



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

THE APPENDICES

THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

THE APPENDICES

Table of Contents

Appendix A: Landscape-Level Archaeological Reconnaissance Resources

Appendix B: DigVentures' Theory of Change and Standards of Evidence – *Wilkins (2019)*

Appendix C: 25 Years of Research on the Sands and Gravels of Heslerton - *Powlesland (2003)*

Appendix D: West Heslerton – The Focus for a Landscape Project – *Powlesland (1980)*

Appendix E: West Heslerton (Current Archaeology No. 76) – *Powlesland (1981)*

Appendix F: Living Levels – Recapturing the Historic Landscape – *Jago and Eno (2022)*

Appendix G: Living Levels – Community Archaeology Project Assessment Report – *Jago (2022)*

All Appendix cover images: Seasons in Time Community Archaeology Project, Elmswell Farms Local Landscape. Courtesy of DigVentures.



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX A: LANDSCAPE-LEVEL ARCHAEOLOGICAL RECONNAISSANCE RESOURCES

Historic England- HIAS (Heritage Information Access Simplified)

Historic England's [HIAS](#) programme for improving public access to heritage data has resulted in the recent release of numerous incredibly useful landscape-level resources, including the [Aerial Archaeology Mapping Explorer](#) and the [Aerial Photo Explorer](#) alongside the associated freely downloadable digital data for re-use in Historic England's [Open Data Hub](#) portal.

Furthermore, access to spatial and distribution data from the [National Heritage Lists for England](#), the [Heritage at Risk Register](#) and [Conservation Areas](#) amongst many others is also available from Historic England's [Open Data Hub](#) portal. Plans are also in the works to digitise the vast archive of hand drawn surveys completed by the RCHME and release these on the Open Data Hub as part of the next phase of the HIAS programme (Crutchley, 2023).

DEFRA – LiDAR Survey Data Download

The Department for Environment Food and Rural Affairs (DEFRA) [LiDAR dataset](#) ranging from 0.25m to 2m resolution is freely available to download. This resource, providing elevation data for the entire country, is now available at 1m and 2m resolutions, with 0.5m and 0.25m available in selected areas.

Natural England – Open Data Geoportal

Natural England's [Open Data Geoportal](#) provides spatial datasets for historic landscape designations such as Ancient Woodlands, Heritage Coasts, Historic Landscape Characterisations, as well as ecological landscape designations such as SSSI (Site of Special Scientific Interest), chalk streams, nature reserves, moorlands, marine conservation zones and river habitats.

National Library of Scotland – Historic Mapping

Another excellent resource for understanding landscape development via historic map regression is the National Library of Scotland's [Map Finder](#); a free online interface of the library's historic mapping collection.

National HER – Heritage Gateway

Whilst many regional HER databases are only searchable by request, some are available open access online. [Heritage Gateway](#) is a service for cross-referencing those databases and providing the results of a search in one place.

Archaeology Data Service- Datasets

The [Archaeology Data Service \(ADS\) Archives](#) function provides a freely available open access data download function for the digital data produced by archaeological projects that has been deposited with the organisation for re-use. For example, this includes data files for geophysical survey, photogrammetric survey, spatial survey and observation points amongst many others.

Aerial Imagery – Google Earth, Bing Maps

Free aerial mapping is available from major internet providers such as Google and Bing, covering most of the planet. One particularly useful function is [Google Earth's](#) Timeline feature, providing access to historical aerial imagery datasets licensed to Google and enabling the user to view changes in the landscape over time.

British Geological Survey – Geology Viewer

The British Geological Survey's [Geology Viewer](#) provides detailed landscape level information regarding the bedrock and superficial geological deposits in any location throughout the country. This information can provide invaluable help when understanding how the natural resources of a landscape may have been utilised in the past, how topography and water sources may have influenced land use as well as likely preservation levels.



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX B: DIGVENTURES THEORY OF CHANGE AND STANDARDS OF EVIDENCE

INPUTS

internally or externally deployed staff and resources

ACTIVITIES

the processes and tasks undertaken by the organisation

OUTPUTS

a quantifiable unit of 'product' or 'service' measurable once completed

OUTCOMES

Observable change for heritage, individuals or communities

MISSION AND VISION

The organisation's guiding mission and long term aspirations

For Archaeology and Heritage

Excavation team
Wider specialist team
Venturers (public participants)

- 1 Desk-based assessments
- 2 Remote Sensing
- 3 3D landscape and building survey
- 4 Excavation
- 5 Post-ex assessment and analysis
- 6 Accessible digital archive

- Project Designs
- Survey reports
- Assessment and Final Reports
- Management Plans
- Archaeological Publications
- Site Interpretations

Through our work, heritage will be:

- identified, interpreted and better explained
- better managed and in an improved condition

By collaborating with citizens, businesses, organisations and government, we aim to create a firm evidence-base for the past through accessible, peer-reviewed research, ultimately enabling places to thrive, prosper and sustain distinct local identities

For Individuals

Community management, educational and editorial teams
DigVentures' collaborative platform:

- collaborative resources
DigVentures.com
- collaborative finance
Crowdfunding app
- collaborative labour
Digital Dig Team web app
- collaborative knowledge
MOOC learning management system

- 1 Crowdfunding campaigns and matched crowd/grant funded applications
- 2 Accessible training programme comprising Dig for a Day/ Dirty Weekend/ Field Venturer
- 3 Digital learning resources including site-specific and skills-based learning available in person or online
- 4 DigCamp and CyberDig family sessions

Funded/Match-funded Project

- Number and diversity of Dig participants
- Number and diversity of Digital participants
- Number and diversity of DigCamp participants
- Co-created digital archives and interactive, open-access, online resource measurable through digital analytics

By taking part in our work:

- a wider range of people will be involved in archaeology and heritage
- people will have learnt about heritage, leading to changes in ideas and actions
- people will have greater wellbeing

By creating a spectrum of digital and physical opportunities to participate together, we aim to equip citizens with the skills needed to use, produce, manage and co-commission heritage resources, fostering civic awareness and a deeper sense of place and belonging

For Communities / Society

Community management educational and editorial teams
Site Hut
Dig Timeline
Social Channels

- 1 School visits
- 2 Site open days
- 3 Pop-up and virtual museums
- 4 Published web content and native social posts
- 5 Recorded video and live
- 6 Traditional broadcast and print media

- Number of web/social engagements, and community growth
- Number and diversity of site and pop-up visitors
- Site and museum visitors increased and lasting audience for sites

As a consequence of our work:

- The local area will be a better place to live, work or visit
- Partner organisations will be more resilient

By challenging the perceived barriers to archaeological participation, we will create an accessible 'broad tent' incorporating multi-cultural and diverse perspectives; we aim to increasing the awareness and amenity of sites and visitor attractions, stimulate leisure and tourism, and help to make distinctive heritage the unique selling point of a place

	EXPECTATION	SUGGESTED METHOD	OUTCOMES FOR HERITAGE	OUTCOMES FOR PEOPLE	OUTCOMES FOR COMMUNITIES
Level One	Providing an academically rigorous framework, whilst ensuring that impact measurement is appropriate to the stage of development of a variety of different products, services and programmes. A low threshold, appropriate to very early stage innovations, which may still be at the idea stage. Involving little more than a clear articulation of why the intervention is needed, what it will aim to achieve why this is better than what currently happens. Project owners will be able to give an account of impact, providing a logical reason why their intervention could have an impact and why that would be an improvement on the current situation.	Steps needed to ensure correct evidence is collected to determine whether or not a venture is making a positive difference A clear rationale to show why the product/service could have an impact, and why that would be an improvement on the current situation. Articulated as a theory of change and logic model, linking activities, outputs, outcomes to hypothesized impact.	Intrinsic benefits relating to the research dividend and evidence baseline required for successful management of archaeological sites and landscapes A fully illustrated Project Design, signed off by statutory stakeholder, outlining key archaeological research questions, roles, procedures, stages and outputs.	Instrumental benefits for participants and platform users, enabling the voluntary sector to scale in a sustainable and ethically responsible fashion A training or activity plan, linking activities to outputs, outcomes and impact, and an explanation of how the outcome could be measured.	Wider social impacts received by those who may not be direct participants, but benefit through increased amenity value, tourism and local distinctiveness. A training, activity, audience development and/or heritage resource management plan, linking activities to outputs, outcomes and impact, and an explanation of how the outcome could be measured.
Level Two	At Level 2 projects will be gathering data that shows some change amongst those receiving or using the intervention. At this stage, data can begin to show that there is a change in the measure of the outcome among the recipients of the product or service, but this may not be sufficient to provide evidence of direct causality.	Pre and post-survey evaluation; cohort/panel study; and regular interval surveying.	Assessment Report; Management Report, base-lined against previous investigations	Evaluation survey for participants to quantify demographics, socio-economic characteristics and spatial data, followed up with a pre and post-survey qualitative evaluation using a separate questionnaire methodology to determine any changes as a consequence of taking part	Evaluation survey for site visitors to quantify audience demographics, socio-economic characteristics and spatial data, followed up with a qualitative study using a separate questionnaire methodology to determine any changes that took place as a consequence of the visit
Level Three	At Level 3 projects will be able to demonstrate that they are causing the hypothesized impact, by showing less impact amongst those who don't receive the product/service.	Robust methods using a control group, or evaluating a random selection of participants, begin to isolate the impact of the product/service. All products/services at Level 3 will be well documented, with necessary skills, training (and other delivery requirements) outlined clearly, to enable effective replication in alternative places, situation, contexts etc.	Analytical report, synthesizing specialist reports with previous work locally, regionally and nationally, to determine significance, importance and potential of the site.	Meta-analysis of evaluation results with those derived from projects delivering similar community-based activities, including archaeological/heritage and other unrelated arts/citizen science projects.	Meta-analysis of evaluation results with those derived from projects delivering similar community-based activities - including both archaeological/heritage and other unrelated arts/citizen science projects.
Level Four	At Level 4 projects can explain why and how the intervention is having the impact observed and evidenced so far, supported by an independent evaluation to validate the findings. This will also assess the extent to which the intervention can deliver impact at a reasonable cost, and whether it can be replicated and purchased in multiple locations.	Robust independent evaluation that investigates and validates the nature of the impact; this might include endorsement via commercial standards or industry kitemarks, underpinned by a documented standardisation of delivery and processes, data on costs of production and acceptable price point for customers.	Quality assured by the Chartered Institute for Archaeologists (CIfA) under the Registered Organisation scheme, and involving independent site inspections and documentary audit.	External audit of quality of training programmes and activities by CIfA, The Archaeological Training Forum, Register of Professional Archaeologists, Skills Passport and National Occupational Standards.	External audit of community programming and impact by specialist consultancy, undertaken independently of project team.
Level Five	At Level 5, projects will be able to demonstrate that the intervention could be operated up by someone else, somewhere else and scaled up, whilst continuing to have positive and direct impact on the outcome, and whilst remaining a financially viable proposition. For a service, this will establish whether it can be delivered by different staff in different locations.	Evidence will be derived from multiple evaluations of the product/service in different settings (at least two evaluations; one of which will be independent) to demonstrate that the product/service can be used in different settings (which could be in different settings geographically and/or with different types of product/service users). Appropriate methods at this level will include multiple replication evaluations; future scenario analysis; or fidelity evaluation.	An excavation manual, underpinned by a broader operations manual and 'culture deck', detailing how the DigVentures project model should be applied in differing contexts.	A syllabus and training manual, underpinned by a broader operations manual and outline spectrum of engagement, detailing the participant's journey from digital supporter to experienced field digger.	An audience engagement and communications plan, underpinned by a broader operations manual and tailored 'culture deck', detailing how the intervention should be applied with clear and measurable benchmarks.



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX C: 25 YEARS OF RESEARCH ON THE SANDS AND GRAVELS OF HESLERTON

This volume is dedicated to the memory of two great Yorkshire archaeologists, Tony Brewster who set the scene and John Hurst who approved the first grant for work in Heslerton and tragically died whilst this work was in preparation.

ISBN: 0 9537488 1 2

3/060

NY58/66

25 years of archaeological research on the sands and gravels of Heslerton

by Dominic Powlesland



ENGLISH HERITAGE

**The Landscape
Research Centre**

INTRODUCTION



'a remarkable character. Tony Brewster'

On a bleak windswept day early in the spring of 1978 I visited a small sand and gravel quarry between the villages of East and West Heslerton on the southern side of the Vale of Pickering. The broad band of sand and gravel which separates the edge of the wetlands and the foot of the Yorkshire Wolds, often referred to as the sandy lands, is now considered to be of poor agricultural value and might seem an unlikely place for past settlement. In fact, the situation is quite the reverse. Here, a quarry worker, Jim Carter from West Heslerton, had discovered a number of Early Anglo-Saxon burials following the removal of ploughsoil in preparation for the extraction of sand and gravel. Cook and Son's quarry, like many others throughout Britain, was the setting for a chance discovery that was to change our understanding of the past forever. The light sandy soils covering the sand and gravel deposits that span the gently sloping gap between the base of the Yorkshire Wolds and the wetlands that once covered most of the central part of the Vale of Pickering, provided an ideal setting for prehistoric and later settlement.

Throughout the 1960s and 1970s an increase in the scale of sand and gravel extraction for urban regeneration, housing and road building, led to the discovery of hundreds of 'new' archaeological sites. These 'sites' became clearly visible once the covering blanket of plough-soil had been removed prior to mineral extraction, revealing dark marks in the soil which indicated ancient field ditches, burial-mounds, post-settings for timber buildings and regular outlines of ancient graves. The well-drained sands and gravels often provided a perfect setting for the



Crop marks showing the ditches around prehistoric burial mounds near Rillington

formation of crop marks showing the layout of buried features, giving archaeologists the opportunity to plan a rescue excavation programme in advance of mineral extraction. At Cook's Quarry a layer of blown sand that lay between the archaeological features and the modern ploughsoil restricted the formation of crop marks, thus hiding evidence of human activity spanning nearly 7000 years. Although a burial accompanied by a jet necklace, dated to about 1800 BC, had been found in the quarry ten years earlier, the discovery had not been followed up. Archaeology was not, however, unknown to the population of West Heslerton. Jim Carter immediately understood the importance of the fragments of metalwork and bone that he found on the quarry surface. He had attended the village primary school and been taught by a remarkable character. Tony Brewster, who later gave up teaching to undertake a series of major archaeological excavations on the Wolds, was a deeply passionate archaeologist who had spent his years as a teacher using archaeology in his lessons at every opportunity. Jim and others in the school had worked on his excavations on Staple Howe, a defended farmstead dating to about 1000 BC and situated just to the west of the village. The site itself had been discovered by two of Jim's contemporaries, Mick Stones and Chick Milner, whilst they were playing in the woods. When, in the autumn of 1978, a small team of us arrived at West Heslerton to undertake a small dig at the

12000 BC

12000 OLDEST DATE FOR DOMESTICATED DOGS FOUND IN RUSSIA

10000 BC

11000-10000 HUMAN OCCUPATION IN THE VALE OF PICKERING BEGINS



Ashley the education officer and Trixi the cook cooking up an Anglo-Saxon meal



Part of a prehistoric settlement showing in a geophysical survey

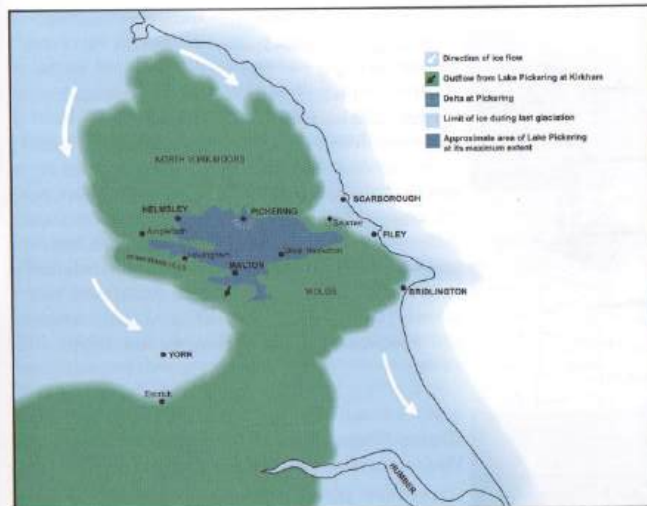
11000 BC

10000 PERIOD OF INTENSE COLD. GLACIERS IN BRITAIN RE-FORM

quarry, we found ourselves working in perhaps the only village in England where archaeology had been a principal subject at the local primary school throughout the 1950s. We may have had long hair, we may have been students, but everyone understood why we were here and encouraged and supported us from the very first day. We have now benefited from that support and understanding for 25 years.

