detect any responses of a definite archaeological origin. However, as subsequent excavation results demonstrate, this data supports the interpretation that this area was utilised for water management rather than occupation.

6 EXCAVATION RESULTS

By Brendon Wilkins, Raksha Dave and Kerry Ely

6.1 Introduction

- 6.1.1 Four trenches were located in an unscheduled area to the north west of the claustral complex, followed by a further three hand dug trenches at the edge and within the scheduled area (Figure 3). The principle purpose of the work was to 'redefine and establish the precise physical extent of the site' (Aim 1) and 'establish the current state of preservation of the *in situ* archaeological and palaeoenvironmental material across the site' (Aim 2). Each trench was designed to address a specific research objective, and these are discussed with the excavation results below. Figure 3 shows the overall location of each targeted area, and Figures 11 – 16 provide illustration of individual trenches containing archaeological remains. Detailed descriptions of the trenches are included in Appendix 1.

6.2 Stratigraphic Sequence

- 6.2.1 A common stratigraphic sequence was recognised across the site, in keeping with the results from previous investigations. In Trench 2 this comprised topsoil (2002) overlying mid brown yellow sandy silt subsoil (2002), followed by a light yellow brown natural clay (2003). The stratigraphic sequence varied in depth across the site, due to the presence of earthworks or landscape features.

6.3 The Northwest Field – Trenches 1,2, 3 and 6

- 6.3.1 Four trenches were excavated in Area 1 in an area of rough pasture owned by Pro Corda and grazed by a local farmer. They were designed to evaluate the earthworks to the northwest of the scheduled area, establish how they were used and whether they were associated with the main claustral complex (Question 2 and 8). This built on the results of the remote sensing and topographic survey in this area, also seeking also to trace the Abbey's water supply and water management system (Question 5). As remote sensing results from this area were inconclusive, trenches were purposefully targeted across both banks and channels to fully characterise the earthworks.

Trench 1 (Figure 11)

- 6.3.2 Trench 1 was located close to the southern field boundary in Area 1; it measured 20 metres by 4 metres and was positioned across a channel between two upstanding banks. In keeping with the common stratigraphic sequence, topsoil and subsoil deposits varied in depth across the trench, coming down on to a variable clay natural (1007 & 1013) into which a number of features had been cut. Mechanical excavation ceased at this point, and the surface was cleaned by hand to delineate two banks on either side of a pronounced channel running through the centre of the trench. A number of features were exposed during this hand clean, including

two parallel ditch features [1006 & 1008] and two posthole features localised in the southwest end of the trench.

- 6.3.3 Ditch feature [1008] extended NNW-SSE across the trench; it measured 0.65 m wide and 0.35m deep. It was filled by a homogenous, mid grey sandy clay (1009), and contained disarticulated animal bone (including a fragmented horse phalanx and an amphibian element), one complete flake and two broken flakes characteristic of later Neolithic and Bronze Age reduction techniques. It had a similar profile and character to adjacent ditch feature [1006], and was observed continuing on the same alignment into Trench 3 (Plate 11.2). It was filled by mid grey yellow sandy clay (1018), containing animal bone and several later Neolithic or Bronze Age flakes.
- 6.3.4 Though no clear stratigraphic relationships could be defined between these features, the bank appeared to overlie ditch feature [1006] suggesting that these cut features belonged to an earlier phase of prehistoric activity predating the upstanding earthworks. Two posthole features [1011 & 1016] were also excavated in this part of the trench. These discrete features were filled by similar mid/dark grey brown silty clay (1012 & 1017) with similar rounded, shallow profiles.
- 6.3.5 Though no structural alignment could be defined, they were likely to belong to the same phase of activity as represented by the adjacent ditches. They both contained similar prehistoric flakes as were recovered from adjacent ditch features. On the basis of flint finds, these features were interpreted as belonging to a hitherto unknown prehistoric phase, however, an undiagnostic pottery sherd was also recovered from ditch deposit (1018), potentially dating between the 10th to the 12th century AD. A second opinion has been sought on this sherd, and this discrepancy will be resolved by further analysis in 2014.
- 6.3.6 Once the edge of the earthworks had been defined in Trench 1, a section was excavated in two slots between both, designed to reveal any relationships with adjacent ditch features in the southwest end of the trench. A complex series of interleaving layers were recorded, with occasional medieval pottery finds and animal bone recovered as part of the fill. It was clear that these items had not been deliberately deposited, but had become incorporated in the bank during construction. The upcast bank excavated in Slot 2 was seen to overlay ditch [1006] supporting the interpretation that the earthworks represented a later phase of monastic activity than the ditch and posthole features. Two rim sherds recovered from abutting contexts (1004 & 1021) belonged to the same vessel, a coarseware jar of late 12th to 14th century date.

Trench 3 (Figure 12)

- 6.3.7 Trench 3 was located along the northern field boundary, and measured 25 x 1.9m. Ditch feature [3002], a continuation of ditch feature [1006] was identified in this area, extending beyond the trench edge in a NNW – SSE direction (Plate 12.3). It also had sharp sides and slightly irregular base, and was filled by mid grey brown sandy clay. Ditch feature [1008] recorded in

Trench 1 was not observed extending into this area, suggesting that a terminus or return should be expected at some point between both trenches.

Trench 2 and 6 (Figure 15)

- 6.3.8 Positioned along the western and eastern edge of the field respectively, Trench 2 and 6 were also characterised by a similar bank and channel arrangement as recorded in the other two trenches (Plates 15.1-15.3). No sub-surface cut features were identified in these trenches, although Trench 6 cut through a layer of recently dumped waste material. This was likely to have originated from construction and landscaping of the Abbey, and was dumped in this area due to the convenience of the adjacent gate. No other significant finds or features were recorded in these trenches.

6.4 The Moat – Trench 4 (Figure 13)

- 6.4.1 Trench 4 was targeted to recover evidence for earlier settlement at Leiston prior to the construction of the Abbey church (Question 5). It measured 12 x 1.9 metres, and was positioned across an active drainage ditch along the northern edge of the Guesten Hall, previously interpreted as the potential remnant of a Medieval Moated site extending around two sides of the Outer Court. Remote sensing survey failed to identify a continuation of this ditch to the east, with the potential return along the side of the Barn, connecting with the extant pond to the south to create a full enclosure.
- 6.4.2 The precise positioning of this trench was constrained by logistical considerations, such as the adjacent Guesten Hall building and well-established trees and vegetation growing along much of the earthwork's length. It became evident through excavation that the feature was too deep (4.5m+) to fully excavate within the logistical confines of the trench, and unfortunately this meant that the base of the feature could not be reached or dating material recovered. However, both the scale of the feature and the stratigraphic sequence observed was in keeping with the features original interpretation as a moat, with two more recent recuts intended to maintain the feature as an active drain.
- 6.4.3 Although feature boundaries were extremely diffuse, the original moat cut [4011 & 4013] was identified on both the northern and southern ends of the trench. This had been filled by a blue grey deposit (4020), that originally formed as a water lain deposit and was identified in the base of the trench at the limit of excavation. This was recorded at 1.6m deep, and showed no indication of reaching the base of the feature. A small piece of natural wood was identified at this level (Plate 13.2), ruling out the possibility that this deposit was unmodified natural subsoil. This deposit was overlain by mid yellow clay (4019) containing tile and chalk fragments, and several slump deposits (4009 & 4015), recorded on the northern and southern sides of the feature, consisting of soft blue grey clay likely to have formed in standing water during the later phases of moat silting. These deposits were in turn overlain by a series of later deposits on either side of the trench, including

(4003, 4004 and 4005) on the northern bank of the moat, and (4007 & 4010) on the southern bank.

- 6.4.4 These deposits were truncated by at least two relatively recent recuts, likely to have been constructed to clear out the ditch to create a functional drainage ditch for adjacent properties. Machine cut, with straight, vertical sides, characterised by a sharp break of slope, with a gradual base and concave sides, and filled by mid grey silty clay containing occasional tile. This in turn had been truncated by a later ditch [4012] also the result of cleaning out of the moat to create an active drain, during the redevelopment of the Guesten Hall in the 1980s. This was also a machine cut feature with a gradual base and concave sides, and was filled by a primary deposit of soft blue/yellow sandy clay (4016), followed by dark grey brown silty clay (4014) and dark brown, humic silty clay (4008).
- 6.4.5 The potential moat had been recently recut to form an active drainage ditch, with roof gully pipes running directly into the feature from the adjacent Guesten Hall. The entire feature was overlain by a thin layer of silty clay topsoil (4001), apart from the southern side of the feature, which was overlain by a poorly sorted mix of clay and topsoil, likely disturbed during the cleaning out of the ditch associated with the redevelopment of the Guesten Hall.

6.5 The Car Park – Trench 5 (Figure 14)

- 6.5.1 Trench 5 measured 5.5 x 3 metres, and was positioned to extend equally across the circular feature and rectilinear spread identified with both GPR and Resistance survey. This trench was defined by a circular deposit of mid yellow brown silty clay and angular flint cobbles (5002), set into a circular foundation trench [5013] for a later post-medieval agricultural building (Plate 14.3). No bonding was observed between the cobbles, though post-medieval pottery and fragments of slate were recovered from the surface of this deposit and a horseshoe. The structure was associated with a cobbled yard surface [5005] relating to the rectilinear anomaly identified by geophysics. Although this was assumed to be contemporary with the circular structure, no stratigraphic relationship could be determined within the logistical confines of the trench. A mixed assemblage of CBM was recovered from this trench, dating from the Late Medieval to the Early Post-Medieval period, some of which showed evidence of burning and reuse prior to deposition in this area.
- 6.5.2 As was predicted by the GPR depth slices, these structures were observed directly beneath the grass vegetation layer and were recorded directly where predicted. Once they had been exposed, cleaned, and drawn in plan, a section was excavated along the length of the trench, revealing a number of interleaving mid brown clay demolition layers (5001, 5004, 5007 and 5009) containing mixed quantities of brick, tile, rubble and chalk. A small quantity of animal bone fragments were also recovered from these layers, but only six could be identified (see Section 8 below). The central part of the structure had been truncated by a later ditch feature [5012] running east-

west across the trench, with steep sides and a rounded base. It was filled by mid yellow brown sandy silt, with a large quantity of poorly sorted building debris and pottery.

6.6 The Abbey Complex – Trench 7

- 6.6.1 Trench 7 measured 5 x 2.7 metres and was located on the basis of remote sensing results, and was designed to assess the potential for buildings in this area, and establish their purpose. The geophysics results indicated a complexity of anomalies in this area, potentially reflecting several phases of use, and substantial accumulations of demolition material. No in situ building material was observed indicative of wall footings, possibly due to the small size and positioning of the trench. It was defined by a series of interleaving demolition layers, exposed in section as the trench was excavated in a number of steps.
- 6.6.2 Topsoil (7001) was removed by hand and sieved for artefacts; these predominantly comprised unidentifiable ferrous objects and CBM, although two early modern pendants in art deco and art nouveau style were also recovered (See Section 11.2 below and Plate 19.1). A slightly earlier small find was recovered from a localised deposit of dark grey brown clay sand (7002) recorded in the north-eastern part of the trench. This was a partially complete lead alloy commemorative medal dating to approximately 1800-1900. The artefacts from these layers relate both to the use of the site as a working farm, but also reflect the fashion for these sites as contemplative tourist destinations, popularised by artists such as Turner and Constable.
- 6.6.3 Directly below these layers, a series of sandy clay deposits (7007 & 7004) were recorded extending across the trench. These contained frequent inclusions of CBM and poorly sorted rubble with frequent air pockets. These deposits overlaid a number of other abutting contexts (7007, 7008, 7009 and 7012) of similar clay silt composition, with differing quantities of CBM, clinker or rubble inclusions defining the boundary edges of irregular tip layers. They represent significant reworking and landscaping of the area post-dissolution.
- 6.6.4 These deposits overlaid an earlier, more homogenous layer of mid grey brown clay sand containing animal bone fragments, mixed pottery sherds, glass and a copper alloy French jetton, probably dating to between 1340-1380 (See Section 11.2 below and Plate 19.4). Below this layer mid grey black clay (7015) with lime mortar inclusions was recorded, containing one glazed body sherd, numerous disarticulated animal bone fragments, and a sterling silver penny (Edward II) dating to between 1310-1314.
- 6.6.5 The final deposit in the sequence was light yellow brown sandy clay (7016), with lime mortar inclusion. It had the appearance of a levelled surface, likely to be part of the original construction cut for the building. A diffuse boundary was observed with the underlying natural subsoil (7017), suggesting a degree of trample. The deposit was observed in section and plan in the north-eastern part of the trench, and was presumed to extend across the entire trench.

- 6.6.6 The grave of a large canine [7014] truncated post-dissolution deposits (7007 and 7012), and was likely to have been interred when there was no surface trace of the original building remaining. It was a large, exceptionally well-preserved mature male specimen, with little surface erosion visible on the bones (see Section 8.4.4 below). Although the stratigraphy suggested otherwise, radiocarbon dating is recommended to ensure that this was not a later intrusive burial.

6.7 Archive

- 6.7.1 The archive is currently held at DigVentures' East of England office under the site code LA13, but will ultimately be deposited for permanent storage with an appropriate museum under HER code LCS 176.

7 PALAEOENVIRONMENTAL RESULTS

By Lisa Gray

7.1 Introduction

- 7.1.1 The palaeoenvironmental sampling strategy was designed to recover evidence to address the principle objectives of Aim 1 to 'understand the palaeoenvironmental conditions at the site', followed by 'recommendations for further work' (Aim 4). Project Archaeobotanist, Lisa Gray, assessed the assemblage, making recommendations for further work (Aim 4) following the methodology and best practice guidelines detailed in the Project Design (Wilkins *et al* 2013, Section 5.5.8).
- 7.1.2 This section will assess the significance, preservation and potential of plant macrofossils in four environmental samples recovered from well-stratified features described in Table 1 below. The purpose of this work was to assess the state of palaeoenvironmental material on site (Q10); to recover evidence relating to farming, food processing or industrial activities (Q11); and to increase understanding of the local environmental context to the archaeological remains (Q12).

Sample	Context	Sample Size (L)	Flot size (ml)	Provisional Interpretation	Provisional Date
1	1007	50	250	From primary deposit of ditch in Trench 1	Medieval
2	1012	20	300	Posthole in Trench 1	Medieval
3	1018	60	250	Primary deposit in ditch in Trench 1	Medieval
6	1009	50	200	Primary	Medieval

Sample	Context	Sample Size (L)	Flot size (ml)	Provisional Interpretation	Provisional Date
				deposit in ditch in Trench 1	

Table 2: palaeoenvironmental sample details

7.2 Methodology

- 7.2.1 Sampling and processing was carried out on site by the by the excavation team using a Siraf-type flotation tank, with specialist advice and attendance as detailed in the Project Design (Wilkins et al 2013, Section 5.5.7). A 1mm mesh was used to collect the residue and a 250 micron mesh to collect the flot.
- 7.2.2 The 'flots' (material collected in the 250 mm sieve) were then scanned using a binocular stereo-microscope with magnifications of between 10 and 40 times. The quality of preservation, diversity and significant taxa were then recorded. The correct botanical names for plant parts will not be used in this report. The term 'seed' has been used to replace 'achene', 'nutlet' and 'fruit' for clarity. Correct botanical nomenclature will be used in the tables if an analysis is carried out.

7.3 Results

- 7.3.1 The samples were not very archaeobotanically productive and produced botanical and faunal evidence reflecting disturbed, aerobic preservation conditions and chalky soil. A magnet was passed over each 'flot' and no magnetic material was found.
- 7.3.2 All flots contained abundant uncharred rootlet fragments. The flot from sample <3> contained abundant terrestrial snail shells and the flot from sample <1> contained low numbers of earthworm egg capsules. Uncharred (uncharred and unmineralised) seeds were present in the from of a fragment of elderberry (*Sambucus nigra*) seed in sample <1> and low numbers of stitchwort (*Stellaria media*) seeds in sample <6>.
- 7.3.3 The worm eggs, mollusca and rootlets indicate that stratigraphic movement by bioturbation is likely so these seeds should be interpreted as intrusive and probably modern. The apparently aerobic and alkaline conditions reflected in this environmental assemblage favour the preservation of charred and mineral-replaced plant macrofossils (English Heritage 2011,6). Only charred plant macrofossils were found in these samples.
- 7.3.4 Charred plant remains consist of fragments of charcoal of identifiable size (>4mm²) in each sample with most of these in sample <2>. No fragments of roundwood or twigs were present. Three charred grains of bread/clubwheat (*Triticum aestivum/turgidum*) were found in sample <3>.

7.4 Palaeoenvironmental Discussion

- 7.4.1 Plant remains recovered from samples were low in number, and were preserved by charring. The current state of the archaeological and palaeoenvironmental material (Q11) is affected by the predominantly aerobic conditions on site. This is likely to reduce the amount of plant remains preserved by waterlogging. Mineralised plant remains, preserved by the aerobic, alkaline conditions, could be recovered in future interventions enabling their assessment alongside charred plant remains. One sample produced three wheat grains so it is likely that samples taken in later interventions will produce food plant remains that may be useful even if they are low in number (Q12).
- 7.4.2 In the absence of well-sealed waterlogged deposits, the limited survival of charred and mineralised plant remains at Leiston Abbey may be less useful in providing information on the wider environmental context (Q13). Plant remains may also be subject to secondary re-deposition, and any conclusions drawn from this limited evidence will need to be supported by faunal or geo-archaeological results.