The story of the Heslerton Digs is not just one, but many stories reflecting the hard work, often in bad weather, of more than a thousand 'diggers' excavating huge areas over hundreds of weeks of fieldwork. Days of great excitement and discovery more than matched those of despair. Funding has always been difficult to secure, particularly in the first decade when the funds rarely outlasted the digging season. Since then we have been lucky not only to have secured regular funding from English Heritage, but also to have been given the freedom to develop our excavation and recording techniques which have earned Heslerton an international reputation.

Although we can now reflect upon 25 years of fieldwork, our work is no longer driven by the need to rescue a chance discovery, but by local and national research questions. By combining excavation with other forms of fieldwork we are learning more every day about how people have lived in and changed this remarkable landscape. We hope that through a better understanding we can help develop ways in which parts of this remarkable heritage can be preserved for future generations. It would take over a thousand years to dig all the sites that we have recorded through surveys from the air and on the ground.



Map showing Lake Pickering at its maximum extent about 14000 years ago

THE VALE OF PICKERING - A MOST UNUSUAL VALLEY.

The Vale of Pickering is unique in England for here the principal river, the Derwent, flows not towards the coast but inland. It rises just a few kilometres from the sea on the North Yorkshire Moors and runs not east to the sea, but west through the Vale of Pickering and then south to join the River Ouse more than 80km from its source. This unusual drainage pattern of the Vale of Pickering results from changes to an established river valley that originally drained into the North Sea south of Filey. During the last glaciation, which ended about 14,000 years ago, the North Yorkshire Moors appear to have provided a barrier against glaciers pushing south which divided to create a major glacier running down the coast and a second filling the Vale of York. As the glaciers receded, high ridges of glacial till known as lateral moraines were left behind, one blocking off the Derwent's outflow to the sea. With nowhere else to go, the meltwaters of the receding glaciers filled the blocked valley to form Lake Pickering to around the 65 metre contour. Finally the Lake overflowed, cutting a deep gorge

8000 BC

8000 LAST ICE SHEETS RETREAT, SEA LEVEL RISES AND WOODLAND DEVELOPS



Archaeologists use painters towers to get a better view of the ground

between the Howardian Hills and The Yorkshire Wolds at Crambeck. By about 10,000 BC the water level in the valley had stabilised at about 25 metres above sea level leaving Lake Flixton, contained between two moraines at the eastern end of the valley and draining into a very much-reduced Lake Pickering. As the waters drained away, sands and gravels deposited around the edge of the Valley were left exposed whilst, in the centre of the valley, Lake Pickering appears to have been reduced to a large number of smaller lakes that were often separated by long, slightly raised gravel ridges running from east to west. Around these lakes extensive reed marshes and woodland developed, filling the base of the valley.

EARLY PREHISTORIC HUNTERS - THE LATE PALAEO-LITHIC AND MESOLITHIC

Heslerton is not the only major archaeological site in the Vale of Pickering. The earliest evidence of human occupation in the area comes from the Carr lands at the eastern end of the valley, in particular from Star Carr, where Lake Flixton drained into Lake Pickering, and Seamer Carr, where the site is now buried under the Scarborough municipal rubbish dump. The sites at Star Carr and Seamer Carr, hidden beneath the dark smelly peat that is indicated by the name Carr, have produced worked flint and bone tools, and butchered animal bones dating back as far as 11,000 BC. These flint blades and points were lost or discarded during regular visits to the edges of post-glacial Lakes Flixton and Pickering, which were ideally placed for hunting. By burning the reeds at the edge of the lake new shoots were encouraged to grow, attracting animals to feed at the lake edge where they were easy prey for the

skilled hunters of the Late Palaeolithic or Old Stone Age. As the climate warmed and became wetter, extensive reed beds formed around the lake edges and over thousands of years a thick layer of peat formed. Peat, which comprises partially decomposed plant material, develops in stagnant waterlogged areas where there is insufficient oxygen in the water to support the microbes which would otherwise consume the plant remains. Peat is an important resource that acts as a natural sponge holding as much 90% of its volume of water. In the past, the extensive areas of peat in the valley bottom would have moderated the risk of flooding in the Vale of Pickering, expanding to hold more water during very wet times and then gradually shrinking as the water drained away during periods of drought. Peat is of great importance to the archaeologist because within it pollen, insect remains and other organic materials can survive for thousands of years. Pollen found in peat deposits is the best source of information for the reconstruction of ancient environments which, in turn, can help us understand past climates.

Excavations following the edge of Lake Flixton, carried out by the Vale of Pickering Research Trust over more than 20 years, have shown that the water level in Lake Flixton remained static for over 5000 years spanning the period from the end of the Palaeolithic into the Mesolithic or Middle Stone Age. During this period the lake edge provided an important and constantly re-visited hunting ground. We can be certain that the situation was similar elsewhere in the valley, associated with the many lakes and pools which were the surviving remnants of Lake Pickering. Until less than 200 years ago there were widespread peat deposits over much of the Vale of Pickering. As the boggy Carr lands have



Archaeologists must record all the evidence as it is removed. Here the modern plough damage is being mapped



A volunteer learns to draw a scale plan of a group of animal bones

8000 BC

7000 FIRST EVIDENCE OF AGRICULTURE IN SOUTH CENTRAL AMERICA: SQUASH, BEANS AND CORN FOUND

6000 BC

6200 EARLIEST MAP PAINTED ON A HOUSE WALL AT CATAL HOYUK IN TURKEY

6000 LAND-BRIDGE LINKING BRITAIN TO MAINLAND EUROPE DISAPPEARS



The Vale of Pickering as it is today seen from the northern edge of the Yorkshire Wolds. During the Mesolithic most of the centre would have been covered with small lakes and boggy marshes.



'At Cook's Quarry a layer of blown sand that lay between the archaeological features and the modern ploughsoil'

been drained the peat has decayed away, the ground level has sunk and, with the introduction of intensive arable agriculture into these areas, most of the early prehistoric sites have been badly damaged or lost altogether to the plough.

The earliest evidence of human activity so far discovered in the excavations in and around Heslerton dates to the Late Mesolithic at about 5000 BC, when tiny 'microlithic' flint blades were used to make complex composite tools. Rather than make a spearhead using a single large flint blade, multiple small blades were set into bone, antler or wooden hafts using tree resin as an adhesive. Although we have found only a few microliths, their discovery alongside an ancient stream channel emerging from the foot of the Wolds may indicate that this area was also used for hunting and probably also as a routeway linking the centre of the Vale to the lower slopes of the Wolds. It is difficult to get a clear picture of the Vale and its people during early prehistory. Fragments of worked flint show that the Vale supported a small population at least, living as hunter gatherers on a mixed diet of fish, fowl, meat and fruit and nuts, using their flint tools to work wood and leather, and producing woven materials such as baskets and matting. Although there is a tendency to think of the landscape at this time as being covered by dense primeval forest, it is likely that extensive areas may already have been cleared, sometimes by fire following lightning strikes, and at others deliberately cleared using slash and burn techniques, leaving open areas and areas of scrubby re-growth particularly on the sandy lands where tree cover would take a long time to regenerate. The Mesolithic population were little different to people today and knew that forest clearings made perfect

locations for trapping and killing animals for food.

Although the discovery of flint tools shows that the area supported a population during the early prehistoric periods, the people who made these objects were nomadic and their settlement sites are difficult to identify. We do not really know what they may have looked like; it is most likely that they used tents which were progressively moved from one camp site to another as the year progressed. It is likely that camp sites may have existed on the slightly elevated sand hills around the lakes; Star Carr for instance was once interpreted as a permanent settlement site although this view is no longer accepted. At sites like Star Carr they hunted elk, red deer and horse in addition to wild fowl and presumably fish.

During the Mesolithic period the land-bridge which linked the British Isles to the European mainland was breached as the climate became warmer and sea level rose; it is likely that many important Mesolithic sites lie beneath the North Sea.

A detailed study of the sands and silts in the ancient stream channel examined during excavations at Cook's Quarry in Heslerton indicate that the blown sands, which become an important feature of the archaeology of the Heslerton area, were already starting to form by the end of the Mesolithic, showing that some open areas must have existed.



The ancient stream channel at Cook's Quarry. Most of the Mesolithic flints were found near this channel which may have been followed as a route through the landscape.

6000 BC

6000 SAHARA BEGINS TO FORM AS A DESERT

5000 EARLIEST EVIDENCE OF HUMAN ACTIVITY IN HESLERTON

4000 BC

4500-3000 FARMING BEGINS IN BRITAIN: INCLUDING EINKORN WHEAT, SIX-ROW BARLEY, CATTLE AND PIGS



'a huge long barrow' was constructed on the top of the Wolds during the first half of the Neolithic'

THE AGRICULTURAL REVOLUTION - THE NEOLITHIC

During the Neolithic or New Stone Age (between about 4000 BC and 2200 BC) settled agriculture is first established and, although hunting and gathering would still have provided an important source of foodstuffs, the growing of crops and domestication of livestock made permanent settlement possible for the first time. During the Neolithic we see the first pottery introduced and the construction of large monuments in the landscape. Eastern Yorkshire is rich in evidence from this period during which the landscape must have supported a considerable population. The direct evidence of settlements is still very sparse, but the burial evidence is both striking and widespread. New technologies were introduced, including polished stone axes which were traded widely throughout Britain, and were efficient tools for both felling and splitting trees. Their distribution in the Vale of Pickering shows that during this period woodland was being cleared aggressively, particularly in the centre of the valley. The construction of large burial mounds, including both long and round barrows, using stone, antler and bone tools, seems to have become widespread indicating that society was organised

4000 BC

4000 CIVILISATION BEGINS IN MESOPOTAMIA
3500 WHEEL INVENTED BY SUMERIANS IN MESOPOTAMIA
3300 OTZI THE ICE MAN KILLED BY ARROW IN THE ALPS

and that survival was not merely based upon subsistence. There was time and labour to spare from food production to allow for the construction both of complex burial structures and other monuments, in particular avenues of huge posts made from complete tree trunks, and circular monuments surrounded by ditches known as henge monuments. These structures, which derive their name from Stonehenge, are distinguished by a circular enclosure surrounded by a bank and ditch with one to four entrances aligned on the principal points of the compass.



'polished stone axes ... were traded widely throughout Britain'

In Heslerton a huge long barrow was constructed on the top of the Wolds during the first half of the Neolithic. This monument, which was partially excavated during the 1960s, was over 120m long and would originally have stood over three metres high. The mound, made of chalk quarried from ditches on either side of the monument using pickaxes made from antlers, must have been a most imposing structure. At its eastern end the barrow was fronted by a curved setting of huge tree-trunk posts. Although this structure was built on the top of the Wolds, it was set back from the edge and would only have been visible from limited parts of the landscape. Although part of the eastern end of the barrow had been quarried away, probably in the 19th century, and most of the eastern half was subsequently almost completely levelled by ploughing, the western half of the barrow still survives to a height of over a metre.



Balloon photography gives a birds eye view of a Neolithic henge, the large circular feature, during excavation.

During the excavations at Heslerton a number of important Neolithic features have been examined. These fall into three groups: structures associated with burial, landscape monuments including three

3000 BC

3200-2700 EAST HESLERTON LONG BARROW BUILT AS A TOMB
3000 CITY OF TROY BUILT
3000 WATER CLOCK INVENTED IN CHINA



'massive post pits seem to have provided the settings for possible totem poles'



Henge monument located in East Heslerton and measuring over 65m in diameter. The ditch shows as a dark circular feature with entrances to the east and west.

3000 BC

3000-2500 WOODLAND CLEARANCE OPENS UP LAND FOR FARMING IN THE VALE OF PICKERING

hengiform monuments, and a large number of 'avenues' comprising posts and pits that often contain burnt hazelnut shells, animal bone and pottery which may be associated with domestic activity. The pits themselves may have originally been dug as storage pits for hazelnuts which were a valuable food source.

The first evidence of what we can now show to be widespread Neolithic activity was discovered at Cook's Quarry, the first site we were to excavate. The light sandy soils which sit atop the sand and gravel deposits must have provided an ideal setting for early agriculture, in which the first cereal crops of einkorn and emmer wheat were probably planted individually using simple digging sticks in much the same way as a modern gardener uses a dibber. These soils, whilst easy to work, would have rapidly become less fertile, and it is likely that during much of the Neolithic relatively small areas were under cultivation. The absence of fertiliser and what would then have been relatively thin topsoils would have supported a few years growth before productivity dropped and new areas were cleared; as far as we know there were no formalised fields during this period. The excavations at Cook's Quarry produced evidence of tree felling or wood working in the form of fragments of polished axe which may have broken off during use. The first of a number of hazelnut storage pits were also found here. These features, which seem to be associated with relatively Late Neolithic activity, often include finely decorated pottery which is classified according to the style of decoration employed. A remarkable discovery, the importance of which has only recently become clear as a result of a radiocarbon date, was the carbonised remains of what appears to have been the blade of a wooden

shovel, surviving as fragments of charcoal in the sand. Neolithic shovels, found on other sites in Britain, have generally been made using the shoulder blades of elk or deer; wooden objects so rarely survive we tend to forget that alongside all the stone and bone tools there would have been many others made of organic materials. A large number of massive post pits seem to have provided the settings for possible totem poles, sometimes arranged in regular pairs to form avenues but in other cases dotted seemingly at random around the landscape. During the last three years a number of new examples of these pits have been found as we work ahead of Cook's Quarry, recording the archaeology prior to sand and gravel extraction. The posts in these pits measuring, 50cm-1m in diameter, must have made imposing monuments. In three cases they seem to have provided a focus for cremation burials.

We have examined three henge monuments - two large examples measuring more than 50 metres in diameter with entrances to the east and west and a third, much smaller example, about 28 metres in diameter with a single entrance to the north. The largest of the three, located in East Heslerton and measuring over 65m in diameter, was first identified through air photography and then mapped in more detail following a geophysical survey. Its situation, partially enclosing a low chalk knoll overlooking the valley, is almost identical to one fully excavated in the mid-1980s at West Heslerton. These monuments, the function of which remains unclear, appear to mark the first indication of human reworking of the landscape; there is no indication that they served either defensive or settlement purposes. In the case of the larger henges, they were built on the very edge



'what appears to have been the blade of a wooden shovel'



English Heritage archaeologist using a GPS to help survey one of the sites

2000 BC

2680-2565 FIRST STONE PYRAMID BUILT IN EGYPT

2500-1800 HENG MONUMENTS, ROUND BARROW CEMETERIES WITH BEAKER AND FOOD VESSEL BURIALS BUILT IN HESLERTON; AGRICULTURE AND POTTERY BECOME WELL ESTABLISHED IN EASTERN YORKSHIRE



'The smaller monument excavated at Cook's Quarry in 2002'

of the light sandy soils, in slightly elevated positions where they would be seen from afar. The smaller monument excavated at Cook's Quarry in 2002 appears to be aligned on a short avenue of massive posts extending northwards towards the edge of the wetland that still filled the bottom of the valley. The term henge, when applied to this small monument, is perhaps too grand; we have yet to confirm its date using radiocarbon dating and it may ultimately turn out to be a new class of burial monument. There were virtually no finds associated with this feature, but near the centre two massive pits had contained posts more than 50cm in diameter; next to one a cremation had been buried in some sort of bag. As the posts decayed, large amounts of cremated bone fell into the voids left by the rotting posts. One is tempted to wonder if these pits had contained inverted tree trunks like those found in 1999 at Sea Henge in Norfolk, on top of which the cremations had originally been placed. An alternative mode of burial, excarnation, where the body is left exposed to the elements until only the bones are left, is hinted at in nearby Barrow 1R, where fragments of disarticulated bone were scattered around what appears to have been a timber mortuary house. Unfortunately only half of this monument was excavated in 1982 and by 2002, when the remaining half was examined, some 5m of the monument had been removed by quarrying and we were therefore only able to excavate the front and back of the mortuary house.

The construction of these mysterious monuments may represent the first demonstration of people's increasing control over the landscape. As with so much in archaeology,

2000 BC

**2000 ICE CREAM IN-
VENTED IN CHINA**

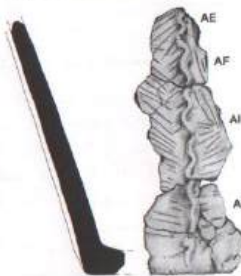
**2000 MYCENAEAN CIVILISATION DOMINATES GREECE;
BEGINNINGS OF THE GREEK LANGUAGE**

we are tempted to see these as 'ritual' monuments; whatever the case, it appears that the henges and the great post-pits are related and that they form part of a constructed landscape, a giant architectural adventure incorporating large monuments of earth, stone and timber. They, and the large number of round barrows that were constructed during the Late Neolithic and Early Bronze Age, dominate the areas of light soils that provided the setting for early agriculture. It is likely that they were maintained, possibly by grazing with sheep and goats, since they are re-visited and re-used for thousands of years.

During the late Neolithic we have the first evidence of settlement. Associated with, but some fifty metres away from the henge in West Heslerton, a series of pits containing pottery known as Grooved Ware, and a number of small post-holes may be the first glimpse we have of settlement; sadly the area opened was very small and there is insufficient evidence to identify the type or shape of the buildings supported by the timbers set in the post-holes. Although we do not have stone monuments like the great stone circles found elsewhere in Britain, wooden post circles, circular enclosures, and large and imposing burial mounds seem to have been dotted around the landscape in an organised fashion, concentrated on the sandy slopes overlooking the great wetland and overlooked from the Wolds to the south where truly massive earth monuments such as Duggleby and Willy Howe overlooked another fertile valley, the Great Wold Valley. The broken polished axe fragments and imposing monuments indicate that much of the sandy land between the foot of the Wolds and the wetlands was probably open; the monuments were not only visible to those living and working in the landscape, but each would have been visible from the others. A great post-circle or, more correctly,



'truly massive earth monuments such as Duggleby Howe'



'pottery known as Grooved Ware'



A great post-circle during excavation

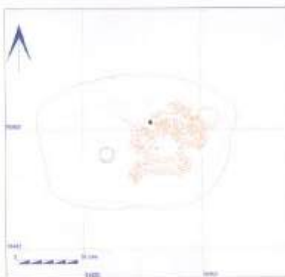
1000 BC

**1800-1600 STONEHENGE
COMPLETED**

**1800-1000 TRADE NETWORKS WITH MAINLAND
EUROPE ESTABLISHED; POPULATION EXPANDS AND
ENCLOSED SETTLEMENTS BECOME WIDESPREAD**



Early Bronze Age Beaker



Plan of a Beaker burial



Food Vessel burial during excavation

horse-shoe arrangement of tree trunk sized posts next to the henge in West Heslerton, may have had a role as a kind of observatory or seasonal clock much like Stonehenge; a single tiny post situated at the centre of the arc may have provided a line of sight for identifying the arrival of spring or midsummer using the stars which were, of course, much more visible at a time when there was virtually no light or other type of pollution. For the archaeologist it is often the period of transition between one major period and another that is most exciting to study. The Neolithic was a period of great change; new polished stone tool technology, the widespread use of pottery, the emergence of settled agriculture, and the construction of monumental architecture for both burial and social or political reasons, changed the landscape for ever.

THE FIRST INDUSTRIAL REVOLUTION: THE BRONZE AND IRON AGES

We have seen how in the Neolithic the landscape was fundamentally changed by the intervention of people, people whose lives were concerned primarily with taking control of the landscape and managing food production. Early farming, when combined with hunting and gathering, must have produced sufficient surplus to leave time for major construction works and for development of new technologies like polished stone tools and pottery. There is no indication of great population pressure and, although polished axes and mace heads may be seen as weapons, they are more likely to have been symbols of power. Societies throughout Britain were connected by trade networks, bringing polished axes to Eastern Yorkshire from as far away as Cumbria and Cornwall; by today's standards these items must

have been immensely valuable. Not until the end of the Neolithic do we see the construction of the first monuments that might be interpreted as defensive. One is tempted to see the landscape as being made up of a large number of linked tribal lands held and maintained through a type of shared ownership, a populated landscape but with room to spare. During the Bronze Age this all changes, and we see wealth and power articulated through weapons, the dividing up of the landscape into large 'estates', and the construction of defensive sites, either as a demonstration of power or out of a need for one community to defend itself from others.

The Early Bronze Age is in many ways indistinguishable from the Late Neolithic. An increasing range of pottery styles, some with continental European influences, may have arrived here as a consequence of migration. Whether it was the people who moved, or simply the Beaker pottery tradition, this 'new age' was heralded by the introduction of metalworking, first copper, rapidly followed by bronze (nowadays frequently referred to as copper alloy).

By the end of the Neolithic period burial in what appear to be family monuments becomes widespread; round barrows up to 30m in diameter are constructed in cemeteries which are often clustered around the large earlier monuments. This tradition continued into the Early Bronze Age leaving a large number of barrows which, in areas where they were built mostly of stone such as the chalk Wolds or Downs, survived relatively intact until the introduction of mechanised farming. These barrows in particular were to catch the attention of some of the great early archaeologists such as JR Mortimer or Canon Greenwell, who excavated hundreds on the



Early Bronze Age Food Vessel



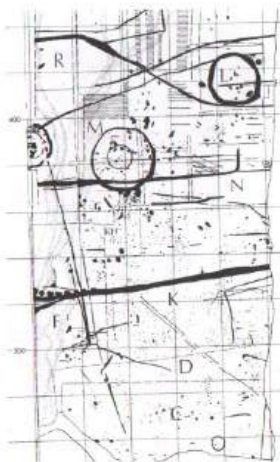
Plan of a Food Vessel burial

1000 BC

1000 CLIMATIC CHANGES IN BRITAIN. AVERAGE TEMPERATURES FALL BY 2 DEGREES CELSIUS **1000-700 FIRST LARGE ESTATES ESTABLISHED IN VALE OF PICKERING; PIT-ALIGNMENTS DUG TO STOP CATTLE RUSTLING**

500 BC

800BC-43AD IRON AGE TRIBES ESTABLISH KINGDOMS ALL OVER BRITAIN; IN YORKSHIRE THE 'ARRAS' CULTURE USE A NEW MODE OF BURIAL, IN SQUARE BARROWS, SOME CONTAINING CART OR CHARIOT BURIALS **776 FIRST OLYMPIC GAMES HELD IN GREECE**



Plan of part of the Cook's Quarry site showing the three barrows 1R, 1M and 1L



Barrow 1M fully excavated

Wolds and the Moors at the end of the 19th century. There has been a tendency to see these barrows as the burial mounds of tribal leaders, made obvious by covering the burial with a great mound of earth or stone; the excavations at Cook's Quarry and on the Dawnay Estate tell a different but more interesting story. In the period between about 2200 BC and 1600 BC, when Beaker pottery styles are found all over Britain, often occurring alongside more localised pottery traditions such as the Food Vessels found in Yorkshire and Scotland, two distinctive barrow building styles can be seen in Heslerton. Large barrows of about 30m in diameter are found in cemeteries located in the centre of the sandy lands, whereas smaller barrows feature around the large henges on the southern margins of the sandy areas. The large barrows, of which we have excavated three (1M, 1L and 1R), were all buried beneath blown sands which, in the case of Barrow 1L, had hidden the monument from view since the Roman period at the latest. It is exceptionally rare in Britain to find prehistoric monuments which have been protected from the effects of agriculture or the attentions of early archaeologists and antiquarians. Because these sites were hidden from view, their final discovery the result of a chance discovery by a quarry worker, the details of their form and construction are well preserved. In all three cases it is clear that the barrow mounds were a very late feature; each had started life as a small flat cemetery surrounded by a shallow marker ditch or gully. Multiple burials were made within the enclosed area, and included both cremations and inhumations. When there was only limited space for further burials, a much deeper enclosing ditch was cut and an earth mound thrown up over the graves; a small number of later burials were then either cut into the

mound or, as in the case of 1L, cut into the partially filled in ditch. In 1L a grave was cut into the mound within only a few weeks or months of the mound being constructed; we could see where the spoil removed whilst digging the grave had been thrown across the open ditch and the area then cleaned up when the grave was filled in. In the case of barrow 1R, where the barrow was established around the Neolithic mortuary house and over one of the great totem pole post pits, radiocarbon dates show that one grave had been disturbed some 800 years after it was first cut, the body being carefully stacked to one side to make way for a Beaker burial. The western side of barrow 1R, excavated in 2002, was not defined by a ditch but by a meandering stream channel. The constant wetting and drying of the sands into which the burials had been cut had created an environment in which not a single scrap of bone survived and, despite very careful excavation, nothing was found in eleven features which, given their size, shape and location in the barrow, must have been graves. The smaller barrows, including two examples found within the large henge excavated at West Heslerton, measured 10-12m in diameter and contained inhumation burials that had been placed in tree trunk coffins, where a large oak tree had been split in half and hollowed out. Most were accompanied by pottery vessels, particularly Food Vessels. Each barrow contained only three or four grave pits, in two of which later cremation burials had been inserted into the top of the main grave pit. Not all burials at this time were covered by barrow mounds, nor were those buried beneath barrows necessarily better furnished. A fine Beaker burial accompanied by a jet button was found in what appears to have been a flat grave a few metres from the two barrow mounds within the henge,



Barrow 1L emerging from the blown sand.



Barrow 1L after the ditch has been emptied with the mound intact.



Barrow 1L with most of the mound removed and visible in the earth cross sections we call balks. A number of grave pits can be seen as dark patches in the sand.

500 BC

500 LADDER SETTLEMENT
ESTABLISHED IN HESLERTON
FOLLOWING A ROADWAY

490 FIRST MARATHON
RUN IN GREECE

447-432 BUILDING OF THE
PARTHENON ON TOP OF THE
ACROPOLIS IN ATHENS

300-54 HILL FORTS
BECOME TRIBAL CENTRES IN
BRITAIN; AN EXAMPLE LIES
UNDER SCARBOROUGH

300BC-AD200 CREMATION BURIALS,
REPLACE THE USE OF SQUARE DITCHED
BARROWS IN THE VALE OF PICKERING

55-54 JULIUS
CAESAR INVADERS
BRITAIN AND
LEAVES AGAIN



Excavating a Food Vessel Burial, note the cremation in the foreground.



'a cremation of a young child was found beneath an inverted Food Vessel Urn.'



whilst just outside it a cremation of a young child was found beneath an inverted Food Vessel Urn.

Although we have plentiful evidence of burial during the Early Bronze age the evidence for settlement is very limited. The inclusion of grave goods with many of the burials indicates a belief in the afterlife, the dead being buried fully clothed and accompanied by short and wide mouthed Food Vessels, which probably did contain food, or tall and slender Beakers which are thought to have contained liquid. Examination of pollen grains found in Beakers in Scotland indicates that they may have contained an alcoholic beverage like mead. By examining the skeletons we can show that these people were relatively healthy and of similar stature to people today and that in some cases they survived into old age. The picture of domestic life is much more difficult to assess; bog-oaks, preserved in the peat in the eastern end of the valley, together with the pollen record, show that the climate became warmer and wetter. Much of the North York Moors would have been good agricultural land at this time; the rise in temperature and rainfall accelerated peat formation. The countryside teemed with wildlife and the lakes and pools in the centre of the valley would have been a good source of fish and wildfowl. Small circular arrangements of small post or stake holes identified during excavation at Heslerton may be the remains of Beaker period houses, but they lack the domestic refuse that would confirm this interpretation.