7.5 Recommendations and Archive

- 7.5.1 The palaeoenvironmental archive will be stored by DigVentures until the project is fully closed and all analysis completed. No further work is needed on the plant macrofossils (seeds and grains) but the charcoal could prove useful if needed for dating or to be used in any investigation into wood fuel usage.

8 FAUNAL REMAINS

By Richard Madgwick

8.1 Introduction

- 8.1.1 The animal bone assemblage derived from 13 contexts, and comprised a total 210 disarticulated bone fragments and 1 well-preserved complete dog skeleton. Project Zooarchaeologist, Richard Madgwick, assessed the assemblage at Cardiff University Osteoarchaeology Laboratory, making recommendations for further work following the methodology and best practice guidelines detailed in the Project Design (Wilkins *et al* 2013, Section 5.5.8).
- 8.1.2 The faunal remains are assessed below following English Heritage guidelines on animal bones in archaeology (English Heritage in press). The specific objective of this work was to 'assess the current state of the archaeological and palaeoenvironmental material across the site' (Q11) assessing the interpretive potential and significance of the assemblage, to recommend directions for further research and curation and to guide recovery strategies in subsequent excavation seasons.

8.2 Method

- 8.2.1 Excavations yielded a small assemblage of disarticulated remains and a dog skeleton. Of the seven evaluation trenches only four of these trenches produced faunal material (trenches 1, 5, 6 and 7). Animal bone was recovered by hand, and all deposits were hand sieved through a 10mm gauge, ensuring excellent attention to detail in recovery (attested by the presence of rat and amphibian remains).
- 8.2.2 Other than the specimens recovered from Prehistoric features in Trench 1, the assemblage is treated as deriving from a single Medieval to Post-Medieval phase. Dividing the assemblage further at this stage of assessment would produce prohibitively small datasets, and further subdivision will take place at a more advanced stage of analysis.
- 8.2.3 All fragments from the assemblage were scanned in order to provide an accurate assessment of composition. Elements identifiable to species were quantified, as were measurable bones, isolated teeth, bones and jaws with ageing evidence and burnt specimens. Unidentifiable fragments and those not recorded in the Cardiff Osteoarchaeology Group (CORG) recording strategy (see Mulville 2005) were also quantified.
- 8.2.4 Almost all identifiable elements are classed as recordable, except for loose maxillary teeth (apart from pig canines), carpals, tarsals (apart from the astragalus, calcaneum and navicular-cuboid), cranial fragments (except for the zygomatic, occipital and nasal) and the sternum. Ribs and cervical, thoracic and lumbar vertebrae were not identified to exact taxon but rather to the level of unidentified medium (likely pig, sheep/goat, roe deer or canid) or large taxon (likely cattle, horse or red deer).

8.3 Preservation

- 8.3.1 An ordinal scale was used to assess assemblage preservation by context, ranging from 1 (most remains complete or near complete and minimal surface degradation) to 5 (no remains identifiable, all fragments very small (<2cm) and suffering from poor surface preservation). The majority of contexts scored 3, 4 or 5 with specimens from deposit (7013) – which contained the dog skeleton – achieving a score of 1 (see table 3 below). This is broadly typical of an assemblage comprising principally disarticulated butchery waste, much of which is likely to be residual or re-deposited.
- 8.3.2 The vast majority of disarticulated remains were highly fragmented with only small elements such as phalanges, a calcaneum and navicular-cuboid being complete. Surface preservation was mixed. Pre-depositional modifications such as weathering and trampling were very scarce but several instances of gnawing were recorded. Subterranean erosion had had a much more severe effect on surface preservation, particularly in the small assemblage from Trench 5. The presence of near complete neonatal/juvenile pig elements from contexts 7011 and 7013 demonstrates

that remains were often rapidly incorporated in subterranean deposits and had short pre-depositional taphonomic histories.

- 8.3.3 In some instances surface preservation was pristine. This was noted on several lagomorph bones, most notably from Trench 7 deposits (7001 and 7015). It is possible that some of these are intrusive modern rabbit remains. Only a single burnt bone (from 7009) was recovered. Overall 52% of specimens were classed as identifiable (excluding topsoil/subsoil contexts and the dog skeleton). This indicates that the assemblage is generally in a good state of preservation, particularly as the presence of small elements (including rat remains) demonstrates great attention to detail in recovery.

Context	Trench	Condition
(1009)	1	4
(1018)	1	4
(5004)	5	5
(5007)	5	4
(5009)	5	4
(6001)	6	4
(7000)	7	4
(7001)	7	4
(7003)	7	4
(7005)	7	3
(7009)	7	2
(7011)	7	3
(7013)	7	3
(7013) (skeleton)	7	1
(7015)	7	4

Table 3 Summary of the preservation condition of the assemblage from each context

8.4 Assemblage Summary

- 8.4.1 The faunal assemblage is small, comprising a total of 210 disarticulated bone fragments of which 111 were classed as identifiable. 44 fragments (23 identifiable) were from topsoil or subsoil contexts and are therefore of negligible value. These remains have been discounted from further analysis and summary statistics. This leaves an identifiable assemblage of only 67 specimens from other contexts. In addition, a near complete and exceptionally well-preserved dog skeleton was recovered comprising a further 159 specimens. Summary fragment counts for each trench are presented in Table 4. The vast majority of specimens derived from Trench 7 deposits, in close vicinity to the abbey itself, with other trenches yielding negligible quantities of remains.

Trench	Total ID	Unid/Nrec	Total	% ID
1	2	1	3	66.7
5	6	14	20	30.0
7*	99	83	182	54.4

*does not include dog skeleton

Table 4 Summary data on identifiable and unidentifiable remains from each trench (topsoil/subsoil contexts excluded)

Trench 1

- 8.4.2 Two prehistoric ditch fills produced bone from Trench 1 (1009 and 1018), with identifiable remains comprising a fragmented horse phalanx and an amphibian element.

Trench 5

- 8.4.3 Fragmentary and eroded bones were recovered from three contexts in Trench 5 (5004, 5007 and 5009) but only six specimens of twenty were identifiable. These comprised two bones of cattle, pig and rat. Only topsoil (6001) deposits yielded faunal remains from Trench 6 (two fragments). NISP (Number of Identified Specimens) data for species in each trench is presented in Table 3.

Trench 7

- 8.4.4 This trench produced the only assemblage of interpretative value. Remains were spread across contexts in this trench and no clear inter-context patterns were observed. The main three domesticates were present in equal quantity in terms of NISP figures, with cattle, pig and caprine each represented by 18 specimens. Dog remains were also present (8 specimens) as were those of birds (9), the majority of which are likely to be chicken. Lagomorph and rat remains were also recovered from this trench. Deposits (7011) (containing small find 7011-1 – a Medieval French Jetton) and (7013), both contained the remains of neonatal or infant piglets. This emphasises the excellent attention to detail in recovering these small specimens and the potential for good preservation, as these porous and friable elements are susceptible to destruction. In addition it strongly suggests that pigs were being reared, slaughtered and consumed in the immediate vicinity of the abbey. Somewhat surprisingly, no fish remains were recovered, given the abbey's proximity to the coast and the relatively abundant freshwater resources in the locality. This is unlikely to relate to recovery methods as small amphibian and rat remains were present in the assemblage. In addition no marine molluscs were recovered. Assessment of anatomical representation is not undertaken at the assessment stage, but no clear patterns were observed during scanning and both meat-bearing elements and primary butchery refuse were present in the assemblage.

The Dog Skeleton

- 8.4.5 The dog skeleton from context 7013 was exceptionally well preserved. It had suffered very little surface erosion and had not been disturbed prior to excavation. Even friable element parts such as scapula blades were near

complete. ^{14}C dating is strongly advised to discount the possibility of this being a more recent burial. The individual was large and a metric assessment will facilitate the calculation of shoulder height. Complete epiphyseal fusion and a large and well preserved baculum indicated that the dog was a mature male. Degenerative pathology was observed on the right hind limb (astragalus/calcaneum), which would have restricted locomotion.

- 8.4.6 The potential for metric analysis of the assemblage is extremely limited. Only 11 fragments from the entire disarticulated assemblage were complete enough to be measured. There is greater potential for reconstructing age profiles. A total of 34 specimens produced ageing evidence. In the vast majority of cases of this took the form of epiphyseal fusion evidence and therefore provides imprecise ageing data. A small number of mandibles with tooth rows have the potential for better defined age ranges. All but three specimens with ageing evidence derived from trench 7. The potential for reconstructing age profiles and husbandry regimes in such a small assemblage with few mandibles is very limited. In addition some of the fusion evidence was from lagomorpha and is therefore of limited interpretative value. Sex evidence was limited to a single pig jaw with canine.

Trench	Cow	Shgt	Pig	Hor	Dog	Bird	Fish	Other	Mmam	Lmam	TotalID	Unid/Nrec	Total
1	0	0	0	1	0	0	0	1	0	0	2	1	3
5	2	0	2	0	0	0	0	2	0	0	6	14	20
7*	18	18	18	0	8	9	0	13	9	6	99	83	182

*does not include dog skeleton

Table 5 Number of Identified Specimens (NISP) for each species category by trench

8.5 Recommendations

- 8.5.1 This small assemblage has very little interpretative potential. A total of 67 disarticulated specimens from stratified deposits is of negligible use for reconstructing dietary practice or husbandry regimes in its current state. The excellent preservation of the dog skeleton from Trench 7 provides good potential for biographical reconstruction but this has limited overall interpretative potential and secure dating of the find is required. The 2013 excavation season comprised only small evaluation trenches and the assemblage is certain to be substantially enlarged by any further excavations, considerably enhancing its potential. Therefore, subject to assessment, the full assemblage may be recommended for full analysis at a later date.
- 8.5.2 Numerous assemblages from Medieval abbeys and monasteries have been recovered and therefore several comparative datasets are available. If the assemblage were substantially augmented, material from Leiston Abbey would provide an important regional dataset contributing to the substantial corpus of Medieval monastic assemblages. Comparative datasets are not cited at this stage as further analysis is not recommended.

- 8.5.3 The assemblage is not recommended to progress to full analysis in its current state. Although the dog skeleton represents an interesting find, it can yield little information concerning on-site practices and its antiquity needs to be confirmed through ¹⁴C dating. As no further analysis is advised at present, recommendations surround the curation of the material.

8.6 Archive

- 8.6.1 The bones have been washed and are individually itemised with item numbers and site code on bags. Full contextual details (site code, context numbers and item numbers) will be written on the bags prior deposition, depending on the requirements of the receiving archive.

9 STRUCK FLINT

By Hugo Anderson-Whymark

9.1 Introduction

- 9.1.1 The struck flint assemblage comprises 31 items derived from multiple contexts, and were assessed with recommendations for further work by Project Lithic specialist, Hugo Anderson-Whymark (see Table 6 below). The objective of this work was to 'assess the current state of archaeological material across the site' (Q10) in relation to the results from previous investigations (Q13).

- 9.1.2 Fifty-three struck flints and twenty-two pieces of burnt unworked flint were recovered in total, coming exclusively from Trenches 1 and 5. The struck flint assemblage comprises 43 flakes, a bladelet, an edge-retouched flake and 8 chips with a maximum dimension <10mm. These artefacts all exhibit moderate edge-damage indicating that they are not contemporary with the archaeological contexts they were recovered from. The burnt unworked flint is not intrinsically datable the small pieces present may have been burnt in a fire at any point in the past.

9.2 Methodology

- 9.2.1 The flints were catalogued according to broad artefact/debitage type and retouched pieces were classified following standard morphological descriptions (Bamford 1985, 72-77; Healy 1988, 48-49; Bradley 1999, 211-227; Butler 2005). A blade is defined as a flake over twice as long as it is wide and a bladelet is a blade under 40mm in length. Additional information was recorded on the condition of the artefacts including, burning, breakage, the degree of edge-damage and the degree of cortication. The assemblage was catalogued directly onto a Microsoft Access database and data manipulated in Microsoft Excel.

Context	Trench	Description
(1004)	1	3 flakes, 1 broken bladelet. The latter is corticated and exhibits platform edge abrasion, a punctiform butt and dorsal blade scars.
(1015)	1	1 edge-retouched flake. Minimal edge retouch to the distal edge.
(5009)	5	2 flakes and 2 broken flakes.
(5013)	5	2 flakes and 2 broken flakes.
(1009)	1	SS 1. 2 complete flakes, 3 broken flakes, 5 chips and 3 pieces of burnt unworked flint.
(1012)	1	SS 2. 1 broken flake and 13 pieces of burnt unworked flint.
(1018)	1	SS 3. 14 complete flakes, 7 broken flakes, 3 chips and 2 burnt unworked flints.
(1009)	1	SS 6. 1 complete flake, 2 broken flakes and 4 burnt unworked flints.
(1017)	1	SS 7. 1 flake.
(1004)	1	SS 9. 1 flake.

Table 6 – Flint assemblage by context and trench (SS refers to items recovered from soil samples)

9.3 Results

9.3.1 The struck flints are dominated by small, broad, flakes struck from single and multi-platform flake cores without preparation of the core edge. This simple reduction technique is characteristic of the later Neolithic and Bronze Age. The only retouched artefact was manufactured on a flake of comparable technology to the others in the assemblage and exhibits very slight retouch along the distal edge; this artefact is not intrinsically datable. In contrast to the flakes, the bladelet was the product of a careful blade-orientated reduction strategy, as demonstrated by the presence of platform-edge abrasion, a punctiform butt and the scars of earlier blade removals on the dorsal surface. These attributes indicate this artefact dates from the Mesolithic.

9.3.2 The presence of a single Mesolithic blade and a small collection of Later Neolithic/Bronze Age flints indicating some prehistoric activity on, or in close proximity to, the 2013 excavation trenches, but the limited size of the assemblage precludes discussion of the nature of this activity.

9.4 Recommendations & Archive

9.4.1 No further work is recommended. The struck flints are stored individually within plastic bags marked with a permanent black marker. The flintwork is adequately boxed and bagged for long-term storage and curation.

10 POTTERY

By Rebekah Pressler

10.1 Introduction

10.1.1 The pottery assemblage comprises 38 sherds derived from 11 contexts. These were assessed with recommendations for further work by Rebekah Pressler (see Table 7 below). The objective of this work was to 'assess the current state of archaeological material across the site' (Q10) in relation to the results from previous investigations (Q13). The assemblage was quantified by three measures: number of sherds, weight and vessel count within each context, and fabric identification was undertaken by x20 binocular microscope. The ceramic data was entered onto a database using fabric codenames, and recoded in accordance with the guidelines laid out in Slowikowski, *et al.* (2001).

Cxt	Pottery code /type and comments	Sherd/ Vessel type	Date range	Sherd count	Condition	Provenance
(1004)	Unknown fully reduced grey sandy micaceous coal measure? Has the remains of an internal glaze or residue?	Rim/Jar?	Late C12-14th?	1	Abraded	Probably local.
(1018)	Unknown medieval red oxidised fabric with sooting externally and internally	Body/Jar or cooking vessel	C10 - 12th?	1	Good	Local?
(1021)	Unknown local grey micaceous sandy oxidised ware (some coal/iron inclusions) – same vessel as 1004	Rim/Jar?	C12-14th?	1	Heavily abraded	Local?
(5009)	HEDI? Hedingham type ware?	Body/Jug?	C12-13th	1	Good	Essex?

Cxt	Pottery code /type and comments	Sherd/ Vessel type	Date range	Sherd count	Condition	Provenance
(5009)	GRIM Grimston type ware? With an internal white slip	Body/Jug?	C13-15th	1	Good	Norfolk?
(5009)	Unknown sand tempered fully reduced light grey micaceous fabric with small calcareous inclusions	Broken rim/jar?	C12-13th?	1	Abraded	Probably local
(5013)	Unknown, undiagnostic medieval? coarseware cooking vessel with a sandy micaceous fabric.	Body/ cooking vessel	C12-15th?	1	Good	Probably local
(6001)	PORC/BONE – porcelain or bone china PAN YAN lid	Lid	1903 or later	1	Good	Suffolk
(6001)	ENGs English stoneware	Body/Bottle	C19th or early C20th	1	Good	
(6001)	TPW Transfer-printed ware – probably willow pattern or similar	Rim/ flatware	C19th or C20th	1	Good	British
(7000)	GRE with remains of internal slip trailing	Body/unknown	C17th-19th	2	Fair/good	
(7000)	Local LMT with remains of	Body/hollow ware probably a	C16-17th?	1	Fair/good	

Cxt	Pottery code /type and comments	Sherd/ Vessel type	Date range	Sherd count	Condition	Provenance
	an internal and external mottled dark green glaze	drinking vessel				
(7000)	SWSG White salt glazed stoneware	Body/unknown	C16-18th	1	Good	Unknown
7000	Reduced sandy ware with incised bands and a green/brown glaze.	Body/hollow ware	C14th-15th	1	Fair/good	
(7001)	NOTS Nottingham type stoneware	Body/Unknown	C18th-20th	1	Good	
(7001)	REFR Refined red earthenware	Flower pot	C18-20th	2	Good	
(7001)	Mixed GRE – inc one sherd with a white slip, another slip trailed	Rim/body Bowl/large vessel	C17-19th	5	Variable	
(7009)	GRE – iron mottled glaze	Base/Dish or bowl	C18th	3	Fair/some abrasion	
(7009)	TPW- floral.	Body/flatware	C19th or 20th	1	Good	
(7009)	GRE – internal white, external brown glaze	Body/large vessel	C19-early 20th	1	Fair/some abrasion	Local?
(7011)	LMT/GRE, greenish brown glaze	Rim and body Bowl/pancheon	C16th-early 18th	5	Fair/good	Local
(7011)	LARA – Langerwehe/Raeren stoneware?	Drinking vessel	C14th-15th	1	Good	Local
(7011)	LMT – possibly	Hollow ware	C15th-16th	1	Good	Local

Cxt	Pottery code /type and comments	Sherd/ Vessel type	Date range	Sherd count	Condition	Provenance
	from north Suffolk? With incised bands.					
(7011)	GRE	Body/unknown	C17th-19th	1	Good	Local
(7011)	TGW – anglo-dutch?	Body/hollow ware	C16th-18th	1	Fair/ some abrasion	Holland/England
(7015)	LMT? Possibly north Suffolk?	Body/unknown	C15-16th	1	Fair/good	

Table 7 – Pottery types indicating condition, date range and provenance

10.2 Medieval and earlier pottery

- 10.2.1 The earliest dated pottery is a small red oxidised body sherd recovered from ditch deposit (1018), which may date from the tenth to the twelfth century AD, however a more accurate date for the sherd cannot be determined as it is not diagnostic. Two rim sherds recovered from abutting deposits (1004) and (1021) belong to the same vessel - a sandy micaceous coarseware jar of late 12th to 14th century date. A glaze or residue noted on the sherd recovered from (1004) is of some interest. The vessel is most likely of local provenance.
- 10.2.2 Two glazed body sherds (most likely jug sherds or a similar drinking vessel) are possibly Grimston type ware and Hedingham type ware (Cotter, J 2000). Amongst the imported pottery, a possible Langerwehe/Raeren stoneware (Jennings, S 1981) body sherd from layer (7011) dates from around the 14th to 15th century. A tin glazed or delft ware sherd from the same context more widely dates from the 16th to the 18th century and may be a Dutch import.