It is not until the Middle Bronze Age, between 1600 BC and 1100 BC, that we see the first clearly recognisable domestic structures in the excavations at Heslerton. Also at about this time there seems to be

a change in burial arrangements; new cemeteries are established on long narrow ridges towards the middle of the Vale of Pickering. These cemeteries continue to be utilised until they reach their maximum extent during the middle of the Iron Age at about 500 BC. Like the possible round houses identified from the Early Bronze Age, the Middle Bronze Age structures are circular, measuring about 10m in diameter with walls supported on small stakes. These were difficult to see as they had been set in very small stake holes in an area of chalk gravel. These buildings do however have distinctive porches, constructed with much larger posts some 2m to the east of the wall line. Three of these



Rescuing a probable Beaker period house near the edge of the quarry in Heslerton



Artists impression of the Late Neolithic/Early Bronze Age monument complex at Heslerton at about 1800BC; the last barrow is about to be built over a burial in a tree trunk coffin

0

4 BIRTH OF CHRIST **43 THE EMPEROR CLAUDIUS INVADERS BRITAIN AND STAYS** **60 BOUDICA, QUEEN OF THE ICENI, REVOLTS AGAINST THE ROMANS AND BURNS COLCHESTER, LONDON AND ST. ALBANS**

AD 200

71 ROMAN LEGIONARY FORTRESS ESTABLISHED IN YORK **79 MOUNT VESUVIUS ERUPTS AND BURIES THE ROMAN TOWN OF POMPEII** **0-400 IN THE VALE OF PICKERING TAXES TO ROME RISE, LOTS OF SHOPPING OPPORTUNITIES IN DERVENTIO**



'between about 1000 and 800 BC... massive pit-alignments were built'



'field systems, defined by relatively slight ditched boundaries'

structures have so far been identified and it is likely that the walls were made of wattle and daub and that the thatched roof extended to cover the porch post-holes. A small group of cremations over 200m to the west of these structures may be contemporary. Two of them were contained within pottery vessels, but all were in shallow pits that had subsequently been badly truncated by ploughing. The Bronze Age is best known for the metalwork after which it is named, yet we have so far found only two tiny copper awls. We have been shown a number of examples of metalwork found elsewhere in the Valley, including a bronze socketed axe that was being used to open paint tins in a farm workshop. In contrast to stone tools, which could only be re-sharpened a few times before being discarded, bronze is recyclable. Utilising tin from Cornwall, copper from Ireland and lead probably from the Peak district, this material was too valuable to discard; when a bronze tool broke it would be kept until it could be melted down and re-made, probably by a travelling smith. Bronze Age metalwork is most commonly found in hoards, deliberate deposits made for religious purposes; a probable example is a Bronze Age sword found in the Costa Beck, near Pickering. Some pieces are occasionally found during farming and others sadly come to light when found by treasure hunters who destroy the setting which, if excavated properly, could give us valuable information about the deposit and the people who made these items.

Towards the end of the Bronze Age another major transition occurs in the landscape. At this time we have the first clear and detailed evidence of settlement, both on the sandy lands and on chalk knolls overlooking the Vale of Pickering on the north-

facing slope of the Wolds. This is a period for which we have no excavated burial evidence. During the Late Bronze and Early Iron Age, between about 1100 BC and 800 BC, new societies emerge which appear on the basis of domestic items, weaponry and dress fittings, to have had strong links with communities elsewhere in northern Europe, particularly northern France; they are often referred to as La Tène cultures. The constant influx of European influences throughout the Bronze and Iron Ages, whether through migration or trade, reflect a sophisticated and connected society in which barriers of distance and language were evidently overcome.

During the Late Bronze to Early Iron Age transition we see the first large-scale land enclosures associated with extensive open settlements and small fortified sites. The increasing use of wheeled vehicles, an increase in population, and the need to manage stock, led to the development of formalised trackways, their limits defined by hedges and ditches. The skeleton of fields that we see today starts to form and, indeed, some of the landscape boundaries established 3000 years ago survive today as field boundaries and, in the case of West Heslerton, as parish boundaries. By the end of the Iron Age much of Eastern Yorkshire was covered with a great network of enclosures defined by single and multiple banks and ditches; that the banks supported hedges has been demonstrated through the discovery of snail shells from species that live only in a shady hedge habitat. This network of enclosures could have been constructed to define land ownership; however, it is much more likely that they were to assist with stock management and to prevent cattle rustling; wealth was measured in terms of stock not of land. Much of the landscape was relatively open,



'Wheel-ruts in a Bronze Age trackway; the wheel spacing matches that of later Iron Age carts of 'chariots'



'Excavation of an Iron Age 'chariot' burial by the British Museum at Wetwang'

AD 200

**312 ROMAN EMPEROR CONSTANTINE
CONVERTS TO CHRISTIANITY**

**340 ROMAN 'SHRINE' OR TEMPLE
COMPLEX BUILT IN HESLERTON**

**350-400 ROMAN BRITAIN
SUFFERS ECONOMIC COLLAPSE**

**375-425 ANGLO-SAXON VILLAGE
ESTABLISHED AT WEST HESLERTON**



'Tony Brewster excavated ... Devils Hill in West Heslerton'

although the slopes of the Wolds would still have been heavily wooded. The amount of manpower required in establishing this system must have been considerable. The first phase of construction took place at some time between about 1000 and 800 BC when massive pit-alignments were built. These bizarre features comprise pits roughly two metres square, two metres deep, and spaced at metre intervals with an earth bank on either side. We have traced one of these for over 5 kilometres using a combination of excavation and survey, whilst others joining it can be traced using aerial photography running up to and across the Wolds.

Tony Brewster excavated two important sites - Staple Howe in Scampston Parish and Devils Hill in West Heslerton. The characteristic pottery associated with these sites is known as Staple Howe ware, and decorated around the rim and body with finger tip or fingernail impressions. Both sites were small hilltop palisaded enclosures, situated on chalk knolls that had in geological time broken loose from the face of the Wolds and slipped down to form small, steep-sided hillocks measuring no more than 85 by 40 metres on the top. The location of these sites, which were surrounded by a massive



'Square barrows, defined by a shallow square ditch and containing a single inhumation'

timber palisade and ditch, provided a commanding view across the valley. Each contained a large grain storage structure and post-holes from possible houses. They may be interpreted as high status properties or, alternatively, as refuges; they were probably both. The discovery of Staple Howe pottery associated with a large number of grain storage buildings and round houses at Cook's Quarry in a completely unenclosed area adjacent to both a trackway and one of the early landscape boundaries, shows that these two fortified or enclosed sites show just one aspect of a well developed landscape.

By the middle of the Iron Age a new culture had emerged, once again with links to northern France. The Arras culture, best known for its square-ditched barrow cemeteries and, in particular, the so-called chariot burials. Square barrows, defined by a shallow square ditch and containing a single inhumation in a coffin, are most common in Britain in Eastern Yorkshire. A huge square barrow cemetery has been recorded using air photography on one of the gravel spurs in the wetland area; unfortunately the ground conditions in this area have prevented the survival of human bone and all that

AD 400

410 ROMAN EMPIRE SPLIT IN TWO FOLLOWING CONQUEST BY VISIGOTH KING ALARIC I;
SUPPOSED DATE OF END OF ROMAN BRITAIN

570 MOHAMMED THE PROPHET BORN IN MECCA

597 AUGUSTINE CONVERTS AETHELRED KING OF KENT TO CHRISTIANITY

AD 600

600 WEST HESLERTON IS ONE OF A NUMBER OF LARGE VILLAGES IN THE VALE OF PICKERING



'These burial features are like tiny barrows'

remains are the stains left by the plank coffins that contained the burials. We have yet to excavate any settlement evidence associated with these cemeteries, but we believe they are associated with a new trackway that is established following the edge of the wetlands on the northern edge of the sandy lands. This trackway was the prehistoric equivalent of the current A64 and ran for many kilometres along the edge of the wetland; it continued to act as the main focus of settlement for about 1000 years, through the end of the Iron Age and the whole of the Roman period.



'there is a large farmstead with its own cemetery situated at roughly 250 metre intervals all along the trackway'

By the end of the Iron Age it appears that a new form of burial monument replaces the square barrow and, from their distribution and number. We can see that there is a large farmstead with its own cemetery situated at roughly 250 metre intervals all along the trackway. These burial features are like tiny barrows, each containing a cremation within an area defined by a steep-sided ditch or slot measuring as little as two metres in diameter. It is possible that the slot contained timbering that retained a shallow mound, no more than a metre high, made up of the material derived from the slot. We excavated parts of ten examples in Sherburn in 2001; they had been severely plough-damaged and we have yet to confirm their date using some of the tiny fragments of cremated bone and teeth recovered from the surrounding slots; they were however associated with Late Iron Age pottery.

During the Iron Age we see the establishment of the first extensive field systems, defined by relatively slight ditched boundaries. Sheep and goats become an increasingly important part of the economy, producing both milk and wool. From the Iron Age



This trackway was the prehistoric equivalent of the current A64 and ran for many kilometres along the edge of the wetland; it continued to act as the main focus of settlement for about 1000 years

until the medieval period wool production for textile manufacture in eastern Yorkshire was to be a cornerstone of the agricultural economy. Loomweights and bone weaving combs are common finds on Iron Age settlements. By the time that the Roman legions established the fort in Malton, the Vale of Pickering was well-populated with ribbon development along major trackways following the edge of the wetlands on both sides of the valley. Whilst the centre of the valley remained wetland, and there were large tracts of open downland on the Wolds, the sandy lands supported a large population and extensive field systems. The trackways linking the Vale with areas beyond formed the basis of widespread trade networks. Tribal societies covering large areas of countryside were fully established and were perhaps administrated from high status sites like the hill fort that is lying hidden beneath Scarborough Castle. A massive series of banks and ditches cutting off the spur that connects the North Yorkshire Moors to Scarborough above Snainton, on the opposite side of the valley to East Heslerton, may form the first line of defence for Scarborough; the multiple banks and ditches would not only have stopped chariots, but would also have made cattle rustling extremely difficult.

THE IMPACT OF EMPIRE: THE ROMAN PERIOD

There is reason to believe that the tribal leadership in Eastern Yorkshire struck some sort of deal or at least established a special relationship with the Roman invaders. As far as we can see from the archaeological record, the impact of Rome on the population of the Vale was minimal. The rural economy, the settlements and the trackways continued in use as before, the most significant change being the introduction of mass-produced pottery and other domestic goods, and the coinage with which to purchase it. Evidence from soil analysis shows that during the Roman period the lower slopes of the Wolds, which are on heavier soils, were probably ploughed for the first time, while woodland was cleared on the higher slopes. Perhaps it was necessary to open up new areas using improved Roman ploughing technology to generate the extra produce

AD 600

627 PAULINUS FOUNDS ST PETER'S SCHOOL IN YORK

650 EARLY ANGLO-SAXON CEMETERIES GO OUT OF USE

AD 800

675-740 SILVER COINAGE RE-INTRODUCED AFTER 250 YEARS WITHOUT MONEY **710 FIRST JAPANESE CAPITAL ESTABLISHED IN NARA**

757-796 OFFA KING OF MERCA BUILD'S DEFENSIVE BANK AND DITCH TO KEEP OUT THE WELSH



Map based on data from Getmapping.com to show the area of wetlands and main sites studied in Heslerton, excavated areas marked in red

required to pay Roman taxes or to supply the Roman garrison and town at Malton. The sophisticated stone buildings of this period at Malton, and the few known villas, were the exception rather than the rule; most of the rural population lived in round-houses with wattle and daub walls and thatched roofs. Apart from textile production, other industries developed as a result of increased specialisation. Pottery kilns were established at Knapton late in the Roman period, and its products traded widely throughout the region. The relatively crude Knapton storage and cooking vessels were outshone by higher quality table wares produced in Norton and at Crambeck.

The results of our geophysical surveys between Sherburn and Heslerton show that the trackway that linked the many Iron Age farmsteads became built-up for much of its

AD 800

**835 DANISH GREAT ARMY INVADE
BRITAIN; VIKING EXPANSION CONTINUES
UNTIL 1050**

**850 ANGLO-SAXON VILLAGE AT
WEST HESLERTON DISMANTLED AND
ABANDONED**



'a late Roman stone building was uncovered'

length, with networks of overlapping enclosures forming stock and settlement enclosures linked to adjacent fields. Linear settlements of this type, termed ladder settlements on account of their appearance in crop marks, are found along the Great Wold valley as well as in the Vale.

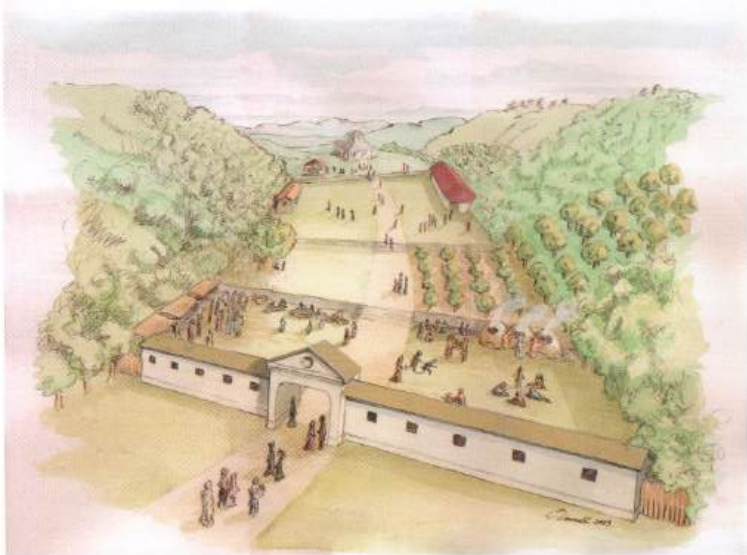
Although you may read that the Roman period ends in AD 410, the archaeological evidence from the Vale of Pickering and many other sites in Britain indicates that by the middle of the 4th century AD many of the towns and the Roman economy in Britain were in a state of collapse. The romantic picture so often painted of life in Roman Britain ending in a sudden collapse leading to the Dark Ages represents a view that can no longer be accepted. During the 4th century the climate seems to have become considerably wetter, so much so that the ladder settlement was under major threat from flooding; a massive dyke to the north of the ladder settlement found through geophysical survey seems to represent a Roman period flood defence.

During the excavation of the Early Anglo-Saxon settlement at West Heslerton, our largest excavation, a late Roman stone building was uncovered. This building, which

AD 1000

**868 OLDEST PRINTED BOOK
FOUND IN CHINA**

1000 VIKINGS VISIT NEWFOUNDLAND



Artists impression of how the 'shrine' complex may have looked at about 350 AD

was cut back into the side of a dry valley, the base of which was deliberately terraced by dumping many tons of earth and stone to level each terrace, appears to have been some sort of shrine or small temple. This structure, and fragments of others found on the sides and blocking off the entrance to the dry valley, were associated with large areas of worn surfaces and paths linking the head of the valley to a spring at the bottom. It was not possible to fully excavate the late Roman and earlier deposits on this site, so they have been re-buried and secured for future study. Fragments of other evidence found in later features, and many superimposed pebble surfaces, indicate that this dry valley had been some sort of religious centre possibly since the Iron Age. It seems most likely that this cult site relating to the spring was not visited continuously but only at certain times of the year. Analysis of some of the many oyster shells found in one part of the valley indicate that they were harvested in March; it is possible that they derive from a food stall run for visitors to the site. A series of bread ovens indicate that a bakery may also have been established. A single large rectangular structure,

built using a timber frame supported on spreads of chalk rubble, blocks the entrance to the valley from view and may be interpreted as a 'hotel' or 'hostel'. If the site is indeed used for a single festival occurring in March each year then it may relate to the beginning of the Roman new year on the 1st March; alternatively, if in early April, to Ceres the goddess of agriculture and fertility.

Occasional coins recovered from the Roman deposits here indicate that the main building was constructed after AD 340 when a coin was lost during the laying of the foundations, and that it continued to be a focus of activity for the rest of the century. The only structure in this complex that can easily be interpreted as a domestic building is a single round-house in one of a number of rectangular enclosures around the spring head. It is possible that this could have been the home of a site keeper who guarded and maintained the site between festivals. The exact function of the enclosures established in the late Roman period is not understood. It is possible that they were stock enclosures and that the use of the site in the spring may relate to a fertility cult in which people brought their stock to the site for some religious purpose. Whatever activity was going on, it left more than 30,000 sherds of Roman pottery which, together with the worn pebble surfaces and food debris, indicates that large numbers of people visited the site.



'The exact function of the enclosures established in the late Roman period is not understood'



'We had never found one of these before! The stone wall of the 'shrine''

LIGHTING UP THE DARK AGES: THE EARLY ANGLO-SAXON PERIOD

West Heslerton is unique in that it is the only place in England where a complete Early Anglo-Saxon cemetery and its associated settlement have been

AD 1000

1000 STONE ENCLOSURE OF GREAT ZIMBABWE BUILT

1066 BATTLE OF HASTINGS BETWEEN KING HAROLD II OF ENGLAND AND WILLIAM DUKE OF NORMANDY

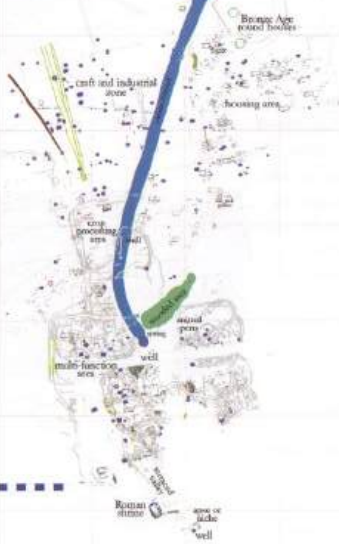
AD 1100

1071 SAXON LEADER HEReward THE WAKE GIVES IN TO NORMAN CONQUERORS

1095-1291 CRUSADERS IN THE HOLY LAND

West Heslerton plan of the Anglo-Saxon village and its cemetery

- post-hole buildings
- gravel-hall or cavity-floor buildings
- ditched enclosures and fence-lines
- Prehistoric round barrows
- Anglo-Saxon graves



excavated and recorded using modern techniques. The examination of these two sites involved excavations covering more than 20 hectares (nearly 50 acres). The Early Anglo-Saxon cemetery, discovered in Cook's Quarry in 1977, started the whole programme of excavation in Heslerton, with large scale field-work on the settlement running from 1987 until the winter of 1995-6. The excavation of the settlement was amongst the largest undertaken in Europe and was made possible by the labours of over a thousand volunteers, mostly working over the summer months. Rarely do we have an opportunity to examine both a cemetery and a settlement together; even more rarely do we have the chance to uncover the full extent of both. The results of this work do however justify the investment. The investigation of the cemetery, which re-used the site of the Neolithic henge and smaller Bronze Age barrows, produced a wealth of new evidence, particularly relating to textiles and clothing. The cemetery, in which grave goods including dress fittings, weapons, pottery and wooden vessels accompanied most of the burials, contained the remains of about 250 people buried between the end of the 4th and middle of the 7th centuries AD. The cemetery appears to have been laid out in

family groups, each containing a broadly comparable group of burials. Many were well-furnished with grave goods - one burial was accompanied by a sword, shield and spears - others had relatively few accompanying objects. Analysis of trace elements absorbed from the food eaten early on in life indicates that a small percentage of the people may have come from southern Sweden, an area from which some of the dress fittings seem to originate. Another group clearly grew up locally, whilst a third group appears to originate elsewhere in Britain. Analysis of the ancient DNA preserved in the teeth indicates that some of the burials accompanied by weapons may be females and others with brooches and beads may be male, contrasting with the traditional method of sexing burials based generally on the type of grave goods with the burials. The cemetery was in use only for the first half of the life of the village. We do not know where the later cemetery is located; it may lie near an as-yet undiscovered church as by this time, after AD 650, Christianity was beginning to be adopted in Anglo-Saxon England.

Prior to the excavation of the settlement in West Heslerton it was thought that Early Anglo-Saxon settlements were small, comprising only a few farmsteads with a limited life span; these would be abandoned when a new farmstead was built nearby. This view is completely at odds with the evidence recovered here; not only does the settlement appear to be laid out on a grand scale with areas for housing, craft and industry, animal husbandry and crop processing, but it also appears to develop during the dying years of the Roman period. The Early Anglo-Saxon settlement in the region has in the past been thought to have begun after AD 450, leaving a Dark Age gap between the end of the Roman period and



Weapon burial



Brooch group

AD 1100

**1100 ANGKOR WAT BUILT BY KHMER
IN CAMBODIA**

**1106 HENRY I OF ENGLAND
RECAPTURES NORMANDY**

**1155 CHESS PLAYED FOR
THE FIRST TIME IN ENGLAND**

**1196-1405 MONGOL EMPIRE COVERS
MUCH OF ASIA AND CENTRAL EUROPE**

AD 1200



The large 'blobs' are Grubenhäuser - cavity floor buildings where an air space was dug beneath the building. The rectangular arrangements of dark soils are the post-holes for the upright timbers of the timber 'halls' or houses.

the beginning of the Anglo-Saxon period. We found no evidence of this empty period; rather, it appears that the Early Anglo-Saxon settlement emerged as the Roman administration was collapsing. Early Anglo-Saxon sites are exceptionally difficult to date precisely; coinage, which provides good dating evidence during the Roman period, goes out of use soon after AD 400 and is not re-introduced until the late seventh century. A dating system based mostly on the brooches and other metalwork found in cemeteries is widely used, but it relies upon relative dates based largely on changing artistic styles rather than absolute dates. Radiocarbon dating techniques have only recently provided sufficiently accurate dates for this period, and we are still awaiting confirmation of some of the Early Anglo-Saxon dates produced using this method.

The archaeological evidence can be used to demonstrate that the Anglo-Saxon settlement, which can correctly be called a village, was established directly following the demise of the Roman administration. Had there been a significant gap between the

AD 1200

1206 TURKISH SULTANATE ESTABLISHED IN DELHI

1241 MONGOL FORCES UNDER GHENGIS KHAN INVADE RUSSIA AND CENTRAL EUROPE



A reconstruction of an Anglo-Saxon 'grubenhaus' at West Stow in Suffolk; the figures show dress styles based on the Heslerton cemetery

end of Roman activity and the beginning of the Anglo-Saxon settlement phase, we would expect to see a build up of blown sands and other soils separating the Roman from the Anglo-Saxon layers on the site; this was not the case.

It appears on present evidence that the village was established at around AD 400, and that it was laid out on a grand scale covering an area nearly 500 metres square. It was established around the spring which had been a focal point of the Roman ritual landscape associated with the shrine and other buildings. Interestingly, the terraced dry valley area which had contained the various shrines linked by pebble paths and surfaces, was not used for settlement and seems to have continued in use as a protected space during the occupation of the village, which ended at about AD 850.

Early Anglo-Saxon settlements are quite different to the villages or farmsteads that existed in the latter settlement during the Roman period. Not only are the architectural styles quite different, but also the mass-produced wheel-made pottery, so com-

AD 1300

1300 OTTOMANS TAKE OVER THE BYZANTINE EMPIRE

1271-1295 BLACK DEATH KILLS 1/3 POPULATION OF ENGLAND



Anglo-Saxon pottery was hand made and fired in bonfire kilns.



'grubenhaus' from the German meaning 'hole-in-the-ground house', before excavation

mon in Roman Britain, disappears and hand made pottery, similar to that in use during the Iron Age becomes the norm. It appears that the collapse of the Roman administration was accompanied by complete economic failure. Early Anglo-Saxon settlements are rarely found built over late Roman domestic settlements and, although the site at West Heslerton takes over a Roman site, it was not a normal domestic settlement. There seems to have been a deliberate break with the Roman world; the creation of new villages away from the established Roman settlements may reflect other factors. We have already seen that the climate changed during the late Roman period; the settlement on the edge of the wetlands was increasingly under threat from flooding and a rising water table. We have often wondered why this settlement was not deserted sooner; it may be that it could not move simply because all the land was owned or controlled by tribal chiefs or the Roman administration. Once this was no longer in place, new settlements could be established in more suitable positions.

The Early Anglo-Saxon village was occupied for more than 400 years, during which more than 220 buildings were built on the site. The most distinctive structure type, the 'grubenhaus' from the German meaning 'hole-in-the-ground house', is of a class not seen in Britain before this period, although commonplace on the continent. These buildings, which seem to have served many purposes, were probably not dwellings. The houses were large rectangular buildings based around an often elaborate series of post settings. Whilst the *grubenhäuser* are clearly continental in origin, the rectangular buildings seem to combine both native and continental building traditions. The *grubenhäuser* are very distinctive during

excavation, the principal feature being a large rectangular hole in the ground with post-holes to take the timbers that supported the roof at either end. When archaeologists first started to excavate these features, which are invariably filled with rubbish, it was thought that they represented squalid hovels in which people eked out a poor existence in the bottom of a pit covered with a simple roof. Excavation at another similar settlement in West Stow in Suffolk, during the late 1960s and early 1970s, produced evidence that these buildings had raised floors and that the hole provided a dry air space; this cavity floor construction would keep the building above dry and make it last a great deal longer.

The discovery of large numbers of loom weights in the rubbish fillings of these abandoned structures has been used to argue that they were weaving sheds. However, they are invariably mixed in with masses of animal bone and other rubbish deposits, and it is much more likely that these loom weights, which were mostly made from unfired clay, were simply discarded in the pit along with all the other rubbish. A detailed examination of the material found in these features, which amounts to more than half of all the million plus finds recovered during the excavation of the settlement, shows that it has nothing at all to do with the building which once stood over the hole, but that it was gathered up from some other part of the site and tipped into the hole to fill it up after the building had been dismantled. The evidence indicates that domestic, industrial and butchery waste was gathered in muck heaps on the edges of the village and was used for night-soiling, spread about the fields as fertiliser. It appears that when one of these structures was abandoned, material was gathered from the heaps, perhaps as



'The discovery of large numbers of loom weights'



'grubenhaus' after excavation



metal-working furnace

AD 1300

**1325-1519 AZTEC CIVILISATION
ESTABLISHED IN MEXICO**

**1350-1600 RENAISSANCE
MOVEMENT IN ITALY**

**1381 PEASANTS REVOLT
CRUSHED**

AD 1400

**1400 BEGINNING OF ENSLAVEMENT OF
WEST AFRICANS BY PORTUGUESE
EXPLORERS**



'rather than being built of wood, grubenhäuser were constructed with turf walls that were pushed into the holes left when the floors were removed'



'when one of these structures was abandoned, material was gathered from the heaps, perhaps as part of a cleaning up process after the muck-spreading season, and used to fill up the hole which, in some cases, were more than a metre deep'



part of a cleaning up process after the muck-spreading season, and used to fill up the hole which, in some cases, were more than a metre deep.

If these enigmatic structures did not serve either as homes or weaving sheds then what is their function, and how were they built? One type of structure - the grain store - is alarmingly absent from the settlements of the Early Anglo-Saxon period. If one is to grow crops then it is essential to be able to store sufficient seed for use in the following year; it is increasingly likely that many of these buildings served as grain storage structures, buildings in which a ventilated under-floor space would be almost essential to prevent damp from causing the seed to either rot or germinate. It seems that these buildings performed multiple functions; whilst some were grain stores, others would have been used for general storage purposes. In one part of the village, area 2D, these were the only type of building present. This area seems to have been a craft or processing area, with evidence for metalworking, butchery and a malting kiln found in between and around the structures, which were probably used to store all the associated equipment required to undertake these tasks. The presence of spinning and weaving equipment reflects the importance of textile manufacture, the equipment being stored in these buildings when not in use. No matter how we reconstruct these buildings, they would have been dark inside and therefore useless as weaving sheds; such work most likely was undertaken outside or in the larger timber houses or halls. Evidence from the excavated cemetery 500m to the north of the village shows that a variety of woollen twills and linen cloth were used in Early Anglo-Saxon clothing.

One of the most difficult tasks for an archaeologist is the reconstruction of now lost building styles based on the limited evidence found in the ground. At the site of West Stow experimental reconstructions in wood and thatch have been built to help our understanding of how these buildings were constructed. We now believe that rather than being built of wood, *grubenhäuser* were constructed with turf walls that were pushed into the holes left when the floors were removed. Turf-walled buildings can be remarkably strong, and with the turf growing on the outside face of the walls absorbing any moisture, very dry inside - exactly what is needed for storing seed grain. Fine grey silty soils, found partially filling the under floor holes left when the buildings had gone out of use, seems to be derived from wall material pushed into the hole. In a number of cases concentrations of prehistoric worked flints found in these deposits were probably contained in the turf when it was cut somewhere out in the fields. The roofs were probably made of reed thatch and heather. Until we find a well preserved, burnt down or waterlogged *grubenhäuser* we will remain unsure as to exactly how they were built.

The village was large, covering more than 12 hectares, with a population estimated to be ten extended families, or about 75 people. Whilst the *grubenhäuser* contain a wealth of rubbish which can be used as evidence of daily life, craft, industry and agriculture, the timber halls or houses and their surroundings were apparently kept very clean. These buildings were constructed in a number of styles and sizes, the smaller examples perhaps performing the same functions as the *grubenhäuser*. They were built of timber with a raised floor, but lacking the dug out air-space beneath.