10.3 Post-Medieval transitional and later pottery

- 10.3.1 Much of the late medieval transitional (LMT) ware is mostly likely made fairly locally around Suffolk. LMT sherds from 7011 including a bowl or pancheon with a greenish brown and a hollow ware body sherd dating somewhere between 15th and the 17th century are likely both to have a Suffolk provenance. Later post medieval pottery includes glazed red earthenware of varying dates, including mixed slip decorated ware from the subsoil 7001 and the sherds of a large dish or bowl with an iron-mottled vessel from ditch 7009 dating to the eighteenth century.
- 10.3.2 While largely derived from make up deposits, the late post-medieval/early modern pottery includes a number of atypical pottery types which add to the chronology of the site as a whole. This includes transfer-printed pottery (6001) English stoneware bottle sherds and refined red earthenware in the

form of flower pots from (7001). A porcelain 'pan yan' pickle lid also from (6001) has a post 1903 date and provides an interesting social context for later use of the site.

10.4 Recommendations and Archive

- 10.4.1 Although the assemblage is small, the presence of pottery in association with several of the features give important dating information, whilst that from topsoil and subsoil layers provide more general chronology for the occupation of the site as a whole. If augmented substantially by the 2014 excavations, the assemblage will provide a useful reference for typological study and fabric characterisation, and should be retained for further analysis.

11 CERAMIC BUILDING MATERIAL

By Rebekah Pressler

11.1 Introduction

- 11.1.1 A total of 36 sherds of ceramic building material were assessed from the excavation assemblage overall. The ceramic building material assemblage comprises 36 fragments derived from multiple contexts, and were assessed with recommendations for further work by Rebekah Pressler (see Table 8 below). The objective of this work was to 'assess the current state of archaeological material across the site' (Q10) in relation to the results from previous investigations (Q13).

Context	Type	Comments	Count	Date range	Provenance
(1001)	Roof tile	Undiagnostic roof tile fragment	1	Unknown	Suffolk
(1004)	Pantile	Pink/orange fabric with small to medium gritty inclusions. Hand made	1	C18-19th	Suffolk
(4001)	Roof tile	Early post-medieval roof tile – pale pinkish orange fabric with occasional small-large inclusions.	2	C16th/17th?	Suffolk
(4001)	Roof tile	Medieval glazed roof tile	1	C13-15th approx.	Suffolk
(4001)	Brick	Brick fragment	1	Medieval	Suffolk
(4004)	Roof tile	Mid orange oxidised with a fine sand temper. Contains a square/rectangular hole suggesting a late medieval/early post medieval date. (post 1480)	1	Late medieval/early post-medieval	Suffolk

Context	Type	Comments	Count	Date range	Provenance
(4004)	Tile	Pale Orangish pink fabric with sparse gritty inclusions	1	Post-medieval?	Suffolk
(4010)	Roof tile	Oxidised streaky pink/buff fabric. Undiagnostic	1		Suffolk
(4010)	Roof tile	Partially reduced pinkish-brown fabric with a reduced red core	1	Early post-medieval?	Suffolk
(4015)	Roof tile	Streaky buff/pink fabric with small-large inclusions. One sherd has the remains of an oblong nail hole	2	Early post-medieval (post 1480)	Suffolk
(4015)	Roof tile	Pinkish-orange oxidised roof tile with small-large gritty inclusions and remains of an oblong shaped nail hole	1	Early post-medieval (post 1480)	Suffolk
(5001)	Roof tile	Undiagnostic oxidised fabric with frequent gritty inclusions	1	Post-medieval?	Suffolk
(5001)	Roof tile	Undiagnostic pale orange sandy/micaceous fabric with occasional ferrous inclusions. Smooth upper surface	1	Late medieval/early post-medieval	Suffolk
(5008)	Brick	Mortared brick fragment – with burning evident externally. Possibly re-used?	1	Late medieval/early post-medieval?	Suffolk
(5008)	Roof tile	Red partially reduced roof tile with fine sandy inclusions and frequent mica. 4 of the 6 roof tiles display signs of burning or sooting.	6	Late medieval/early post medieval?	Suffolk
(6003)	Roof tile	Pale buff sandy fabric. Oxidised.	2	Late medieval/early post medieval?	Suffolk
(6003)	Air brick	Pinkish-buff oxidised fabric	1	Early post-medieval?	Suffolk
(7000)	Ridge tile	Light to mid pinkish orange sandy	1	C16th-17th?	Suffolk

Context	Type	Comments	Count	Date range	Provenance
(7000)	Roof tile	oxidised fabric Mid orange-red roof tile	1	C16th-17th	Suffolk
(7001)	Pan tile	Light to mid sandy pinkish-orange fabric	4	C18-19th?	Suffolk
(7001)	Floor tile	Buff/pink – very fine sand tempered oxidised fabric with a smooth surface and sanded underside.	1	Early post-medieval	Suffolk
(7005)	Roof tile	Mid pinkish orange sandy oxidised fabric.	3	C16th-17th?	Suffolk
(7011)	Floor tile	Pinkish red oxidised fabric with a black glaze.	1	C17-18th century	Suffolk

Table 8 – CBM by context indicating type, date range and provenance

11.2 Results

- 11.2.1 Amongst the earliest dated sherds, of particular interest is a small fragment of glazed roof tile recovered from the topsoil (4001) in Trench 4, which while appearing in the context as a residual sherd, adds some credence to status of the site. Tiles from dumped deposit (4004) and ditch deposit (4015) both suggest a post 1480 date due the oblong shape of the nail holes (Pringle 1999). Of further interest are a group of partially reduced roof tiles and a single brick from layer (5008), all dating to the late medieval period. Four of the tiles and the brick fragment exhibit signs of burning or signifying they may have been re-used for a later hearth or fireplace.
- 11.2.2 Later roof tiles include an early post-medieval ridge tile from the topsoil in Trench 7 (7000) dating to the early post medieval period (16th to 17th century) and a piece of post medieval pantile from deposit (1004), most likely dating to the 18th or 19th century, although a date of 17th century cannot be completely ruled out as Dutch imports are not unknown. A few floor tiles sherds were noted amongst the contexts including a buff/pink undecorated example from subsoil (7001), which is probably early post medieval in date. A further black glazed floor tile from (7011) is dated to the 17th or perhaps 18th century.
- 11.2.3 A small piece of daub was also recovered in ditch deposit (1004), which while suggesting the presence of timber framed structures within the general vicinity, does not add to the dating of the site overall. Also retrieved from the excavations were the remains of a 19th century drain pipe from subsoil (7001) in Trench 7 including a stoneware terminus.

11.3 Recommendations and Archive

- 11.3.1 Much of the material show is typical of that retrieved from Suffolk in general, having typically fairly sandy and micaceous inclusions. If augmented substantially by the 2014 field season, the material here will provide a useful contribution to local typology and should be retained for further analysis.

12 SMALL FINDS

By Stuart Noon

12.1 Introduction

- 12.1.1 The small find assemblage comprises 5 metal finds derived from deposits in Trench 7, and assessed with recommendations for further work by project finds specialist Stuart Noon (See Appendix 2). The objective of this work was to 'assess the current state of archaeological material across the site' (Q10) in relation to the results from previous investigations (Q13). Finds are described and discussed individually below, followed by further recommendations.

12.2 Finds Assessment

Pendant (7001-1)

- 12.2.1 This artefact was recovered from topsoil deposit (7001), and is a Post-medieval to Early Modern pendant in the art deco style dating to 1878. The pendant is silver-plated, rectangular stamped with ENGLAND STERLING PI 202213 inset with cut glass rectangle, loop and one link of the chain. The patent number is not British, suggesting that it was a probably made in America and imported.

Pendant (7001 – 5)

- 12.2.2 Also recovered from topsoil deposit (7001), this pendant dated to slightly later – 1920 to 1930 – and was designed in an Early Modern nouveau pendant style. It featured a rectangular elongated tapered bale made of copper alloy setting with loop for a chain containing a blue polished stone possibly cobalt glass.

Commemorative Medal (7002 – 3)

- 12.2.3 This fragmentary find was recovered from subsoil deposit (7002) in the south-west of the trench. Approximately half of the find remains, comprising a decorated lead alloy disc. The border is pelleted on both sides with a stylised anthropomorphic face on the obverse and lettering on the reverse. The inscription reads []G []IIS []VI. There are no clear parallels for this object but in form and style it is suggestive of a commemorative medal dating 1800 to 1900 AD.

Medieval French Jetton (7011 – 1)

- 12.2.4 This artefact – a Medieval copper alloy French Jetton – was discovered from much lower in the sequence, from a mixed post-dissolution demolition layer (7011). Introduced in 1340 by Philip VI (1328-50), this example probably dates to between 1340 – 1380 AD. On the obverse the inscription is illegible, probably a royal crown with large central fleur-de-lis with trefoil

ornamentation across the body or shield of France type. On the reverse, triple stranded straight cross fleuretty can be seen, within a four-arched tressure.

Hammered Silver Penny (7015 – 2)

- 12.2.5 Recovered from a deposit immediately below that described above, this artefact is a Medieval silver hammered penny based on the style of the central fleur of the crown, and the reverse legend is an Edward II class 11a. The letter E and C is closed and both have a rounded back. The style of the reverse legend also suggests an Edward II and not Edward I. The mint is Bury St Edmunds, and the reverse legend reads as VILL 'S[CI EDMV]NDI. The obverse legend reads as EDWA [R ANGL DNS hYB]. Initial mark is a cross Pattee. Date is c.1310-c.1314. North 1060. The date of final deposition of this coin can be estimated by its weight and cross-referenced with the known weight periods after 1279.

12.3 Recommendations & Archive

- 12.3.1 The assemblage is currently stored at the DigVentures' East of England office, and is adequately boxed and bagged for long-term storage and curation. No further work is recommended beyond basic stabilisation of the objects.

13 DISCUSSION

13.1 Introduction

- 13.1.1 The project was designed as a small-scale evaluation to provide the site custodians with baseline information on the Leiston Abbey Scheduled Ancient Monument. The results are presented with a high degree of confidence that archaeological features or significant deposits within the trenches and geophysical survey were recognised and recorded where present.
- 13.1.2 Drawing on the specialist recommendations in each of the section headings above, the results are discussed in relation to each project aim below, and are synthesised into an Updated Project Design (Appendix 3) assessing the potential of the data to achieve the aims and objectives of the project. In advance of analysis and final publication, recommendations have been made for a further stage of fieldwork, following up on profitable research leads generated during the 2013 field season.
- 13.1.3 This work is planned for the 7th-20th July 2014, and will focus on a programme of remote sensing and 3D photogrammetry survey followed by targeted test trenches in areas of the site that were unavailable during the 2013 field season. Following a review of the archive relating to previous excavations on the Site, three small interventions are also proposed within the English Heritage Guardianship area to reopen unpublished (and un-archived) trenches previously excavated in the 1980s, making this data publically available for the first time.

13.2 Project Aim 1

- 13.2.1 Aim 1 focussed on remote sensing, setting out to define and establish the physical extent of the site using three different geophysical techniques – GPR, magnetometry and resistivity. Three main areas were selected for survey, addressing research questions Q1, Q2, Q3 and Q5. The purposes of this work was to establish whether the layout of the precinct and associated sub-surface structures could be established by remote sensing, and help to target hand dug trenches to 'ground truth' any significant anomalies. The focus was on establishing the position of 'lost' structures in the inner precinct (such as the kitchen or infirmary) in addition to identifying former structures associated with the outer precinct (such as the outer gatehouse or precinct boundary ditch).
- 13.2.2 The results varied depending on the area surveyed and the technique used, but taken as a whole, this approach allowed conclusions derived from different instruments to be compared and corroborated. Remote sensing was least successful in the north-west field, where magnetic survey failed to detect any responses of a definite archaeological origin. Results were more favourable in the south of the Abbey complex, detecting wall lines on the same alignment as the abbey suggesting corridors and walkways. A circular and rectilinear feature was also identified in the car park area. Attributing function to these 'lost structures' was not possible on survey data alone, and the plots were used to target trenches that could help characterise and refine the results (see Section 12.3 below).
- 13.2.3 Due to adjacent fields to the east of the Abbey being under crop, it was not possible to track the course of the precinct ditch or potential infirmary buildings identified in previous excavations (see Section 2.3.5 above). Low-level aerial photography has helped to further define these features in relation to the main abbey complex, and it is recommended that this area is subject to full geophysical survey during the 2014 field season, helping to contextualise the results of excavations undertaken in the 1980s (Kerr forthcoming).
- 13.2.4 As remote sensing was limited by both timescales and logistics during the 2013 field season, the results have been promising enough to recommend an additional stage of survey work in 2014. This will be targeted on areas of the site that remain 'unknown', including the fields containing earthworks immediately to the west of the Abbey, and the area adjacent to the ponds to the north of the car park. This will help further elucidate potential 'zones' such as the inner precinct (enclosing the abbey complex), a potential inner court (enclosing the current Guesten Hall and Barn) and a larger outer court enclosing industrial and domestic activities. This potential outer court is defined by a field boundary visible on the lidar plot to the north and west, and further low-level aerial photography using kite mounted cameras, a hexacopter and UAV is also scheduled for the 2014 field season to assess this further.

- 13.2.5 The pole and mast mounted survey of the Abbey church and Lady Chapel has produced a metrically accurate 3D digital surface model from which orthostatic elevations have been extracted. This innovative and experimental technique has been extremely successful to date, and it is recommended that the remaining claustral complex and later buildings are completely surveyed in the 2014 field season. This will be essential for any further analysis of the built structure, and help trace any 12th century stylistic markers that were imported. A question remains over whether parts of the flushwork remained unchanged from the later structure (as suggested for the Abbey crossing by Clapham, 1923) or whether these were re-carved with a 14th century styling. A continuation of the survey will also help to identify any evidence for the fire of the 1380s, with high-resolution images able to delineate scorch marks on the upstanding masonry.

13.3 Project Aim 2

- 13.3.1 Aim 2 was devised to characterise the results of the non-invasive survey, with a programme of machine and hand-dug test trenches (Q7). With no indication from the geophysics on the function of the earthworks in the north-west field, trenches were positioned across various banks and channels to establish their association with the main claustral complex. This has helped to trace the Abbey's water supply and management system (Q5), however, it was not possible to determine whether these channels were intended for industrial or other purposes (Q8 & 9). It is recommended that further investigation of the fields to the west of the Abbey are undertaken in the 2014 field season, to identify the potential location for sluice gates or other evidence of water management.
- 13.3.2 In the Abbey complex itself, geophysics results were corroborated by Trenches 5 and 7, targeting a circular Post-Medieval structure in the car park area and a demolished monastic structure in the south of the Site. Though attributed to the post-dissolution farming phase of the site, further comparative work will be necessary to establish the potential function of the structure recorded in Trench 5. No in-situ traces relating to the former monastic building were observed in Trench 7, with the earliest recorded deposits the result of post-dissolution demolition. Without opening a larger trench in this area to recover firmer evidence of the original building footprint, it will not be possible to ascribe a function to this structure.
- 13.3.3 A major objective of the research was to recover evidence for earlier settlement at Leiston prior to the construction of the Abbey (Q7). This was achieved in Trench 1 and 3 in the north-west field, with probable Bronze Age posthole and ditch features indicating a hitherto unknown prehistoric phase of the site. Though at least one of these ditches extended across the field, no further features were identified, suggesting that trenches were positioned at the edge of a settlement area, or they had been truncated by later monastic earthworks.
- 13.3.4 Trench 4 was positioned across an active drainage ditch adjacent to the Guesten Hall in the expectation that evidence could be recovered

immediately predating the construction of the Abbey in the 14th century. This feature had previously been interpreted as the potential remnant of a medieval moated site, and the objective was to recover dating evidence from the base of this feature that could confirm this hypothesis. Though the scale and deposit sequence was consistent a moat, logistical constraints meant that it was not possible to fully excavate to the base of the feature and recover dating evidence. Any further work to assess this feature or recover dating evidence will require a percussion coring rig or similar.