'buildings were constructed in a number of styles and size'



'They were built of timber with a raised floor, but lacking the dug out air-space beneath'

AD 1400

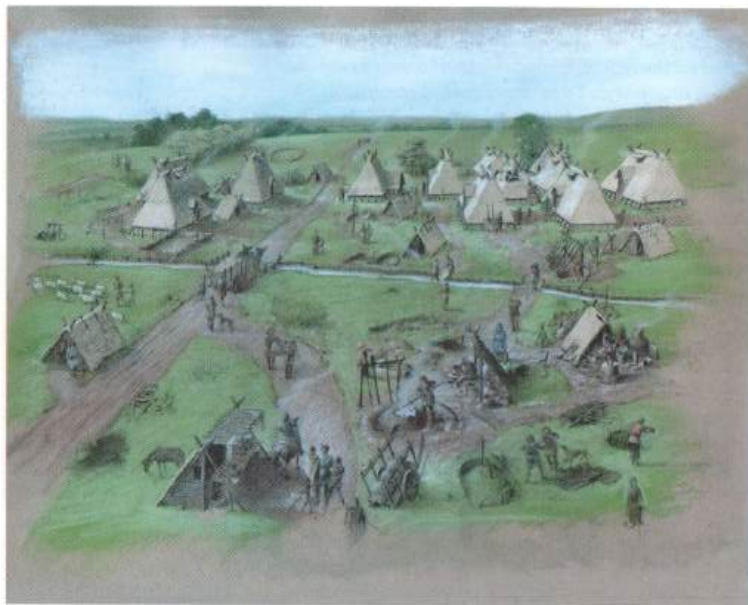
1431 JOAN OF ARC BURNED AT THE STAKE

1492 CHRISTOPHER COLUMBUS DISCOVERS AMERICA

1494 CHARLES VIII OF FRANCE INVADERS ITALY

AD 1500

1500 PEDRO CABRAL CLAIMS BRAZIL FOR PORTUGAL



Artists impression of how the northern part of the village may have looked at about AD550

size from 4m to 13.5m long and 3m to 5.5m wide. Although in some areas blown sands had buried and preserved the Anglo-Saxon land surface, we have found no evidence of ground level floors as we might with later medieval houses, which had earth or mortar floors, and we must therefore conclude that these buildings also had raised floors. The timber hall buildings are easily recognised from the rectangular arrangement of post-holes into which the upright timbers forming the main timbers of the walls and supporting the roof were placed. The larger buildings were clearly very elaborate, indicating a high level of carpentry skills; each post-hole contained a pair of cut planks separated by a gap one plank-width wide. It seems most likely that horizontal planks were slotted between the uprights and that these were jointed at the corners where corner posts were absent. The combination of the paired uprights and

AD 1500

**1513 JAMES IV OF SCOTLAND
KILLED BY ENGLISH AT FLODDEN**

**1520 CHOCOLATE COMES TO EUROPE
FROM MEXICO**



Photograph taken from a crane showing multiple rectangular post-hole buildings and grubenhäuser

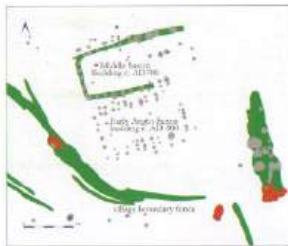
horizontal planking would have made a strong and rigid platform to support a raised floor in buildings which may well have had an upper half storey. Smaller posts marking a dividing wall, usually found at the western end of the building and defining a space no more than 1.5 metres wide, may have supported a stair-case to the upper level. These buildings, like the reconstructions at West Stow, were probably mostly built of timber; had wattle and daub been used to fill the gaps between the main timbers as occurs in medieval houses, we would have expected to find a lot of it on the site but did not.

Towards the end of the life of the settlement there is a change in construction techniques, and the larger buildings are constructed with the posts placed in a continuous trench rather than in individual post holes. At this time the number of *grubenhäuser* reduces and post-built granaries are seen for the first time, based on closely set groups

AD 1600

**1526-1761 THE SLAVE TRADE SHIPS AN
ESTIMATED 20 MILLION AFRICANS TO
EUROPE AND THE NEW WORLD**

**1535 DISSOLUTION OF THE MONAS-
TERIES ORDERED BY HENRY VIII**



In one location, 12AE, a large Early Anglo-Saxon building had been replaced by a Middle Saxon building'



'In the southern half of the site, around the spring, a complex of enclosures.....served to keep stocks away from the fresh water'



Excavating a post-hole building

of six or eight large posts. It is possible that the roofs of some of the buildings may have been made using shingles - rectangular split wooden tiles - as we found an iron tool of a type still used to split shingles today. In the centre of the village a spring fed a stream that had been deliberately channelled and which seems to have been dammed to form a pond, the waters of which drove a horizontal-wheeled water mill. It was not possible to excavate this, but a concentration of quernstone fragments and results of a geophysical survey indicate its presence. An Anglo-Saxon mill of this type was excavated in Tamworth during the 1970s; its timbers had been preserved by waterlogged conditions. Beyond the mill the waters drained away following the ancient stream channel which defined one edge of the Anglian cemetery and had been a focus of human activity from the Mesolithic period onwards. A large enclosure to the west of the mill contained debris from threshing, as well as carbonised grain which appears to derive from the late granaries, where some of the grain would have become burnt during the process of drying it prior to storage.

The largest concentration of timber houses was found in the north eastern part of the village, laid out without any surrounding property boundaries on a chalk knoll overlooking the valley to the north. All were aligned east-west with either single or double entrances in the centre of the long walls. In the southern half of the site, around the spring, a complex of enclosures, some of which re-use those originally established during the late Roman period, seem to have served to keep stock away from the fresh water emerging from the spring and to provide enclosures in which stock may have been kept over winter. The evidence indicates that most of these

enclosures relate to activity occurring during the second half of the period of occupation between AD 650 and AD 850, the Middle Saxon period. In one location, 12AE, a large Early Anglo-Saxon building had been replaced by a Middle Saxon building located on a raised platform that overlooked the whole village and was surrounded by a timber fence on three sides.

The self-sufficient nature of the village is reflected in the discovery of a number of iron working furnaces, bread and grain drying ovens and a malt kiln. Pottery was made on site using local clays but, in contrast to the wheel made pots of the Roman period, these vessels were hand-made and fired in bonfire kilns which have left no evidence. Two bone stamps, used to decorate the pots prior to firing, were discovered amongst the animal bone. Bone and antler and, no doubt, wood and leather were worked on site, the bone and antler being used to make gaming counters, elaborate combs, spoons, and spindle whorls, thread pickers, pins and needles used in textile manufacture. It is most likely that animals and textiles were traded for foreign goods including quern stones made of lava, imported from Germany, and some rare items including a cowrie shell from the Red Sea; wine was probably also imported in wooden barrels that do not survive.

About a million animal bones were recovered during the excavation giving us a detailed picture of animal husbandry during this period. They indicate that surplus cattle were commonly slaughtered for their meat at the end of their first or second year, or as their productivity as breeding stock or traction cattle declined. They were probably pastured on the heavy,



Anglo-Saxon dogs were like deer bounds



Cattle were used for traction as well as for their meat, milk, and hides



Horses were important in Early Anglo-Saxon religion

AD 1600

1607 THE ENGLISH ESTABLISH THEIR FIRST COLONY IN AMERICA IN JAMESTOWN, VIRGINIA

1620 THE MAYFLOWER SAILS FROM PLYMOUTH TO MASSACHUSETTS CARRYING THE PILGRIM FATHERS

AD 1700

1631-1648 TAJ MAHAL BUILT IN INDIA BY 2000 WORKERS

1694 BANK OF ENGLAND FOUNDED



A Middle-Saxon timber lined well; the timber was cut down in October AD 724



Air photograph showing the cruciform foundation trench for a medieval windmill in West Heslerton

damp soils of the Vale where vegetation was lush and water plentiful. Surplus young sheep were also culled during the autumnal months, with additional meat sources coming from older breeders that would have been used primarily for wool production. Tooth wear and indications of disease affecting the bones suggests that the sheep were grazed on the coarser pasture of the Wolds. A high frequency of 'penning elbow' indicates that sheep were occasionally corralled, whether for breeding, lambing or shearing. Other species such as pigs, domestic fowl and geese offered additional meat sources, although geese and domestic fowl were apparently reared primarily for their eggs. Perhaps the most interesting aspect of the analysis of the animal bones has been the discovery that there are too few bones of cattle of 'market age'; it seems likely that these were traded and paid as taxation.

The village at Heslerton was not a high status site, but one of a number of similar communities around the Vale of Pickering who would probably have paid taxes to the kings of Northumbria. The evidence from the cemetery and the village does not reflect a strong social hierarchy; there is no single building that is much grander than the others and, whilst we assume that there must have been some sort of village leader or chieftain, the evidence is not obvious. The skeletons in the cemetery show relatively good health, with people of similar stature to ourselves, but having a shorter life expectancy, most people not living much beyond middle-age. By AD 850 when the site was deserted, the village would have been a thriving community linked to others in the valley and beyond by trade, travelling artisans bringing specialised goods and skills which could be

traded with the community. The end of the village was both deliberate and sudden; the buildings were dismantled, good timbers no doubt being kept to build a new village probably located beneath the present village of West Heslerton. Roofing materials and other debris was evidently burnt leaving a layer of burnt sand, probably blown sand which had been trapped in thatched roofs, filling the latest features. It is most likely that the village was deliberately moved to a more protected location at the onset of the Viking raids. At East Heslerton we have discovered what appears to be a settlement of this date, established behind the later medieval village where it would have been sheltered from view by the wooded slopes of the Wolds, in contrast to the early settlements that were effectively in open country.

MODERN TIMES: THE MEDIEVAL AND LATER PERIODS

The desertion of the settlement coincides with the beginnings of the English state, in which the role of the individual Anglo-Saxon kingdoms declines until the kings of Wessex dominate the English nation. We have yet to uncover evidence from the Late Saxon period, although carved stonework from this period survives in Sherburn church nearby. It is probably at this time that the new village gets the name Heslerton, the hamlet amongst the hazel trees; we have no idea what name was used to refer to the excavated village.

The two settlements of Heslerton Magna (West) and Heslerton Parva (East) emerge during the medieval period, although only Heslerton is mentioned in the Domesday Book. There has been little opportunity to investigate the medieval landscape. A deserted or 'crept'



The deserted medieval village of East Heslerton mapped by geophysical survey



The deserted medieval village of West Heslerton mapped by geophysical survey

AD 1700

**1704 ENGLISH UNDER DUKE OF MARLBOROUGH
DEFEAT FRENCH AT BLENHEIM**

**1707 ENGLAND AND SCOTLAND
UNITED AS UNITED KINGDOM OF
GREAT BRITAIN**

AD 1800

1733 BOSTON TEA PARTY

**1775 JAMES WATT INVENTS THE
STEAM ENGINE**



The archaeologists of tomorrow admiring some Roman handywork



Learning to weave the Anglo-Saxon way

village is situated to the south of East Heslerton, and West Heslerton likewise seems to have moved down hill and out beyond the protective slopes of the dry valley in which the church is situated. Geophysical surveys undertaken in the last two years show that the medieval villages of East and West Heslerton had very similar plans including large rectangular enclosures based around the church. The medieval landscape was dominated by rig and furrow field systems in which broad rigs, which in some places are over a metre high, formed strip fields which were shared amongst the population. Very little of these field systems can be seen today; a small area above the crept village at East Heslerton is an important survival. Although most of the rig and furrow has been ploughed flat over the last 100 years, we are able to detect large areas of these fields through geophysical survey and are gradually reconstructing the shape of the medieval landscape.

Small scale excavations undertaken ahead of development in West Heslerton uncovered parts of a medieval building of probable 14th or 15th century date; this may have been the site of the village brewery known to have existed during the 19th century. The medieval village of West Heslerton was not much smaller than the present village and would have comprised the church, which was sadly heavily 'restored' and rebuilt during the 19th century, removing any evidence or early stonework or the wall paintings with which the interior would probably have been covered. Near the church stood the manor house in its own enclosure. This arrangement is easier to see at East Heslerton, where a series of crofts and tofts, rectangular enclosures containing a single property with a garden area, are defined by an enclosing bank

and ditch. The houses in the village would have been made either of chalk blocks or of timber with wattle and daub or mud and stud construction on a chalk base, and would have had thatched roofs. During the late 18th or 19th century a brick kiln was established on the estate, and the surviving chalk block buildings were encased in brick, tile and ultimately slate roofs replacing the thatch.

ENDNOTE

It would not have been possible to draw upon the results of many hectares of excavation and many tens of hectares of survey to describe the evolution of this landscape and its people in this booklet without the continued support of English Heritage. Not only have they supported most of the work, but they have also encouraged us to develop fieldwork, recording and analytical techniques that have earned Heslerton a worldwide reputation. More recently, we have also received support from Cook's Quarry who are funding excavation ahead of sand extraction to ensure that important evidence is not lost altogether.

At a time when television programmes show digs, supported by huge resources, that are 'completed' in three days, it may be difficult to appreciate the time required to undertake large excavations. During the past 25 years we have spent more than 2000 days in the field; but that's another story!



Digging in the winter can be very difficult

AD 1800

1846 BASIC RULES OF SOCCER FORMED AT CAMBRIDGE UNIVERSITY

1851 THE FIRST LAND DRAINAGE MACHINE IS DISPLAYED AT THE GREAT EXHIBITION

1859 CHARLES DARWIN PUBLISHES 'ORIGIN OF THE SPECIES'

1847-1901 THE REVEREND WILLIAM GREENWELL EXCAVATES 295 BARROWS MANY OF WHICH ARE IN YORKSHIRE

AD 1900

GLOSSARY OF TERMS

AERIAL PHOTOGRAPHY

A technique used to discover and record sites from the air. Buried features show as cropmarks at certain times of the year. Photographs of crop marks can be taken from a plane, balloon or kite!

AUGERING.

A technique in which a steel tube is pushed into the ground to extract a sample of the buried soils; this technique is being used to survey the depth of plough soil and windblown sand

CROPMARKS

Marks which form in ripening crops showing buried features which are either wetter and more nutrient rich or drier and low in nutrients.

CONTEXT

A term used by archaeologists to identify each excavated feature or deposit.

CROFT AND TOFT

The term used to describe a property in a medieval village in which the house is the toft and the croft is a small area of arable land that lies behind the house like a garden.

FLOATATION

A technique used to extract plant and insect remains in soil samples.

GRUBENHAUS

'Grubenhaus' is a German word meaning 'hole-in-the-ground house'

PLOUGH SOIL

The 'active' top layer of the soil, which is turned every year by the plough.

WIND BLOWN SAND

Sands that have been moved by high winds sometimes burying the archaeological deposits. In the Vale of Pickering this happens in the spring and autumn.

FURTHER READING

Aston, M. 1985 *Interpreting the Landscape*, London.

Brewster, T.C.M. 1963 *The Excavation of Staple Howe*, Scarborough.

Haughton, C.A. and Powlesland, D.J. 1999 *West Heslerton: The Anglian Cemetery*, Vols. I and II, LRC Monograph 1, North Yorkshire

Hoskins, W.G. 1977 *The Making of the English Landscape*, 2nd edn., London.

Mortimer, J.R. 1905 *Forty Years Researches in British and Saxon Burial Mounds of East Yorkshire*, London

Powlesland, D.J., Haughton, C.A. and Hanson, J.H. 1986 Excavations at Heslerton, North Yorkshire 1978-82, *Archaeological Journal* 143, 53-173.

Wilson, D.M. 1971 *The Anglo-Saxons*, Harmondsworth.

AD 1900

**1863-1911 JOHN ROBERT MORTIMER
EXCAVATES 304 BARROWS ON THE YORK-
SHIRE 'WOLDS**

AD 2000

**1978 ARCHAEOLOGICAL EXCAVATIONS
BEGIN AT COOK'S QUARRY, WEST
HESLERTON**



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX D: WEST HESLERTON - THE FOCUS FOR A LANDSCAPE PROJECT

West Heslerton

—the focus for a landscape project

The area defined as the Yorkshire Wolds traditionally holds a major position in British Prehistory, its importance only superseded by that other great chalk area, Wessex. This picture is based, to a large extent on the work of great nineteenth-century figures like J. R. Mortimer and Canon Greenwell, who, following other field workers of the time, concentrated almost exclusively on the excavation of the obvious upstanding long and round barrows. While this work has brought to light a very large body of important material its interpretation is limited by its sepulchral context. More recently the intensity of land use suggested by the barrow distribution has been confirmed through fieldwork and air photography.

Erosion and preservation

However both the early work on the barrows and recent work on settlement sites by Manby, Brewster and others have shown that for the most part, the chalk soils of the Wolds have been seriously eroded by both natural and human agents. Thus the potential for retrieving the detailed evidence required in order to set the burial monuments in a wider setting, is now very limited.

Work over the past few years by Brewster and the RCHM, and most recently at West Heslerton has revealed that the variety and intensity of activity known on the

Wolds is also present to the north, across a belt of alluvial soils fringing the Vale of Pickering. The extraction of sand and gravel at West Heslerton has provided the opportunity to examine part of a transect crossing this area on a north-south axis. The site currently covering an area of about 600 x 150m is bisected by the junction of sand deposits to the south at the foot of the Wolds and chalk gravel to the north. While the soils of the Wolds (and consequently the archaeology) are now seriously denuded, extensive deposits of wind-borne sand up to 1.5m thick have here preserved large areas of early soil horizons in a process that began at least as early as the Late

Neolithic. Work at the site so far has revealed its ability to provide wide ranging information relating to many aspects of prehistoric and later periods.

The windblown, sealing deposits have meant that sites in the area have tended to go unnoticed until destruction of the archaeological deposits has already begun. The potential of the present site was first indicated when a burial accompanied by a jet bead necklace of Food Vessel type was located during quarrying in 1965. In 1977 the discovery of quantities of Anglian metalwork by one of the quarrymen led to the location of an Anglian inhumation cemetery. This was subsequently excavated to its apparent limits in a series of salvage excavations carried out by John Dent of the Garton Slack Excavation Unit. Preliminary examination around the quarry edges revealed the need to establish a long term programme of rescue excavation to examine evidence of occupation, industry, agriculture and burial for a number of periods since the Mesolithic.

Early prehistory

Work during 1978-9 has concentrated on the examination of about 8000m² of immediately threatened ground and the cutting of test pits to determine the potential of a further 15000m² of undisturbed ground, apparently universally covered with a sealing deposit of windblown sand. Mesolithic activity is demonstrated by microlithic and other flint material from all parts of the site. Concentrations of mesolithic material, including cores along the western margin of the site appear to be related to a buried stream bed running just beyond the western limit of the site.

Beaker hut site

A complete range of material relating to the occupation of the site during the Late Neolithic/Early Bronze Age has been retrieved from all areas. Structural evidence including a Beaker period hut, represented by a ring gully 5m in diameter is supported by flintwork, pottery and environmental material both from specific features and early soil horizons. Two round barrows lie at the southern limit of the site while a Food Vessel burial lay to the north. A preliminary examination of the material shows that ceramics of Peterborough Ware, Grooved Ware, Beaker and Food Vessel types are all present, while a number of distinct flint assemblages can be recognised from different parts of the site. The majority of the flintwork is crude by comparison with that from Wold Barrows, but it contains a complete range of material including cores, waste flakes, rough-cuts and blanks for fine tool manufacture, as well as a limited number of finished tools.



The site seen from the south. The Anglian cemetery was located adjacent to the road. The chequered area marks a concentration of mesolithic material and Iron Age ploughing.

Thus it may provide a domestic context for the high quality material from the burials.

Iron age

During the later Bronze Age the site was apparently deserted; by the Early Iron Age a palisaded enclosure of Staple Howe type at Devils Hill on the Wold escarpment a kilometre to the south had been established, the details of which will be known after excavation on the site are completed by TCM Brewster this year. Later in the Iron Age the West Heslerton site was re-occupied when a number of post-built structures were erected, apparently related to a trackway, small fields delineated by ditches and fence gullies, and an area of early plough marks. Sampling work to the north, in the areas scheduled for excavation in 1980-2, suggests that the focus of the settlement lay in this area and that the present structures are ancillary to the main area of occupation. The relationship of the settlement features to two large ditches, one backed by a thick turf deposit, has yet to be ascertained.

Roman

During the Roman period activity was limited to the digging

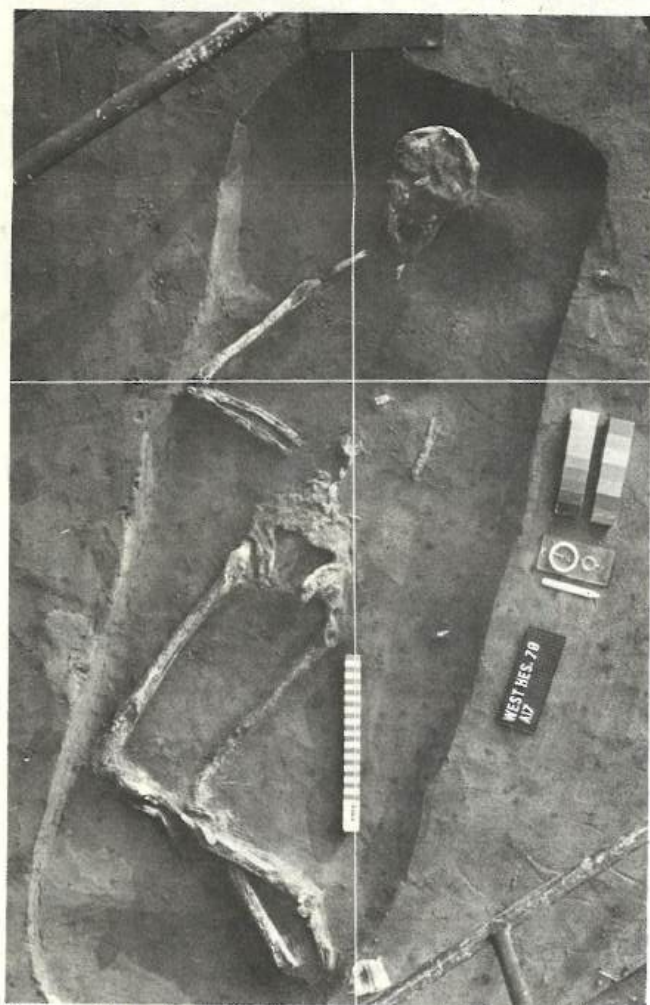
of a number of gullies at the southern limit of the site. During the Anglian period this part was used as a cemetery. More than twenty five new graves were located during tidying-up operations in 1979 while a single grave was located over 200m to the north in 1978, bringing the total excavated at the site to over fifty. About 80% of the graves contained grave goods, the majority having crouched burials aligned roughly east-west. Two of the burials, both buried face downwards without grave goods, have been interpreted as mid-or late-Saxon *quelmstows* (pagan or criminal burials often referred to in the documents).

The surrounding landscape

The current rescue work at West Heslerton cannot be viewed in isolation from the surrounding landscape. A research programme to cover the archaeology of the whole parish of about 3000 ha has been prepared. It is hoped through this to understand better the processes and mechanics of the landscape evolution as a whole, in all its aspects and for all periods. It is

particularly in relation to the Prehistoric and Anglian periods that most is likely to be learnt. For both periods we have evidence for very large populations in relation to the known and understood settlement sites. The Beaker population of Britain, for instance, is evidenced from thousands of burials but only about twenty hut sites. If we are to satisfy the needs for landscape research so often identified in current literature, then projects of this type *must* be undertaken. The unusual stratigraphy and the potential for well preserved organic and environmental samples, the ability to examine in detail an area of the Wold, and the current body of known information makes the Heslerton project an ideal sampling opportunity. This is especially important when related to the other projects in the region at Seamer Carr, Garton/Wetwang Slack, Thwing and Wharfedale, which must ultimately allow for the detailed assessment of the archaeology of a whole region: not just a number of isolated fragments.

by
Dominic Powlesland



Grave with body buried face downwards, interpreted as a Saxon *quelmstow*.



The beaker hut site.

**Are you a
RESCUE member?**

**— if not
see page 11**

RESCUE PUBLICATIONS

Reduced rates for RESCUE members

price list from

RESCUE, 15A Bull Plain, Hertford, Herts., SG14 1DX

Rescue News is published four times a year by RESCUE — the British Archaeological Trust, 15A Bull Plain, Hertford, Herts SG14 1DX. Printed by Expressprint Ltd., Wakefield, West Yorkshire. The opinions expressed in articles in *Rescue News* do not necessarily reflect those held by RESCUE and its committee.

Send your contributions to *Rescue News* to the Editor, Miss Shirley Johnson, 2 Beamsley Grove, Leeds LS6 1LA (tel: 0532-751279). Next issue: June 1980, deadline for copy, 10 May.



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX E: WEST HESLERTON (CURRENT ARCHAEOLOGY No. 76)

West Heslerton

by

Dominic Powlesland

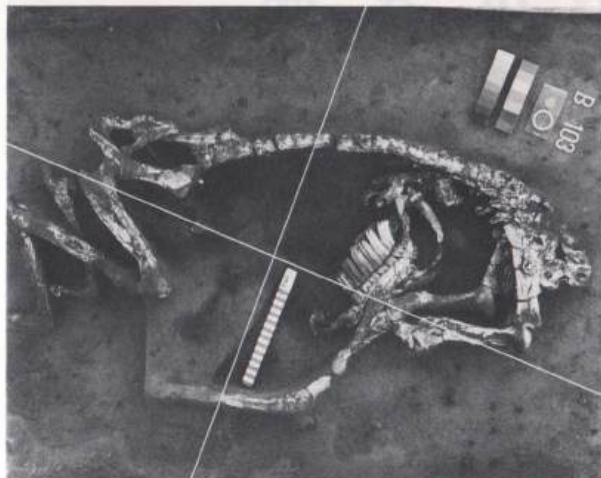
West Heslerton has become the site of a major new project in landscape archaeology. There are two main reasons for this. Firstly the site lies in a sand quarry which has been subjected to sand blows throughout the ages, and although these have sometimes eroded the archaeological levels, they have more often concealed them so here there is an opportunity to find archaeological remains with their upper levels well preserved.

Secondly it lies just off the chalk wolds of North Yorkshire in the area

of the former glacial lake known as Lake Pickering. Star Carr is only just down the road. Thus the parish of Heslerton has a bit of everything, running from chalk wolds on one side, including the site of the Devil's Hill described in the preceding article, through the site of the present village, through the area of the sand deposits now being excavated, down to peat deposits on the banks of the River Derwent.

Hitherto the main problem of the excavations has been to distinguish the various periods of sand blow and

it is already clear that there were at least 2 major sand blows, one in the Bronze Age covering a Neolithic surface and one in the Roman or Saxon period covering an Iron Age surface. Dominic Powlesland, the director of the project, was formerly a research student at Manchester University studying Anglo-saxon towns and now lectures part-time at York while writing up West Heslerton and his other research.



The excavations at West Heslerton began as an Anglo-Saxon cemetery, which still continues. One of the most remarkable recent finds was this 'ritual' horse burial, its head chopped off and placed between its legs, and its bit visible as a dark stain to the left of the scale.

Photo: Dominic Powlesland.



The excavation at West Heslerton. In the foreground, the excavation of one of the barrows. In the middle ground the sand quarry. In the distance, the Yorkshire Wolds; the Devil's Hill is one of the lesser

foothills, so this is one of the rare photos where two excavation sites are visible on the same photo.

Photo: Philip Rahtz

WITH the close of the third season of excavation at West Heslerton, the work has developed from a small excavation of an Anglian inhumation cemetery to become the focus for a research project devoted to the landscape archaeology of a three thousand hectare parish. The principal rescue site is a half kilometre strip of flat ground running north from the A64 trunk road.

As with many other large scale excavations, the site is threatened by

sand extraction, but in one major respect the site is very different, for while most sites have been eroded by ploughing prior to mineral extraction, the archaeological deposits at West Heslerton are frequently sealed by up to a metre of windblown sand.

Though a food vessel burial was retrieved from the site in 1967, archaeological work did not begin until 1977 when salvage excavations were carried out by John Dent who located 25 Anglian burials and one beaker burial. The following year a

formal rescue programme was established under Dominic Powlesland, and since then over 12,000 sq. m. have been uncovered. During the first two years, interpretation was hampered because the quarry company had cut into the natural, when removing over burden, but this year we were able to strip the site ourselves and thus gain a much larger body of information.

Activity at the site begins in the Mesolithic when flint was worked adjacent to the line of a buried



West Heslerton, 1980. Work in progress showing differential stripping to allow sampling of windblown sand and buried soils.

Photo: Dominic Powlesland.

stream bed. During the late Neolithic and early Bronze Age there has been activity over large parts of the site and flintworking is attested through large numbers of cores, waste flakes, tool roughs and finely finished tools and points. Settlement is demonstrated through domestic refuse, while a circular gully containing a flint knife of the Beaker period was interpreted in *Rescue News* (Spring 1980) as a Beaker period hut; though as the topsoil has been stripped from this site by the gravel company, no entrance and no hearth was discovered and so interpretation was hazardous. However, a number of ditches and gullies may also be attributed to this period.

Indications of four round barrows have been located in two parts of the site, two of which are preserved beneath over a metre of windblown sand. The largest of the barrows, over 35 m. in diameter, remains to be excavated, but test cuts revealed a timber facade, clearly an important feature considering the construction of the many late Neolithic long and round barrows excavated on the wold top.

After an apparent gap the site was re-occupied at the end of the Bronze Age with an open settlement with

ceramics directly paralleling those from Devils Hill. There is also a pit alignment of deep 2 m. square pits spaced at metre intervals: is this perhaps related to the wolds entrenchment system which was only a kilometre to the south at the top of the wold scarp? Two more phases of Iron Age settlement are represented by round houses, and four post structures, together with ditches, winding tracks and fields. Romano-British material has been located at the periphery of the area currently examined and indicates centres of activity nearby. A trackway and putative sunken featured building again located at the limit of the current work indicate the presence of an Anglian settlement to be tested in 1981. The Anglian inhumation cemetery which first brought the site to light lies a further 300 m. to the south. Over sixty burials have now been examined, including a 'ritual' horse burial. It is hoped to examine another adjacent site in 1981 to determine the limits and date range of the cemetery.