- 13.3.5 It is recommended that further fieldwork is undertaken in 2014 to fully address the objectives associated with Aim 2, characterising any additional remote sensing results and investigating earthworks and water channels to the west of the Abbey remains. One of the outstanding issues with Leiston Abbey has been the lack of published and archived results pertaining to earlier investigations. A number of trenches were opened in 1980s within the English Heritage Guardianship area that remain unpublished and un-archived. It is recommended that two of these trenches are re-opened, re-recorded and included within the next stage of site analysis publication. Further analysis will seek to assess the landscape context of the structures and features so far identified, seeking parallels with other Premonstratensian abbeys in the region (such as Langley Abbey) and any changes or continuities that can be identified from the Minsmere geophysics ground plan.

13.4 Project Aim 3

- 13.4.1 Samples recovered from the Leiston Abbey excavations show variable preservation across the site for faunal and archaeobotanical evidence. Plant remains recovered from samples were low in number, and predominantly charred; palaeoenvironmental survival is therefore likely to be affected by the predominantly aerobic conditions on site. Faunal remains (other than the complete canine skeleton) were also highly fragmentary. This is broadly typical of an assemblage comprising principally disarticulated butchery waste, much of which is likely to be residual or re-deposited. The excellent preservation of the dog skeleton provides good potential for biographical reconstruction but this has limited overall interpretative potential and secure dating of the find is required. Though the potential to answer more refined research questions is limited (Q10-12), these have been assessed with specialist recommendation to retain assemblages as they will be augmented by further work fieldwork.

13.5 Review Point 3 – Updated Project Design

- 13.5.1 The evaluation has been successful in collating the data from Aims 1 -3 (Q13) and has entered into a Review Point cycle. All assessment report findings have been formulated into an Update Project Design (Aim 4 – and Appendix 3) to be applied to the next stage of Execution scheduled for July 2014, with analysis and publication scheduled to follow after. The project archive was prepared in accordance with the guidelines outlined in Appendix 1, P1 of MoRPHE PPN 3 (English Heritage 2011) and in accordance with the *Guidelines for the preparation of excavation archives for long term storage*

(UKIC 1990; Walker 1990). It is currently held at DigVentures' East of England office under the site code LA13, but will ultimately be deposited, with any addition materials derived from the 2014 field season, with an appropriate local museum under HER code LCS 176.

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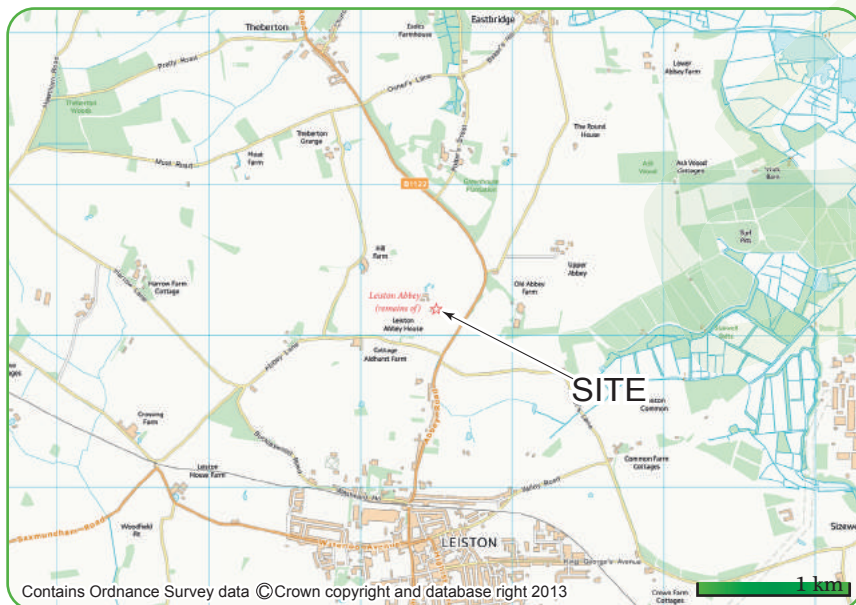
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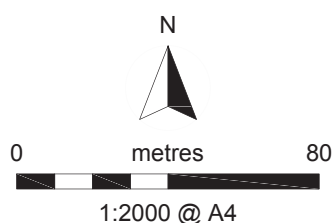
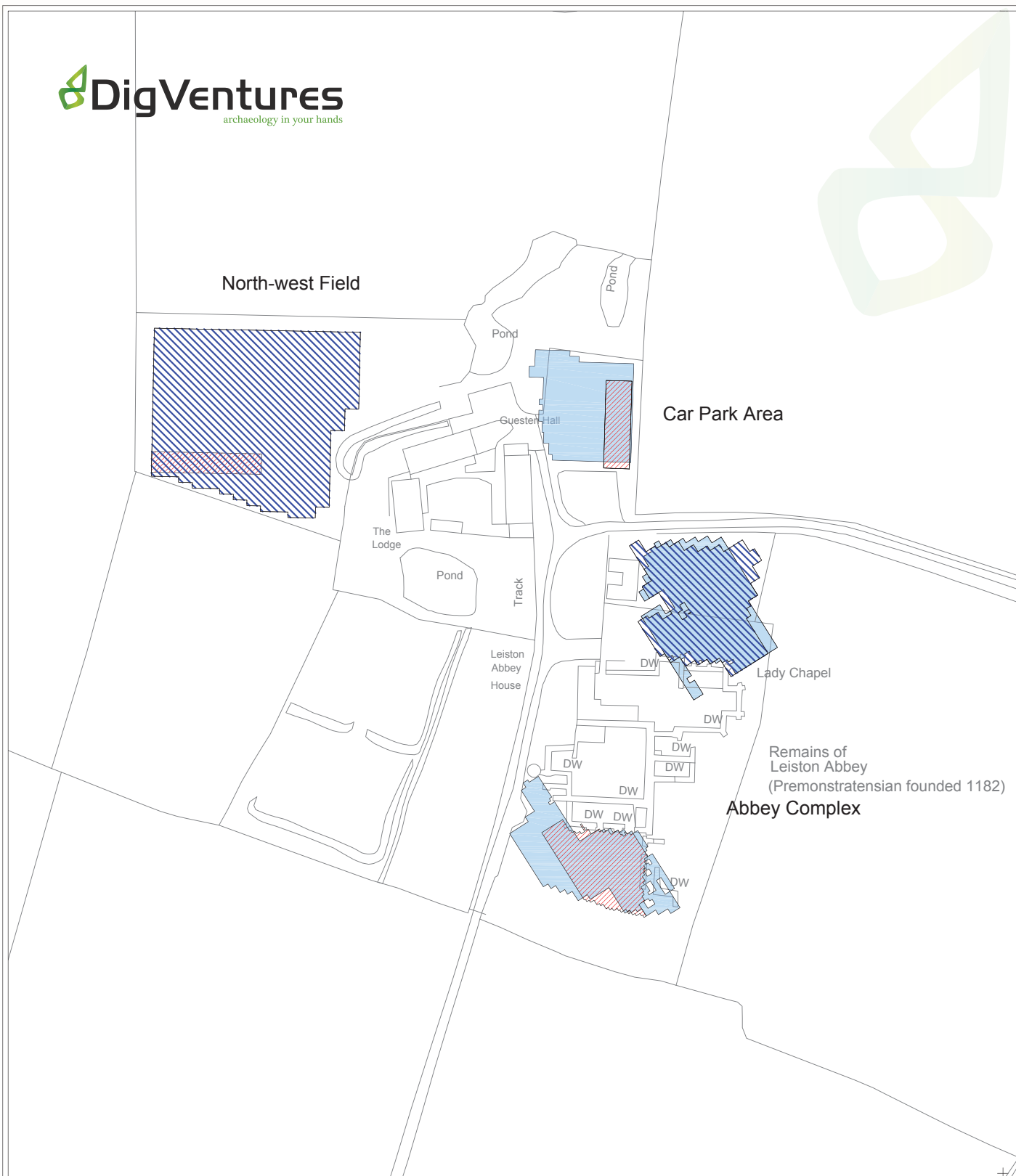
DigVentures
archaeology in your hands



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Figure 1 - Leiston Abbey, Sizewell, Suffolk: Site location.



-  GPR Survey
-  Resistance Survey
-  Gradiometer Survey

GSB Propection Ltd
Cowburn Farm, 21 Market Street
Thornton
Bradford
BD13 3HW
+44 (0)1274 835016



Project:
Leiston Abbey

Title:
Location of Remote Sensing Survey Areas

Based on the Ordnance Survey Map provided by the client. Reproduced with the permission of the Controller of HMSO © Crown Copyright (AL100018665)

Drawn by: ELWood

Figure 2

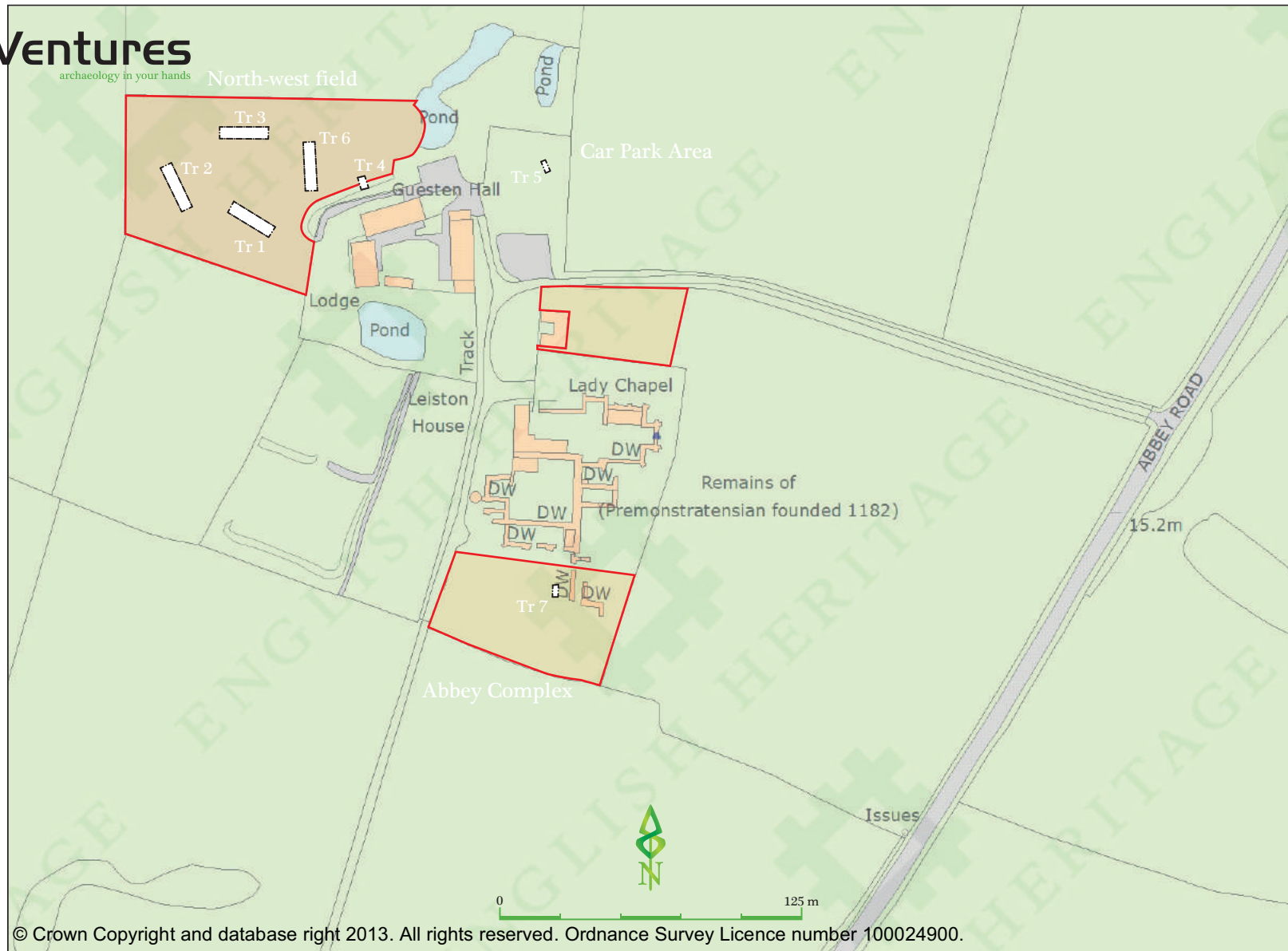


Figure 3 - Leiston Abbey, Sizewell, Suffolk: Trench location plan.

Car Park Area

Guesten Hall

The Lodge

Pond

Track

Leiston Abbey House

Lady Chapel

Remains of
Leiston Abbey
(Premonstratens)
Abbey Complex

DW

DW

DW

DW

DW

DW

DW

DW

75 m

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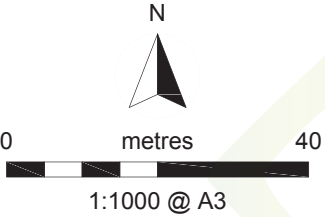
Project: Leiston Abbey

Title: Summary GPR Depth-Slices

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Figure 4



The Lodge

Guesten Hall

Car Park Area

Pond

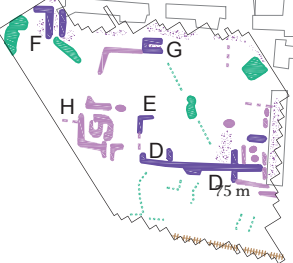
Track

Leiston Abbey House

Lady Chapel

Remains of Leiston Abbey (Premonstratens Abbey Complex

- Archaeology - ?Wall Line
- ?Archaeology - Increased Response
- ?Archaeology - Trend
- ?Archaeological Material - ?Demolition Spread
- ?Historic Building
- Uncertain Origin (discrete anomaly / trend)
- Ploughing
- Pipe



DW

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Project: Leiston Abbey

Title: Summary GPR Interpretations

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Figure 5

North-west Field

Pond

Pond

Guesten

Car Park Area

The Lodge

Pond

Track

Leiston Abbey House

DW

Lady Chapel

DW

Remains of
Leiston Abbey
(Premonstratensian founded 1182)

Abbey Complex

DW

DW

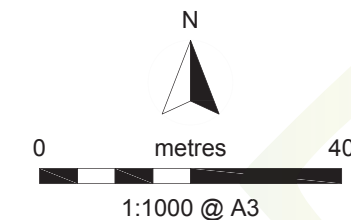
DW

DW

DW

DW

DW



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Project: Leiston Abbey

Title: Summary Resistance Greyscales

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Figure 6

North-west Field

Pond

Pond

Guesten Hall

Car Park Area

The Lodge

Pond

Track

Leiston Abbey House

DW

Lady Chapel

DW

Remains of
Leiston Abbey
(Premonstratensian founded 1182)

Abbey Complex

DW

DW

DW

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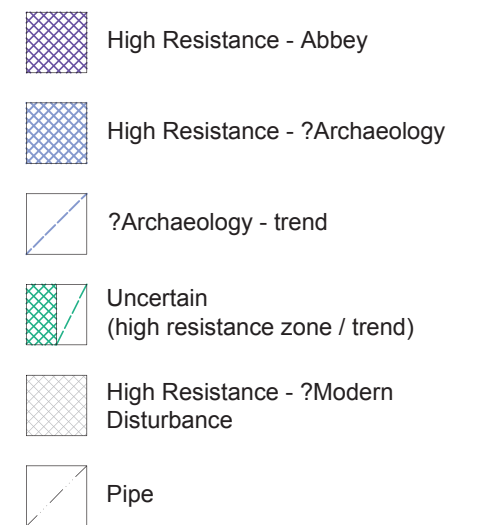
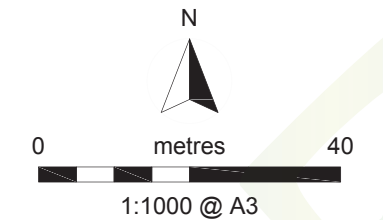
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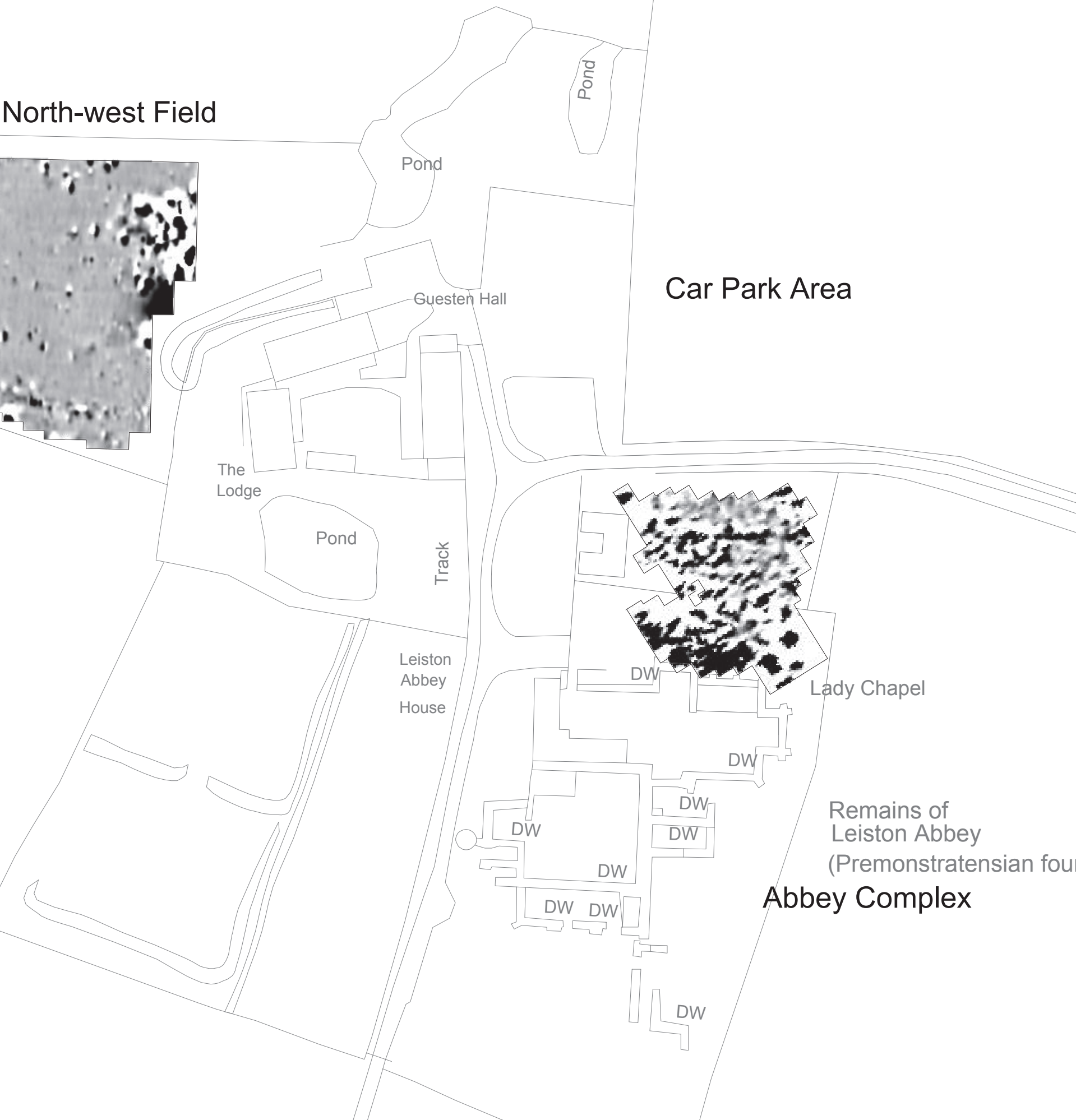
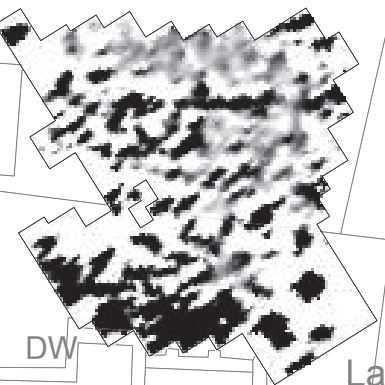
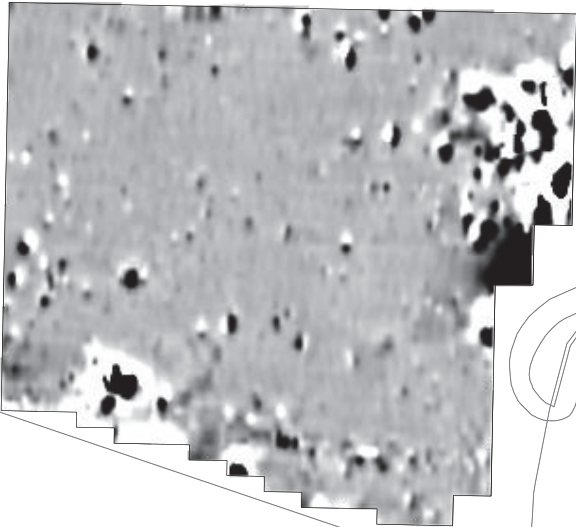
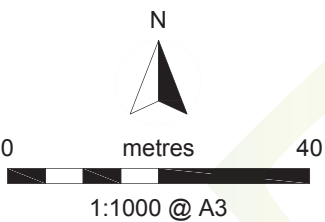
Project: Leiston Abbey

Title: Summary Resistance Interpretations

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Drawn by: ELWood

Figure 7



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SUMO

Project: Leiston Abbey

Title: Summary Gradiometer Greyscales

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Drawn by: ELWood

Figure 8

North-west Field

Car Park Area

- Uncertain Origin
(discrete anomaly / trend)
- Area of Magnetic Disturbance
- Pipe
- Ferrous

The Lodge

Guesten Hall

Pond

Track

Leiston Abbey House

DW

Lady Chapel

Remains of
Leiston Abbey
(Premonstratensian four

Abbey Complex

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Project: Leiston Abbey

Title:
Summary Gradiometer Interpretations

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Figure 9

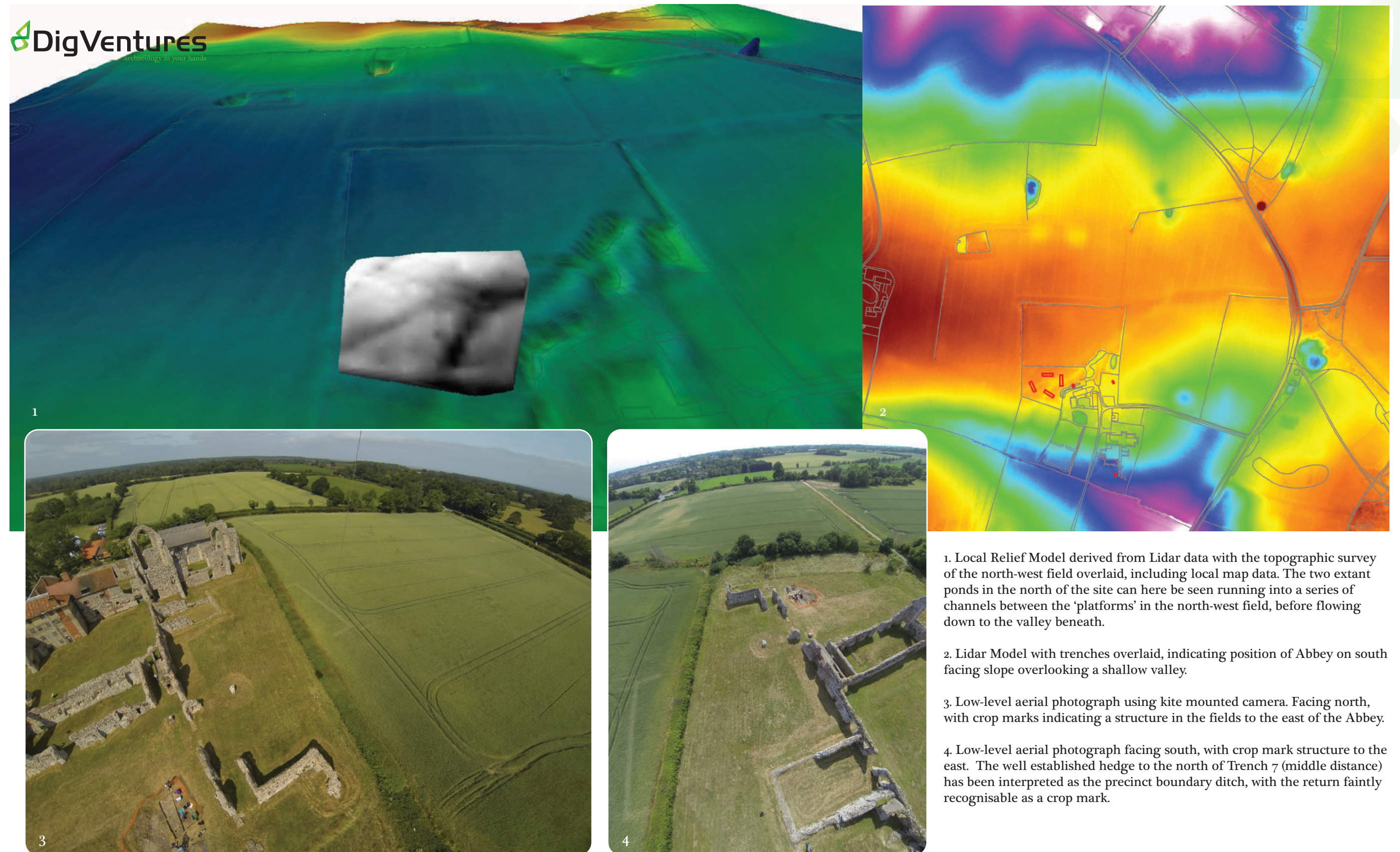


Figure 10 - Leiston Abbey LiDAR and Low-Level Aerial Photography.

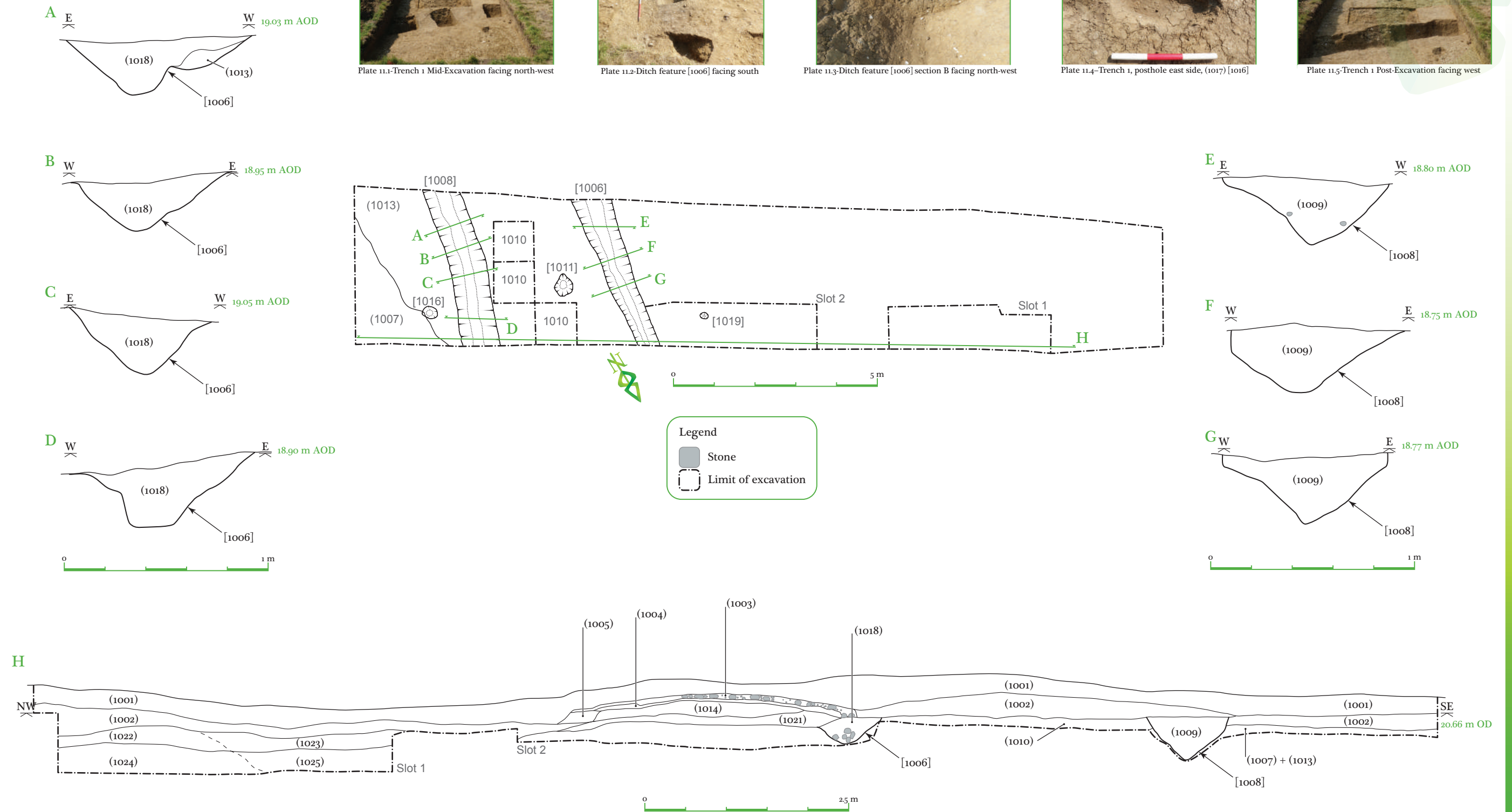


Figure 11 - Leiston Abbey: Trench 1 excavation results.

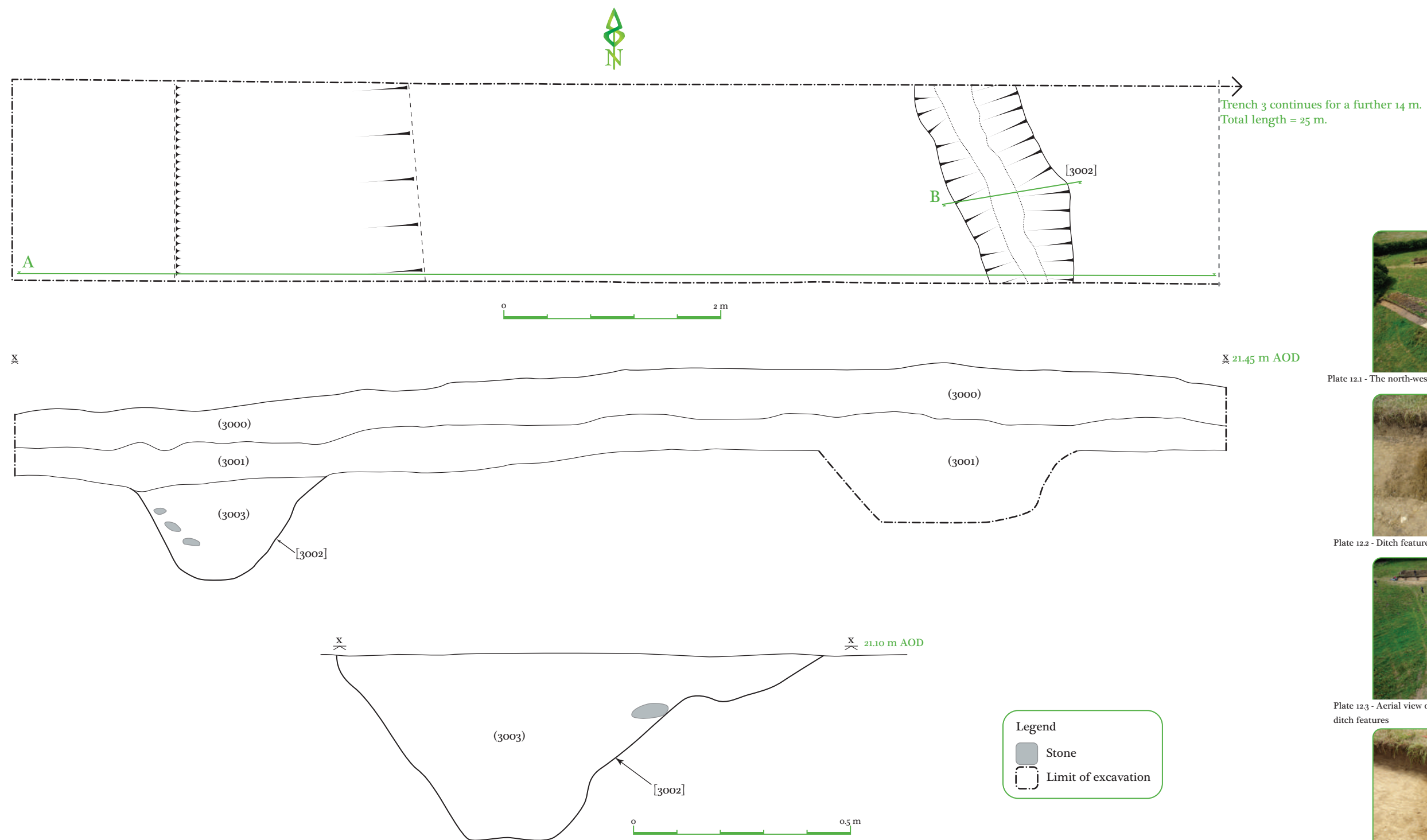


Plate 12.1 - The north-west field, aerial view looking south-west



Plate 12.2 - Ditch feature [3002] looking south



Plate 12.3 - Aerial view of Trench 1 & 3, indicating progression of ditch features



Plate 12.4 - Trench 3, section context (3002), ditch, N-S

Figure 12 - Leiston Abbey: Trench 3 excavation results.



Legend
□ Limit of excavation

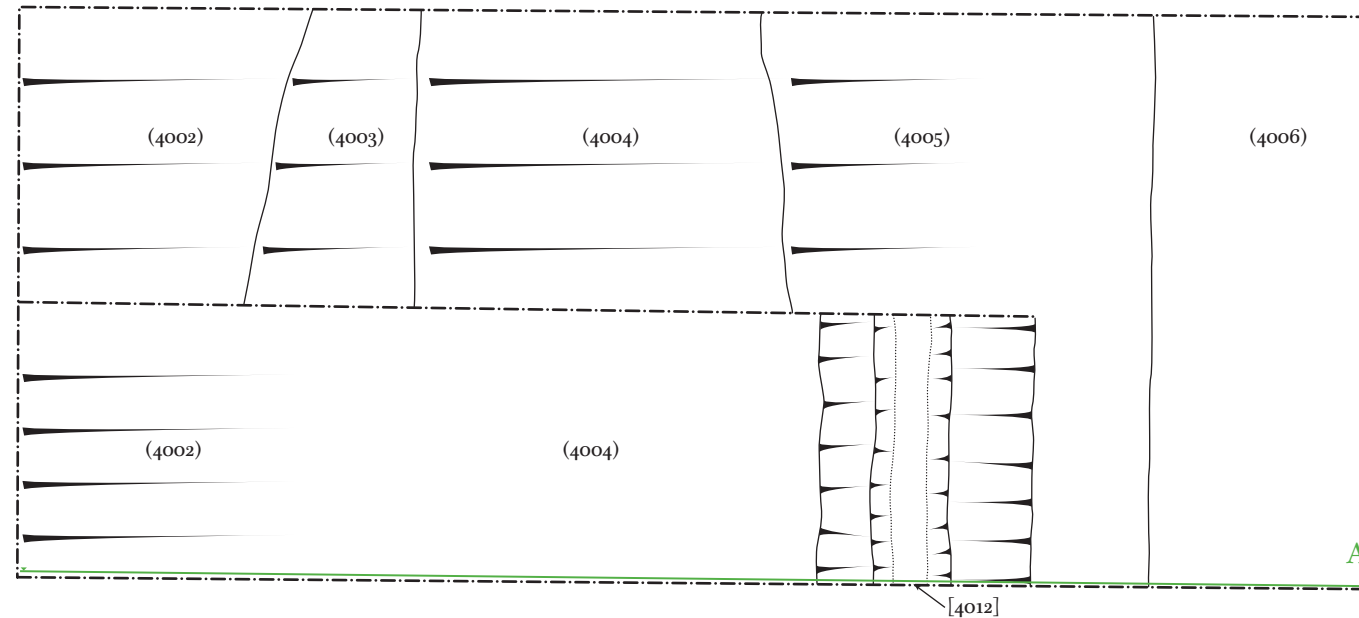


Plate 13.1 - Trench 4 Mid-Excavation facing north-west



Plate 13.2 - Deposit (4020) with natural wood fragment in section

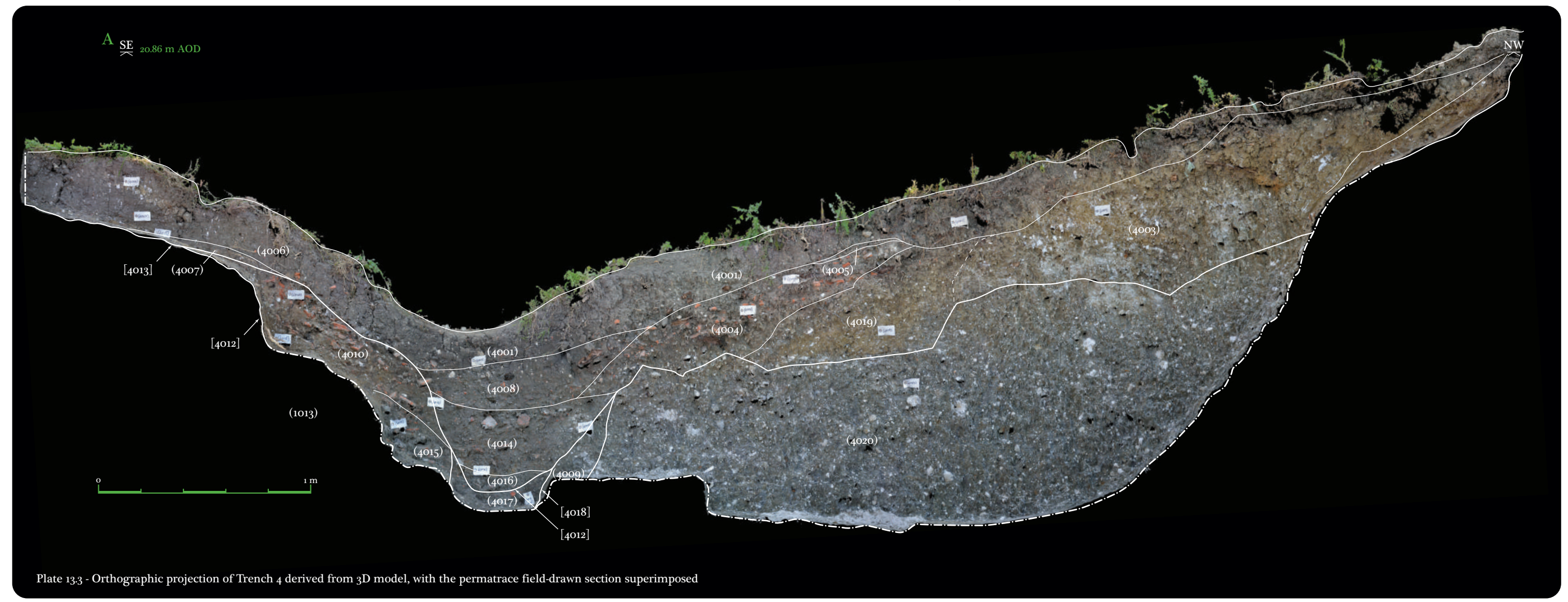


Plate 13.3 - Orthographic projection of Trench 4 derived from 3D model, with the permatrace field-drawn section superimposed

Figure 13 - Leiston Abbey: Trench 4 excavation results.

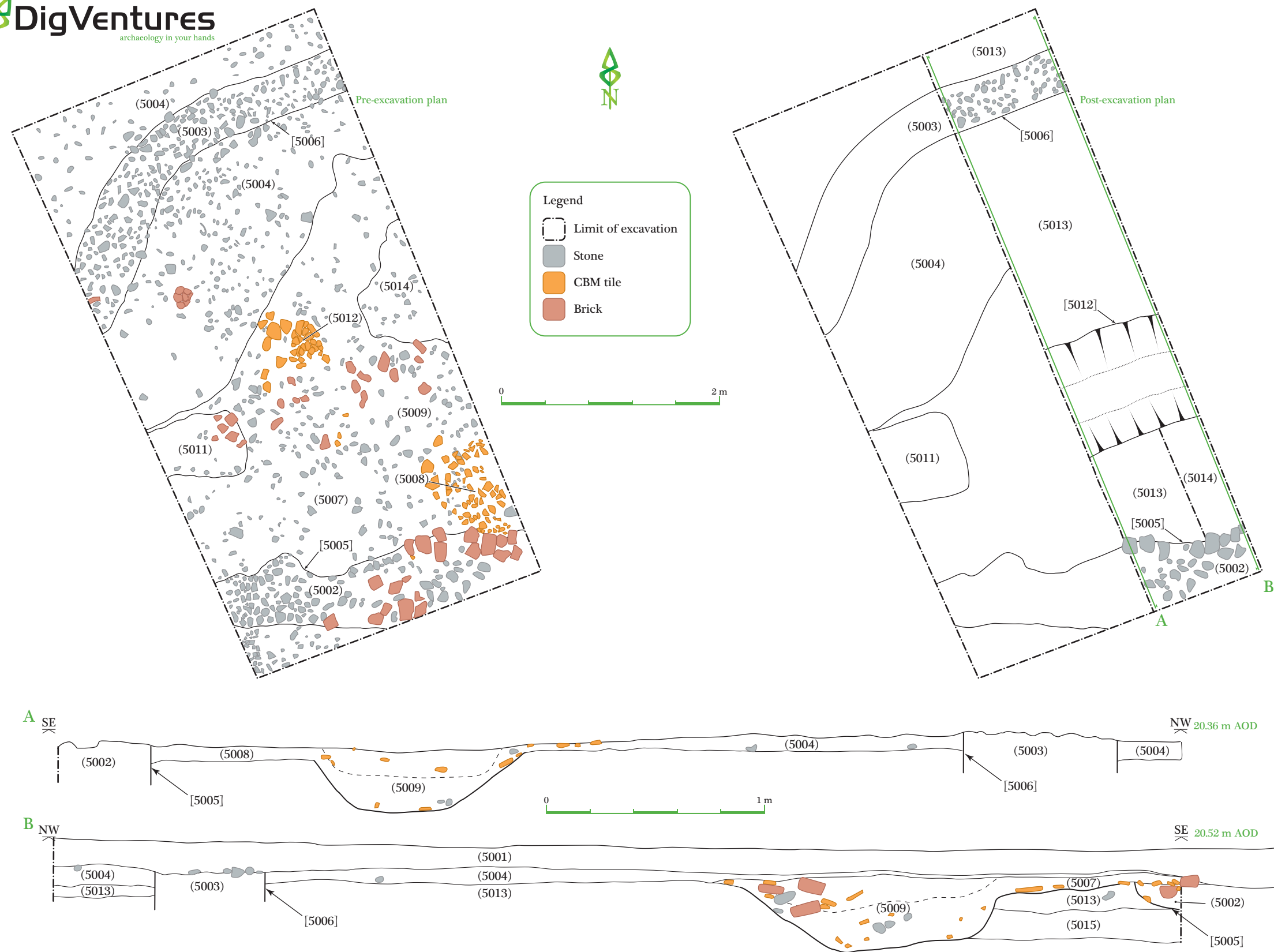


Plate 14.1 - Trench 5 aerial working shot, facing south-east



Plate 14.2 - Structure feature [5006] Mid-Excavation, facing east



Plate 14.3 - Feature [5012], facing east

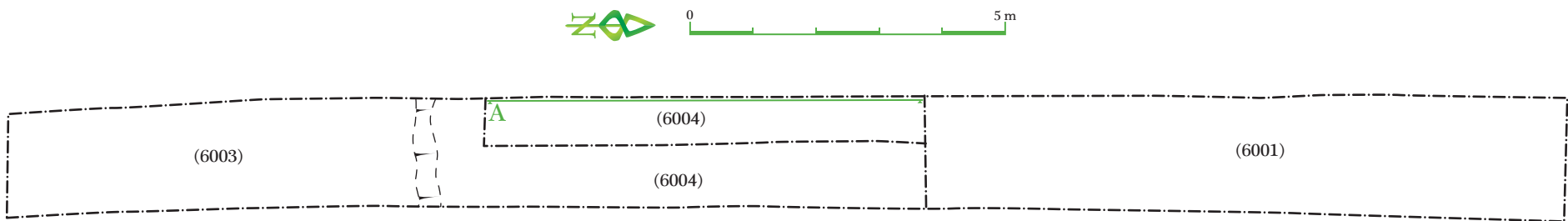


Plate 14.4 - Trench 5 Post-Excavation shot facing south-east



Plate 14.5 - Trench 5 Post-Excavation shot, facing north-west

Figure 14 - Leiston Abbey: Trench 5 excavation results.



Legend

- Limit of excavation
- Stone

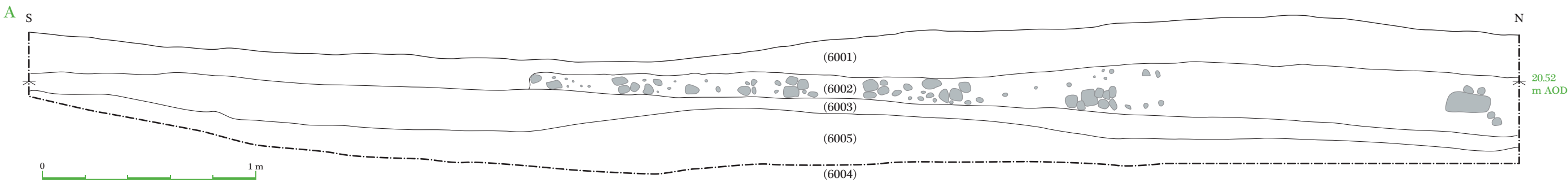


Plate 15.1 - Trench 2 looking north-west



Plate 15.2 - Trench 6 looking north-west



Plate 15.3 - Trench 6 looking south-east

Figure 15 - Leiston Abbey: Plan, Sections and Photographs of Trench 2 & 6.

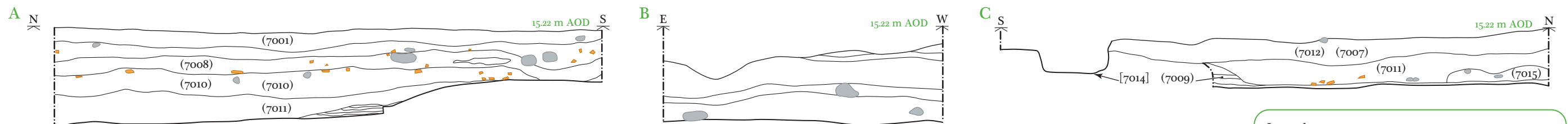
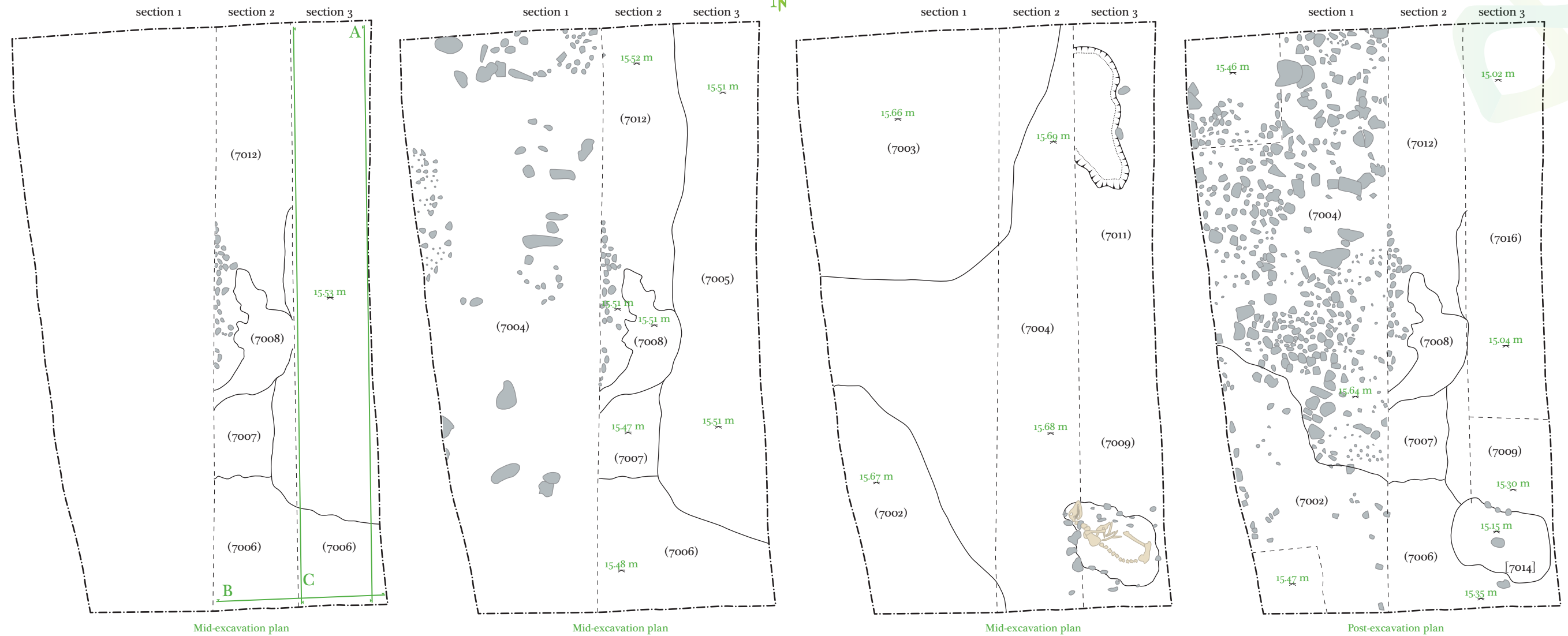


Plate 16.1 - Trench 7 Pre-Excavation shot, facing north



Plate 16.2 - Trench 7 section, facing east



Plate 16.3 - Large canine burial, facing west



Plate 16.4 - Trench 7 Post-Excavation shot, with canine burial in-situ



Plate 16.5 - Trench 7 Post-Excavation, facing south

Figure 16 - Leiston Abbey: Trench 7 excavation results.

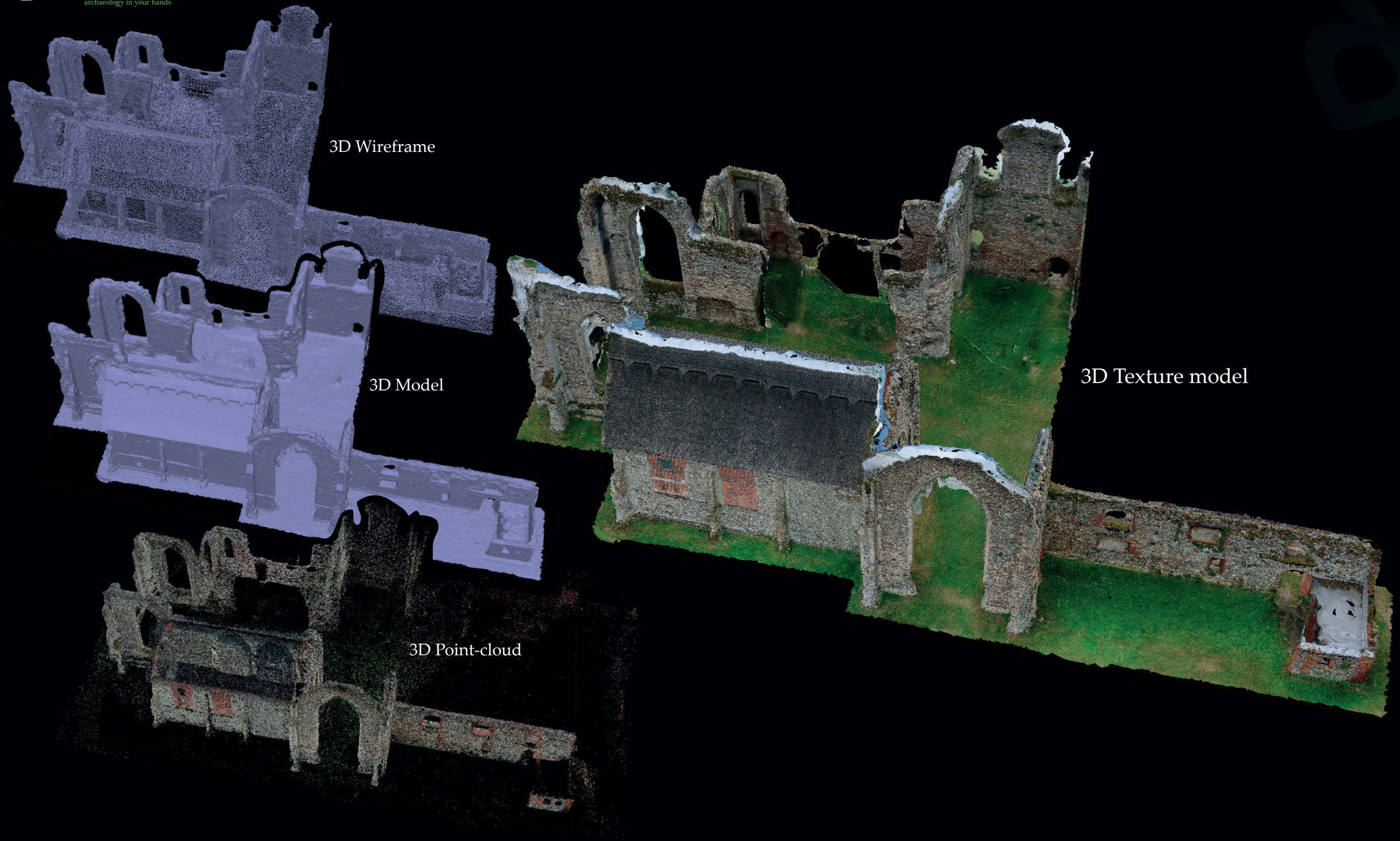


Figure 17 - Leiston Abbey: 3D Survey results montage.



Figure 18 - Leiston Abbey: 3D Survey, extracted building elevations.



Plate 19.1 - Small find (7000-1). Early modern pendant in the art deco style dating to 1878



Plate 19.2 - Small find (7000-5). Early modern art nouveau pendant dating 1920-1930



Plate 19.3 - Small find (7002-3). Lead alloy commemorative medal (approximately half remaining) dating 1800-1900



Plate 19.4 - Small find (7011 -1) Medieval copper alloy French Jetton dating 1340-1380



Plate 19.5 - Small find (7015-2) Hammered silver penny - Edward II class 11a dating to 1310-14



Plate 20.1 - Visitors Welcome - daily site tours ensured a 75% increase in visitors over the course of the project, with 45% stating that the excavation was the main reason for their visit (Westcott Wilkins 2014)



Plate 20.2 - The 'Young Archaeology Club' help out with environmental processing



Plate 20.3 - Free evening lectures open each day to the public. Professor David Gill, University College Suffolk, chairs a spirited debate concerning looted antiquities and ownership of the past



Plate 20.4 - Leiston Abbey Welcome Tent, providing the first port of call for all visitors coming to site, with staff permanently on hand to help direct them around the excavations

Figure 20 - Leiston Abbey Community Engagement.

15 APPENDICIES

APPENDIX 1 – TRENCH & CONTEXT DESCRIPTIONS

Trench 1	Dimensions: 20m x 4m / Max. Depth 0.60m+		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
1001	Mid grey-brown sandy silt with occasional small sub-rounded/sub-angular stones. Flecks of charcoal, undiagnostic roof tile and metal fragments from recent farming debris.	Deposit – topsoil	0.00-0.24
1002	Mid brown yellow sandy silt, with occasional small, sub-rounded pebbles.	Deposit – subsoil	0.24-0.30
1003	Mid-dark yellow brown sandy clay, with occasional chalk flecks. Localised at the east end of the trench as a layer, likely upcast as part of the bank construction, and immediately below topsoil (excavated in slot 2).	Deposit – earthwork	Width 3.50m Length 3.90m+ Depth 0.12m
1004	Mid dark brown clay, with chalk flecks, CBM and pottery, observed in Slot 2 immediately below (1003), and approximately 0.09 thick. Deposit contained flint, chert and pottery (fitting with sherd from abutting context 1021), pan tile and daub fragments.	Deposit – earthwork	Width 3.50m Length 3.90m+ Depth 0.09m
1005	Light reddish brown fine medium silt. Shallow, localised deposit forming western edge of bank.	Deposit – earthwork	Width 0.40m Depth 0.20m Length 4m+
1006	Cut of ditch, extending beyond the trench edge NNW – SSE sharp sides and slightly irregular base. Excavated initially in three slots, then rest of feature removed. Filled by (1018) .	Cut of a Ditch	Width 0.65m Length 3.90m+ Depth 0.35m
1007	Light yellow brown sandy clay, with occasional chalk flecks. Localised between ditches [1006 & 1008] and in the eastern part of the trench.	Deposit – natural subsoil	Width 3.40m Length 2.90m+
1008	Cut of ditch, extending beyond the trench edge NNW – SSE sharp sides and slightly irregular base. Excavated initially in three slots, then rest of feature removed. Filled by (1009) .	Cut of a Ditch	Width 0.86m Length 3.90m+ Depth 0.37m
1009	Fill of Ditch [1008] . Mid grey brown sandy clay with occasional sub-rounded flint pebble inclusions. 5 fragments of poor quality long bone;	Fill of Ditch [1009]	Width 0.86m Length 3.90m+ Depth 0.30m

Trench 1	Dimensions: 20m x 4m / Max. Depth 0.60m+		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
1010	Mid grey brown sandy clay with frequent flint pebble inclusions and occasional chalk. Deposit recorded between twin ditches [1006 & 1008] as an interleaving layer, probably comprising part of the adjacent bank.	Deposit – earthwork	Width 2.19m Length 1.40m Depth 0.08m
1011	Cut of Posthole filled by (1012) Sub-circular shape in plan with gradual sloping sides, and a shallow tapered base.	Cut of Posthole	Width 0.44 Length 0.49m Depth 0.19m
1012	Fill of Posthole [1011] Dark brown black, clayey – silt with occasional small sub angular pebbles.	Fill of Posthole	Width 0.44 Length 0.49m Depth 0.19m
1013	Light grey sandy clay natural.	Deposit – natural	Width 0.48m Length 3.20 Depth 0.19m
1014	Deposit observed in bank (Slot 2) below (1004) and above (1021) . Light red brown silty clay.	Deposit – earthwork	Width 2.60m Length 3.90m+ Depth 0.28m
1015	Mid yellow brown sandy clay, with occasional chalk flecks. Localised between in the western part of the trench.	Deposit - natural	Width 1.20m+ Length 0.90m+
1016	Cut of Posthole sub-circular in shape with rounded corners, gradual concave sides and tapered to a rounded point at the base. Filled with (1017) .	Cut of Posthole	Width 0.38m Length 0.39m Depth 0.12m
1017	Fill of Posthole [1017] . Filled with mid grey brown, clay with small sub-angular pebble inclusions.	Fill of Posthole [1017]	Width 0.18m Length 0.20m Depth 0.40m
1018	Fill of Ditch [1006] . Mid grey yellow sandy clay, containing occasion sub-angular pebbles. 1 small fragment of pottery, and 2 small fragments of animal bone recovered from this context during wet sieving (Sample 3).	Fill of Ditch [1006]	Width 0.65m Length 3.90m+ Depth 0.35m
1019	Cut of Posthole circular shape in plan with vertical sides, possible later fence post on top of bank. Filled with (1020) .	Cut of Posthole	Width 0.18m Length 0.22m Depth 0.15m
1020	Mid grey black silty clay. Fill of Posthole [1019] . Filled with Brown-grey, clay silt.	Fill of Posthole [1021]	Width 0.18m Length 0.22m Depth 0.15m

Trench 1	Dimensions: 20m x 4m / Max. Depth 0.60m+		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
1021	Mid yellow brown silty clay, containing small fragments of CBM, animal bone and pottery. Excavated in Slot 2 , this forms part of the earthwork bank feature. 1 large rim sherd was recovered from this context, fitting the same coarseware jar recovered from abutting context (1004).	Deposit – earthwork	Width 3.40m Length 0.11m Depth 0.25m
1022	Mid yellow brown sandy clay with chalk fragments and occasional sub-angular chalk pebbles. Excavated in Slot 1 .	Deposit – earthwork	Width 2.00m Length 3.90m+ Depth 0.20m
1023	Mid orange grey sandy clay, with occasional chalk fragments. Excavated in Slot 1 .	Deposit – earthwork/channel	Width 2.20m Length 3.90m+ Depth 0.60m
1024	Mid grey orange clay, with occasional flint and chalk fragments. Excavated in Slot 1 .	Deposit – earthwork	Width 2.20m Length 3.90m+ Depth 0.38m+
1025	Light grey clay, with orange flecks, excavated in Slot 1 , forming base of channel between two earthworks.	Deposit – earthwork/channel	Width: 1.90m Length: 3.9m+ Depth: 0.33m+

Trench 2	Dimensions: 26m x 2m/Max. Depth 0.39m		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field: no archaeological finds or features recorded in this trench		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
2001	Mid grey-brown sandy silt with occasional small sub-rounded/sub-angular stones.	Deposit – Top Soil	0.00-0.29
2002	Mid brown yellow sandy silt, with occasional small, sub-rounded pebbles. Containing occasional ferrous objects associated with modern farming debris.	Deposit – Subsoil	0.29-0.39
2003	Light yellow brown sandy clay, with occasional chalk flecks.	Deposit – Natural Subsoil	0.39m+
2004	Mid brown grey fill of channel, constructed for drainage purposes.	Fill of channel [2005]	Width 1.50m Length 1.90m+ Depth 0.28m+

Trench 2	Dimensions: 26m x 2m/Max. Depth 0.39m		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field: no archaeological finds or features recorded in this trench		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
2005	Irregular cut for drainage channel, similar to those associated with earthwork banks (this is much less pronounced). Filled by (2004)	Cut of channel	Width 1.50m Length 1.90m+ Depth 0.28m+

Trench 3	Dimensions: 1.9m x 25m/Max. Depth 0.93m		
	Orientation: E-W		
	Reason for Trench: To assess earthworks in NW field		
Context	Description	Interpretation/ Process of deposition	Depth (m)
3000	Mid grey-brown sandy silt with occasional small sub-rounded/sub-angular stones.	Deposit – Top Soil	0-0.18m
3001	Mid brown sandy clay, containing moderate small chalk inclusions and occasional sub-angular flint pebbles.	Deposit – Subsoil	0.18-0.28m
3002	Cut of ditch, extending beyond the trench edge NNW – SSE, sharp sides and slightly irregular base. Excavated initially in slots, then rest of feature removed. Filled by (3003) .	Deposit	Width 1.0m Length 1.9m+ Depth 0.48m
3003	Fill of ditch [3002] containing mid grey brown sandy clay, with occasional small fragments of chalk and sub-angular flint pebbles.	Fill of Ditch [3002]	0.55-0.93m

Trench 4	Dimensions: 12m x 1.9m X m/Max. Depth 4.5m+		
	Orientation: N-S		
	Reason for Trench: to characterise and recover dating evidence from the moat feature to the rear of the Guesten Hall		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
4001	Mid brown silty clay comprising a thin layer of compact topsoil with little organic matter, extending across the whole feature. Finds included mixed modern debris, white porcelain, plastic, slate, slag and various modern nails and other material associated with adjacent kitchen garden. A small fragment of glazed roof tile was also recovered from this context.	Deposit – Top Soil	0.00-0.22m

Trench 4	Dimensions: 12m x 1.9m X m/Max. Depth 4.5m+		
	Orientation: N-S		
	Reason for Trench: to characterise and recover dating evidence from the moat feature to the rear of the Guesten Hall		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
4002	Light yellow clay layer, unmodified natural subsoil, only observed in the northern part of the trench as the rest of the feature was too deep to safely excavate.	Deposit – Natural Subsoil	0.22-0.70m+
4003	Mid yellow clay layer, similar to, and abutting (4002) with a higher frequency of chalk fragments and suggesting root disturbance and human deposition, possibly as a result of clearing out of the ditch at some point.	Deposit – Natural Subsoil	Width 4.0m Length 1.90m+ Depth 1.00m+
4004	Mid brown silty clay, containing a large quantity of tiles dumped, probably as a consequence of renovation or demolition of the adjacent Guesten Hall. Finds included slag, glass bottle stopper, iron (modern corroded nails), oyster shell and fragments of limestone.	Deposit	Width 2.80m Length 1.90m+ Depth 0.60m
4005	Dark brown black silty clay, observed in the south end of the trench (same context as 4007)	Deposit - Subsoil	Width 1.80m Length 1.90m+ Depth 0.19m
4006	Mid brown silty clay, poorly sorted mix with redeposited clay, interpreted as topsoil on the southern side of the trench disturbed during cleaning out of the ditch.	Deposit – Top Soil Mix	0.00-0.40m
4007	Dark brown black silty clay, observed in the south end of the trench (same context as 4005). Finds included a small fragment of worked limestone, originally part of a door or window surround.	Deposit - Subsoil	Width 1.80m Length 1.90m+ Depth 0.19m
4008	Dark brown silty clay, soft and damp, comprising an active drainage ditch. Tertiary deposit of recently recut ditch [4012] likely to have silted post-development of adjacent Guesten Hall.	Fill of recut Ditch [4012]	Width 1.30m Length 1.90m+ Depth 0.52m
4009	Soft blue grey clay, similar context as deposit (4015) , had likely formed as water settled in the moat as standing water on the north side of the ditch. Occasional tile found impressed into context edge and charcoal, and a small quantity of modern porcelain also recovered. Truncated by later recut [4012] .	Deposit	Width 0.40m Length 1.90m+ Depth 0.60m

Trench 4	Dimensions: 12m x 1.9m X m/Max. Depth 4.5m+		
	Orientation: N-S		
	Reason for Trench: to characterise and recover dating evidence from the moat feature to the rear of the Guesten Hall		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
4010	Mid orange brown silty clay in the south end of the trench with a large quantity of roof tile and other building debris, including occasional fragments of limestone and mortar.	Deposit	Width 2.00m Length 1.90m+ Depth 0.60m
4011	Main cut of moat, Likely to be same as 4013 (cut on southern side). Feature boundary was extremely diffuse, identified only at the northern end of the feature, it became evident through excavation that the feature was too deep to fully excavate within the logistics of the trench.	Cut of Moat	Width 12m+ Length 1.90m+ Depth 4.40m+
4012	Result of cleaning out of ditch to create drainage feature during redevelopment of the Guesten Hall. Machine cut, probably in the 1980s. Characterised by a sharp break of slope, with a gradual base and concave sides. Filled by (4014 and 4008)	Cut of Ditch	Width 12m+ Length 1.90m+ Depth 4.40m+
4013	Main cut of moat on south side of trench, likely to be same as [4011] (cut on northern side).	Cut of Moat	Width 12m+ Length 1.90m+ Depth 4.40m+
4014	Dark grey brown silty clay, with organic content, comprising the secondary deposit within the recut ditch. Undressed limestone fragment found in this context.	Fill of recut Ditch [4012]	Width 1.30m Length 1.90m+ Depth 0.60m
4015	Soft blue grey clay, similar context as deposit (4009) , had likely formed as water settled in the moat as standing water on the south side of the ditch. Occasional tile found impressed into context edge and charcoal. Truncated by later recut [4012 & 4015] .	Deposit	Width 0.40m Length 1.90m+ Depth 0.40m
4016	Soft blue yellow sandy clay, containing occasional brick and tile. Primary deposit within recut ditch.	Fill of recut Ditch [4012]	Width 0.60m Length 1.90m+ Depth 0.20m
4017	Mid grey silty clay, with occasional tile.	Fill of recut Ditch [4018]	Width 0.80m Length 1.90m+ Depth 0.20m

Trench 4	Dimensions: 12m x 1.9m X m/Max. Depth 4.5m+		
	Orientation: N-S		
	Reason for Trench: to characterise and recover dating evidence from the moat feature to the rear of the Guesten Hall		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
4018	The first visible recut of the moat, also likely to be the result of cleaning out of ditch to create drainage similar to [4012] . Machine cut, with straight, vertical sides, characterised by a sharp break of slope, with a gradual base and concave sides. Filled by (4017) and truncated by later ditch cut [4012] .	Cut of Ditch	Width 0.80m Length 1.90m+ Depth 0.20m
4019	Mid yellow brown clay, identified on the northern side of the ditch, containing tile and chalk fragments.	Deposit	Width 2.00m Length 1.90m+ Depth 0.60m
4020	Blue grey deposit, with fine chalk and flint inclusions, originally forming as a water lain deposit as part of the main moat feature. A small piece of natural wood was identified at the base, indicating that it was not natural. This deposit was not fully excavated to the depth and logistical constraints of the trench.	Deposit	Width 6.00m Length 1.90m+ Depth 1.60m+

Trench 5	Dimensions: 5.5m x 3m/Max. Depth 1.1m+		
	Orientation: N-S		
	Reason for Trench: to assess geophysical anomaly in car park		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
5001	Topsoil deposit. Mid Grey-Brown, sandy silt with occasional small sub- rounded pebbles. Relatively shallow deposit, barely thicker than the turf, coming straight down on to archaeology with no subsoil. Finds included white porcelain, occasional pieces of slag, oyster shell, and a modern nail.	Deposit – Top Soil	0-0.15m
5002	Compact, mid yellow brown silty clay with frequent cobbles predominantly on the western side of the feature), broken bricks and mortar inclusions (predominantly on the west of the feature). This was interpreted as a yard or outdoor working surface, set into cut [5013] .	Deposit	Width 3.00m Length 0.60m+ Depth 0.12m+

Trench 5	Dimensions: 5.5m x 3m/Max. Depth 1.1m+		
	Orientation: N-S		
	Reason for Trench: to assess geophysical anomaly in car park		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
5003	Mid yellow brown silty clay, 75% of which was formed by angular flint cobbles, set into a circular foundation trench for a later post-medieval agricultural building. No bonding was observed between the cobbles, though post-medieval pottery and fragments of slate were recovered from the surface of this deposit, a horseshoe and blue and white glaze pottery.	Deposit	Width 3.00m Length 0.60m+ Depth 0.12m+
5004	Mid yellow brown clay silt with frequent chalk flecks, forming the internal surface of the circular structure. Finds included a small quantity of slag, white porcelain, and modern glass and corroded nails.	Deposit	Width 3.00m Length 0.60m+ Depth 0.09m+
5005	Irregular and shallow linear cut into which floor surface (5002) had been set. As this feature was not excavated the full depth and profile is unknown. Filled by (5002).	Cut of yard surface	Width 3.00m Length 0.60m+ Depth 0.12m+
5006	Cut for a circular foundation trench for a later post-medieval agricultural building. As this feature was not excavated the full depth and profile is unknown. Filled by (5003).	Cut of foundation trench	Width 3.00m Length 0.60m+ Depth 0.12m+
5007	Mid yellow brown clay silt layer of rubble, extending across the trench, with moderate charcoal flecks and chalk fragments. Deposit forms diffuse boundary with (5009 & 5008) and was numbered differently due to the higher concentration of broken bricks in this area. Small quantity of shell and slag recovered.	Deposit	Width 3.00m+ Length 0.80m Depth 0.12m
5008	Mid brown clay layer, predominantly composed of broken and crushed CBM, concentrated in the eastern part of the trench, with diffuse boundaries into adjacent deposits (5009 & 5007). Slag, modern glass and a small piece of oyster shell also recovered.	Deposit	Width 0.60m+ Length 0.80m Depth 0.09m
5009	Mid yellow brown sandy silt, comprising the fill of linear ditch feature [5012] extending East-West across the trench. Deposit contained large quantity of debris with no obvious origin, including slag, charcoal, and corroded nails. Two body sherds, (green glazed) and 1 unglazed rim sherd recovered from this context.	Fill of Ditch [5012]	Width 1.00m Length 3.00m+ Depth 0.36m

Trench 5	Dimensions: 5.5m x 3m/Max. Depth 1.1m+		
	Orientation: N-S		
	Reason for Trench: to assess geophysical anomaly in car park		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
5010	Mid brown sandy silt deposit, predominantly broken tile, concentrated in centre of trench, with diffuse boundary with adjacent deposits (5007) . Deposit only observed in plan, so full extent and depth unknown.	Deposit	Width 1.00m Length 3.00m+
5011	Mid yellow brown silty clay, with frequent fragments of mortar and CBM. This deposit was localized in the western edge of the trench and only observed in plan, so full extent and depth unknown.	Deposit	Width 0.80m Length 1.00m+
5012	Ditch feature running east-west across trench, with steep sides, a rounded base and a sharp break of slope at the top of the feature. Feature appeared to truncate the floor surface and centre of the main structure, probably a later drainage feature.	Cut of Ditch	Width 1.00m Length 3.00m+ Depth 0.36m
5013	Light yellow brown sandy clay, containing occasional small sub rounded pebbles and flint. This is likely to be the original natural surface, levelled in advance of constructing the main circular identified in this trench. Deposit observed in section and plan. 1 body sherd recovered from this context.	Deposit	Width 1.00m+ Length 3.00m+ Depth 0.14
5014	Mid orange brown clay - unmodified natural subsoil. Deposit was identified in small sondage extended from section exposing feature [5012] .	Deposit – Natural Subsoil	Width 1.00m+ Length 3.00m+

Trench 6	Dimensions: 25m x 1.7m/Max. Depth 0.39m		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field: no archaeological finds or features recorded in this trench		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
6001	Mid grey-brown sandy silt with occasional small sub-rounded/sub-angular stones. A small quantity of modern pottery including 1 blue glaze, 1 stoneware and 1 'pan yan' lid recovered from this context, and a post medieval pipe stem.	Deposit – Top Soil	0.00-0.22
6002	Mid brown yellow sandy silt, with frequent chalk, sub-rounded pebbles and building debris, comprising modern dump deposit associate with recent building or clearance.	Deposit	Width 1.70m+ Length 4.68m+ Depth 0.30m+

Trench 6	Dimensions: 25m x 1.7m/Max. Depth 0.39m		
	Orientation: NE-SW		
	Reason for Trench: To assess earthworks in NW field: no archaeological finds or features recorded in this trench		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
6003	Grey brown sandy silt deposit, underlying dump deposit (6002) including small, sub angular pebbles and occasional charcoal flecks. Recent buried topsoil layer.	Deposit	Width 1.70m+ Length 7.00m+ Depth 0.20m+
6004	Mid yellow/orange brown sandy clay, with small sub-rounded pebbles. Deposit identified in section, and observed throughout trench.	Deposit – Natural Subsoil	0.45m+
6005	Mottled grey green silty clay, with occasional charcoal flecks, possibly the result of standing water forming in situ, and associated with the water movement from adjacent earthworks excavated in Trenches 1, 2 and 3.	Deposit	Width 1.70m Length 7.00m+ Depth 0.26§m+

Trench 7	Dimensions: 5m x 2.7m/Max. Depth 0.45m		
	Orientation: N-S		
	Reason for Trench: To assess geophysical anomalies, and evidence for former building		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
7000	Mid grey-brown sandy silt with occasional small sub-rounded/sub-angular stones, encompassing the entire trench. Vegetation in this area was fairly rough, positioned at the edge of the main visitor attraction. Pottery (4 mixed body sherds) and 21 small fragments of animal bone were recovered from this context. A small pendant, likely to be early modern was also recovered (small find 4). Deposit also included CMB, mortar, and occasional small fragments of dressed limestone, probably from window surrounds.	Deposit – Top Soil	0.00-0.12
7001	Light grey brown sandy silt, firm and compact, encompassing the entire trench. Subsoil deposit, with a mix of rubble, clinker, slag, modern glass, corroded ferrous objects (predominantly nails), slate, CBM, mortar and flint cobbles, porcelain, modern bottle tops, small oyster shells, buttons, small glass medicine bottle, and 22 small potsherds recovered from this context. A small early modern pendant was also recovered (small find 5).	Deposit – Subsoil	0.12-0.23

Trench 7	Dimensions: 5m x 2.7m/Max. Depth 0.45m		
	Orientation: N-S		
	Reason for Trench: To assess geophysical anomalies, and evidence for former building		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
7002	Mid to Dark grey brown clay sand, with frequent charcoal, and frequent fragments of CBM and clinker. Deposit localised to the north eastern part of the trench (step 3), and extending beyond the limit of excavation. Overlies Deposit (7004) . A lead alloy commemorative medal dating c. 1800 to 1900 was recovered from this context (small find 3).	Deposit	Width 1.80m+ Length 0.9m+
7003	Mid yellow brown grey fill of channel, constructed for drainage purposes. Recorded in plan in the north west of the trench (step 1 & 2), including large quantities of building rubble, cobbles, slate and CBM. Overlies Deposit (7004) . 7 fragments of animal bone & 2 tooth fragments recovered from this context.	Deposit	Width 1.25m+ Length 2.30m+ Depth 0.10m+
7004	Mid black/brown fine clay sand with frequent inclusions of modern brick and poorly sorted rubble with frequent air pockets. Finds included heavily corroded metal, modern glass, unidentifiable rubber, porcelain, and occasional shell. One of a number of interleaving dump layers in this part of the site, this deposit extends across whole trench. Overlies Deposit (7005) .	Deposit	Width 2.7m Length 5.0m+ Depth 0.20m+
7005	Mid yellow brown fine clay sand, with frequent mortar, CBM, slate, limestone fragments, modern glass, porcelain, corroded ferrous objects (nails and modern garden tools), 3 clay pipe steps and general debris inclusions. Deposit exposed in section, and is thought to extend across much of the trench. 3 animal bone pieces and 1 tooth were recovered from this context.	Deposit	Width 0.60m+ Length 4.40m+ Depth 0.20m+
7006	Mid yellow silty clay, with frequent chalk flecks and rubble inclusions. Same deposit as (7012) , deposit exposed in section at south end of trench (step 1 & 2).	Deposit	Width 0.70m+ Length 2.40m+ Depth 0.20m
7007	Mid brown yellow sandy clay, with frequent chalk inclusions. Layer localised in central part of section (step 2), and exposed in plan.	Deposit	Width 0.60m+ Length 0.65m Depth 0.10m

Trench 7	Dimensions: 5m x 2.7m/Max. Depth 0.45m		
	Orientation: N-S		
	Reason for Trench: To assess geophysical anomalies, and evidence for former building		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
7008	Mid grey brown sandy clay, with frequent mortar, rubble, CBM in a 'dumped' concentration in the centre of the trench (step 2). Deposit observed in plan, but depth unknown.	Deposit	Width 0.40m+ Length 1.15m+ Depth 0.10m
7009	Light yellow brown with a high concentration of lime mortar, overlain by deposit (7011), similar composition to deposit (7015). 5 mixed pottery sherds and multiple animal bone pieces, teeth and smaller fragments recovered from this context. Deposit identified in step 3, and was truncated by canine grave.	Deposit	Width 0.75m+ Length 1.15m+ Depth 0.20m+
7010	Mid black brown silty clay demolition dump layer, overlying (7011) and below (7005). Contains frequent CBM and mortar.	Deposit	Width 0.75m+ Length 2.50m+ Depth 0.20m+
7011	Mid grey brown clay sand, overlain by deposit (7010). Multiple animal bone pieces, teeth and smaller fragments, and mixed pottery sherds were recovered, in addition to small find 1, a Jetton – continental, probably 15 th Century (Tounai).	Deposit	Width 0.65m+ Length 3.10m+ Depth 0.30m
7012	Mid yellow clay silt, compact, with frequent mortar and clay inclusions. Abuts deposits (7008 & 7006), overlies (7010) band is similar in composition to deposit (7007).	Deposit	Width 1.40m+ Length 2.40m+ Depth 0.20m
7013	Mid orange brown clayey sand, poorly sorted, containing articulated canine skeleton with grave cut edged with large cobbles. Recorded in step 3.	Fill of Pit [7014]	Width 0.60m Length 0.87m Depth 0.26m
7014	Oval shaped grave cut, with vertical sides and a sharp break of slope to the top and bottom. Feature appeared to truncate all earlier dump deposits. Filled by deposit (7013) and recorded in step 3.	Cut of Pit	Width 0.60m Length 0.87m Depth 0.26m
7015	Mid grey black grey black clay, with lime mortar inclusions, localized in the eastern section (step 3) and is probably a dump deposit. Above deposit (7016) and below (7011). 1 glazed body sherd 10 (approx.) bone fragments. Medieval Coin – sterling silver penny, hammered, probably Edward I-III (1272-1377)	Deposit	Width 0.90m Length 0.52m Depth 0.16m

Trench 7	Dimensions: 5m x 2.7m/Max. Depth 0.45m		
	Orientation: N-S		
	Reason for Trench: To assess geophysical anomalies, and evidence for former building		
Context	Description	Interpretation/ Process of deposition	Dimensions (m)
7016	Light yellow brown sandy clay, with lime mortar inclusions, levelled surface, likely to be part of the original construction cut for the building. A diffuse boundary was observed with the underlying natural subsoil, suggesting a degree of trample. Deposit was observed in section and plan in the north-eastern part of the trench, and was presumed to extend across the entire trench.	Deposit	Width 0.65m+ Length 3.60m+ Depth 0.08m
7017	Mid yellow brown sandy clay, observed in 'Step 3' and presumed to extend across the entire trench.	Deposit – Natural Subsoil	Width 0.65m+ Length 3.60m+

APPENDIX 2 – LEISTON ABBEY FINDS AND ENVIRONEMTAL SAMPLE TABLES

Plant Remains in the Samples

Sample	Charred	Waterlogged	Significant taxa																							
Grains	Chaff	Seeds	Wood	oth er	see ds	grai ns	oth er																			
	a	d	p	a	d	p	a	d	p	a	d	p	a	d	p	a	d	p	a	d	p	a	d	p		
1	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	1	1	1	-	-	-	3	1	1	Mostly uncharred rootlets, occasional identifiable charcoal fragments, one fragment of uncharred <i>Sambucus nigra</i> seed	
2	-	-	-	-	-	-	-	-	-	3	-	2	-	-	-	-	-	-	-	-	-	3	1	1	Abundant identifiable charcoal	
3	1	1	3	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-	3	1	1	Three <i>Triticum</i> grains	
6	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	1	1	-	-	-	3	1	1	Mostly uncharred rootlets and occasional uncharred <i>Stellaria</i> seeds	

Key: a = abundance [1=occasional 1-10, 2=moderate 11-100 and 3= abundant >100; d = diversity [1=low 1-4 taxa types, 2=moderate 5-10, 3= high; p = preservation [1 = poor (family level only), 2= moderate (genus), 3= good (species identification possible)]

Leiston Abbey Small Finds

Medieval French Jetton: Context (7011-1)

Description	Medieval copper alloy French Jetton introduced in 1340 by Philip VI (1328-50) probably dating 1340 – 1380AD. Obverse: Illegible probably either royal crown with large central <i>fleur de lis</i> with trefoil ornamentation across the body or shield of France type. Reverse: Triple stranded straight cross fleuretty within a four-arched tressure.
Chronology	Broad period: Medieval Sub-period from: Middle Medieval Sub-period to: Late Medieval Date from: 1340 Date to: 1380
Dimensions & Weight	Diameter: 25mm Weight: 1.90g Quantity: 1
Materials and Construction	Primary material: Copper alloy Completeness: Complete

Hammered silver half penny: Context 7015-2

Description	Medieval silver hammered penny Obverse: Illegible. Reverse: possibly from the London mint. Not closely dateable due to the absence of detail. Probably dates between Henry III 1247 to Richard III 1485AD
Chronology	Broad period: Medieval Period from: Early Medieval Period to: Late Medieval Date from: 1247 Date to: 1485
Dimensions & Weight	Diameter 17mm Weight: 1g Quantity: 1
Materials and Construction	Primary material: Silver Completeness: Complete

Commemorative medal: Context 7002-3

Description	Lead alloy probably decorated disc approximately half remaining. The border is pelleted on both sides with a stylised anthropomorphic face on the obverse and lettering on the reverse. Inscription reads []G []IIS []VI. There are no clear parallels for this object but in form and style it is suggestive of a commemorative medal dating 1800 to 1900 AD.
Chronology	Broad period: Post-medieval Sub-period from: Late Post-medieval Sub-period to: Early Modern Date from: 1800 Date to: 1900
Dimensions & Weight	Length: 34mm Width: 20mm Weight: 22.14g Quantity: 1
Materials and Construction	Primary material: Lead, zinc, copper ally Completeness: Incomplete

Pendant Context - 7000-1	
Description	Post-medieval to Early Modern pendant in the art deco style dating 1878 probably made in America and sold in England as it is not a British patent number. The pendant is silver plated, rectangular stamped with ENGLAND STERLING PI 202213 inset with cut glass rectangle, loop and one link of the chain.
Chronology	Broad period: Post-medieval Sub period from: Late Post-medieval Period to: Early Modern Date from: 1878
Dimensions & Weight	Length: 28mm Width: 21mm Weight: 5.58g Quantity: 1
Materials and Construction	Primary material: Silver and glass Completeness: Incomplete

Pendant: Context – 7001 -5	
Description	Early Modern art nouveau pendant dating 1920 to 1930. Rectangular elongated tapered bale made of copper alloy setting with loop for a chain containing a blue polished stone possibly cobalt glass.
Chronology	Broad period: Early Modern Sub period to: Early Date from: 1920 - 1930
Dimensions & Weight	Length: 21mm Width: 11mm Weight: 2.22g Quantity: 1
Materials and Construction	Primary material: Copper alloy and paste plastic Completeness: Incomplete

APPENDIX 3 – UPDATED PROJECT DESIGN

(Bound as separate document Leiston Abbey_UPD_V1.1)