Any excavation tends to pose more questions than it answers, and at West Heslerton work is now concentrating on the relationship between the areas of settlement and the

surrounding fields, and the relationship of the burials to both. These questions can only be answered by looking beyond the confines of the site itself, and so a research project has been established to examine the landscape of the parish in all its aspects. The basis of this is a transect running across a number of geomorphological zones from the top of the chalk Wolds to the peat deposits or carrs on the banks of the River Derwent. The excavated area is located at the middle of the transect with the Devils Hill about a kilometre to the South on the Wold scarp. To the North and South information is to be built up by a combination of survey, fieldwork, and sample excavation. It is hoped that through this approach the large body of data already extant from the wolds may be put into a wider perspective.

Over the last 200 years there has been intensive work on the Wolds, which has produced a large body of sepulchral evidence, yet despite this the settlement evidence behind the burials has rarely been located. When examined in relation to the other projects in the region such as Devils Hill, Seamer Carr, Wharram Percy, Thwing, and Garton/Wetwang Slack, the work at West Heslerton is contributing towards a data base through which we may hope to understand the evolution and mechanics of the landscape on a regional rather than on a trench basis.

Dominic Powlesland,
The Old Abbey,
Yedingham,
Malton,
N. Yorkshire.

THE excavations at Crickley Hill, about four miles south of Cheltenham, Gloucestershire, have now been in progress for twelve years. During this time much of interest to Iron Age specialists has been discovered in the work on the final phases of the hillfort, with its successive rectangular and round buildings, ending in a destruction in the 4th and 5th century BC. In recent years, however, attention has been increasingly drawn to the traces of much earlier settlements—a series of small Neolithic enclosures which lie in the centre of the Iron Age hillfort.

The first of these was a double-ring causewayed enclosure, of familiar type (see CA 58). Thanks to the excellent preservation of much of the site some of the structural details are clear: no fewer than 19 causeways interrupt the ditch system (one every ten metres) but only five of these gaps were matched by gaps in the bank behind—and each of these was closed by a gate supported on substantial posts. An element of planning is obvious: the entrances through outer and inner rings face one another, and in the 1980 season the wooden revetment of the outer entrance passage was even found to continue back as a pair of fences flanking the road to the inner gate. Once through this gate the road and fences continued back into the interior of the settlement, past the postholes of at least one rectangular house.

All the segments of the inner ditch showed clear signs of repeated filling and clearance, and after the second recutting a low wall was built on the outer lip of the ditches, and ran into at least one of the entrances as a drystone revetment to the passage. This remarkable sequence of demolition and reconstruction ended in the abandonment of the interrupted ditch system. A new and rather larger ditch was dug immediately outside the old inner ditches, and its bank was heaped up on top of the filled-in causewayed ditches. The builders went to great lengths to avoid the interrupted ditch system. Their ditch runs concentric with the older work and no more than a metre beyond it. At one point the old



Crickley Hill: small entrance of the final phase, showing road fences and house behind entrance passage.

Photos: Philip Dixon.

Crickley Hill

by
Philip Dixon

Causewayed camps are currently being transformed. The two long-running excavations, at Crickley Hill and Hambledon, are both expanding, the one in space, the other in time. Crickley Hill is expanding in time for the site has now revealed three successive periods, starting as a causewayed camp, which was followed by a defensive phase, and going on to a third phase dominated by a bank barrow, 100m long (if that indeed is what it is, for Philip Dixon in the article below is notably cautious in his interpretation).

At Hambledon, however, Roger Mercer is expanding in space, and has broken out from the confines of the original causewayed camp and has shown that it is part of a much larger complex where a ritual site and a domestic site were all enclosed within a huge defensive complex.

ditches bend irregularly outward: the diggers of the new ditch broke through—apparently by accident, for they carefully refilled the causewayed ditch, and realigned their new work to avoid further disturbance.

Superstition is further reflected in deposits in the terminals of the new ditch: slabs covered small heaps of butchered cattle bones.

The religious elements of the new enclosure have been emphasized, but



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX F: LIVING LEVELS - RECAPTURING THE HISTORIC LANDSCAPE



Living Levels

Recapturing the Historic Landscape

Evaluation Report

Indie Jago and Maggie Eno

Living Levels
Community Archaeology project
Evaluation Report

Prepared on behalf of:

RSPB Living Levels Project Team

Compiled by:

Indie Jago and Maggie Eno

Contributions by:

Hannah Russ and Natasha Powers

DigVentures

5 Witham Studios
Hall Street
Barnard Castle
County Durham
DL12 8JB

hello@digventures.com
0333 011 3990
@thedigventurers



Purpose of document

This document has been prepared as an evaluation report for RSPB Living Levels Project Team and DigVentures' global community. The purpose of this document is to provide an evaluation data on the event DigVentures organised between June 2019- December 2021.

DigVentures accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared. DigVentures has no liability regarding the use of this report except to RSPB Living Levels Project Team.

Copyright

© DigVentures Limited 2022

Project summary

DV project code and type	LVL19, LVL21 – Community engagement project
County	Monmouthshire
Title:	Living Levels Recapturing the Historic Landscape Evaluation Report
Author(s):	Indie Jago ACIfA BSc Maggie Eno BA MA
Origination date:	1st December 2021
Circulation:	RSPB Living Levels Project Team
Reviewed by:	Manda Forster MCIfA PhD
Approval:	Brendon Wilkins MCIfA

Social Value Act

DigVentures is a social enterprise dedicated to designing and delivering publicly focussed archaeology projects. We are constituted as a limited company, with a constitution reflecting the wider social, economic and environmental benefits of the projects we deliver.

Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of 99g if 100% post-consumer recycled paper is used and 126g if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

DigVentures is aiming to reduce its per capita carbon emissions.

Acknowledgements

We'd like to begin with a sincere thank you to the Living Levels Project Team for providing such an exciting opportunity. The project has benefited from the ongoing support and advice from Alison Offord and Elinor Meloy, Programme Manager. We would also like to thank Martin Bell, University of Reading, and Steve Rippon, University of Exeter, for their help and support. The Project Executive for DigVentures was Lisa Westcott Wilkins, with Manda Forster as Project Manager, Joshua Hogue as Programme Manager, Chris Casswell as Site Director, supported by Maiya Pina-Dacier as Community Manager, Maggie Eno, Indie Jago, Ginny Cole and Johanna Ungemach. Rebecca Bennett, PTS Consultancy, is Project Lead for the development of the Living Levels GIS, and coordinating volunteer transcription projects.

Many thanks to all the volunteers and participants whom attended events and contributed to the project: Antoinette Fearnley-Whittingstall, Adam Freeman, Adrian Ruddell, Adrian Taffinder, Aine Shannon, Aitana Macamus, Alan Smith, Alex Gummow, Alexander Bedborough, Alice Coleman, Alison Clarke, Alison Damon, Alison Offord, Allyson Stevenson, Amber Denton, Andrew Brandon, Andrew Hemmings, Andy Hull, Aneisha Furgason, Aneurin Stevens-Wood, Angela B, Angela Marshall, Ann Kilby, Ann Simcock, Anne Dunton, Anne Thompson, Annie Gwilym Walker, Antoinette Greenberg, Arlene Fleming, Astrid Caseldine, Athol Tufnell, Audrey Toh, Austin Chambers, Barbara Spencer, Barbara Ward, Barry McNicholas, Bea Hadland, Ben Cottam, Ben Watson, Betsie Czeschin, Bill Fearnley-Whittingstall, Bob Fowles, Bonnie Stewart, Brian Lennox, Brian M Powell, Brian Neale, Bruce Munro, Byron Jones, Cailin Harris, Camillo Riva, Carlo Jengember, Carol Cox, Carol Sparkes, Carole Boisvert, Carole Moon, Carole Winstanley, Caroline Harvey, Cass Jury, Cat Lodge, Cath Davis, Catherine Robinson Slater, Cathy Morris, Cecilia Fenerty, Celesta Ellis, Ceri Meloy, Charlotte Toffolo, Chloe Sim, Chris Aldridge, Chris Bond, Chris Harris, Chris Leighton, Chris Thomas, Chris W, Christabel Hutchings, Christine Flynn, Christine Watkins, Claire Capelin, Claire Pearson, Claire Stephenson, Colin May, Colin Petrie, Corrine Cooper, D Kramer, D.M. Waters, Darina Tully, Darren McWilliam, Dave Sowdon, David Waters, David Winstanley, David Evans, David Glover, David Gregson, David Hazel, David Heath, David Lawrence, David Leigh, David Wright, Dawn Lee, Debbie Lawley, Debbie Zoutewelle, Denise Kania, Dennis Simmons, Derrick Gwynne, Di Fletcher, Dominic Wathey, Dorothy Turner, Dorthy Brabon, Doug Hogan, Doug Say, Douglas Hopper, Douglas Mackey, Duncan Graham-Cameron, Elaine Bisson, Elaine Davey, Elinor Meloy, Elizabeth Buxton, Elizabeth Hall, Elizabeth Howell, Elizabeth Owen, Ellen Perry, Emily Brokamp, Emma Baldwin, Erin Oakley, Eve Kermit, Fay Baxter, Felicity Taylor, Fiona Sutherland, Frances Taylor, G Bode, Gabrielle Girardey, Gaenor



Taffinder, Gail Chester, Gail Kennedy-Fagin, Gareth Pearce, Gary Roberts, Gemma Brewer, Gemma Martin, George Downs, George Howell, Gerda Mamott, Gerit Quealy, Giliean Rider, Gill Wakley, Gillian Young, Gilliean Preston, Gilly Hodgkinson, Glyn Parkhouse, Gordon Loxton, Gordon Punshon, Grahame Allen, Greg Preston, Gwyneth Wright, Hannah Beynon, Hao Hu, Hari Khalsa, Harrison Jarman, Hayley Hartmann, Hazel Davies, Hazel Marsh, Heidi Anderson-Thomas, Helen Bates, Helen Cakebread, Helen Johnson, Helen Purdy, Helen Reynolds, Helen Thomson, Helen Walker, Helena Lewis, Henrietta Ewart, Hilary Brindley, Hilary Calow, Hilary Fawcett, Hilary Wears, Huw Garan, Ian Cade, Ian Ferguson, Imogen Tompsett, Ineke Van Zeeland, Irene Mackie, Issica Baron, James Curtis, Jan McIntosh, Jane McDonnell, Janet McCoy, Janet Waite, Janis Winkworth, Jason Elia, Jason Panting, Jason Stevens-Wood, Jean Yates, Jennifer Hopkin, Jenny Pearce, Jeremy Bradsell, Jeremy White, Jerice Bergstrom, Jerry Cross, Jessica Morgan, Jill Pollicott, Jill Riddle, Jill McMullen, Jill Whiteford, Jillian Miota, Jim Sansalone, Jo Murphy, Jo Nowosad, Joan Bennett, Joan Sutherland, Joan Willoe, Joanne Murphy, Joel May, John Beaumont, John David Hopkin, John Evans, John Hearn, John Izzard, John Keeling, John Matthew, John O'Sullivan, John Richardson, John Rider, John Sharpe, Jon Atkey, Jon Holmes, Joseph Taylor, Joshua Sankey, József Tóth, Judy Baack, Judy Phipps, Julia Lewis, Julie MacKenzie, Justin Vallance, Kaitlin Hull, Karen Cain, Karen Henderson, Karen Kelsky, Karen Morgan, Karen Wells, Karl Hitchings, Karleen Stevens, Kate Jeavons, Kate Whittles, Katherine Moseley, Kathleen Phillips, Keith Davies, Keith Sargeant, Kenneth John Colwill, Kim Biddulph, Kim Iannucci, Kim Spenser, Kirsty Fox, Lann Niziblian, Lara Thompson, Laura Perry, Laurence Davidson, Laurence Dewsnap, Layla Davidson, Leah Jones, Leon Purdy, Lesley Bird, Lesley Mills, Linda Burnell, Lindsey Marks, Lionne Siebers, Lisa Chapmam, Liz Aiken, Llewellyn Toulmin, Lorelai Prosser, Lorraine Macdonald, Louise Hislop, Louise Morgan, Lucy Hammond, Lucy Moore Fuller, Lyn Bennett, Lynette Magnone, Madeleine Minto, Madeline Phillips, Mags Daly, Mali Morden, Marc Chiacchio, Margaret Tideswell, Maria Sansalone, Maria Wheatley, Marian Wood, Marianne Pitman, Marie Dooley, Marion Sweeney, Marjorie Neal, Mark Pizzato, Mark Winsloe, Marlene Nolan, Martha Rasmussen, Martin Peters, Martin Gerrard, Martin Nuttall, Martin Petersen, Martyn Swain, Mary Lennox, Mary Considine, Mary Hudson, Mary Knight, Mary Lennox, Matt Phillips, Matt Popp, Matthew Vickers, Maurice Peters, Maurice Turner, Meg Brown, Melanie Fischer, Michael Bamforth, Michael Cantwell, Michael Clinton, Michael Heather, Michael Rees, Michael Stimson, Michelle Yates, Mike Rees, Natasha Mitchell, Neil Bevan, Neil Jakeman, Nick Corcos, Nicola Moxey, Nigel Peters, Nina Ayres, Norma Johnstone, Norman Liversuch, Owen Woodroff, Pam Steane Price, Pat Grafton, Patricia Thompson, Patrick Sharrocks, Paul Bivand, Paul Etherington, Paul Jones, Paul Partington, Paul Robertshaw, Paul Willis, Paula Courts, Pearl Chalk, Penny Screech, Peter Macdonald, Peter Phillips-Burge, Peter Stanley, Peter Strong, Peter Thompson, Phil Sutcliffe, Philip Brabon, Philip Terry, Philip Wilkinson, Philippa Keane, Priscilla Llewelyn, Raphael Kahlenberg, Raveena Tamoria, Rebecca Bennett, Rebecca Loader, Rebecca Piper, Rhian Capener, Rhiannon Munro, Richard Brighton, Richard Cain, Richard Mence, Richard Brunning, Richard Dolan, Richard Hughes, Richard Pearson, Richard Trevor, Richard Whitaker, River Song, Rob Kirk, Robert Barker, Robert Fowles, Robert Johnson, Robin Linfoot-Smith, Robin Shrubsole, Roderick Couper, Rosalind Bounds, Rosalind Buckley, Rose Hewlett, Rosemary Gray, Roslyn Irvine, Ruth Essex, Ruth Roulston, Ruth Winstanley, S Carroll, Sally Church, Sally Pillinger, Sam Ring, Sarah James, Sarah Marinho, Sarah Shaiban, Scott Timpany, Seday Williams, Seonaid Barber, Shari Raia, Shari Tibbs, Sharon Corbett, Sharon Orton, Shaun Wilson, Sheila Clark, Sheila Stewart, Sian Evans, Sian Howley, Sian Massie, Sid Jeffery, Sigrid Osborne, Simon Nicholson, Simona Cerchiara, Steph Horak, Stephen Beynon, stephen cogbill, Stephen Szweda, Stephen Szweda, Stewart MacIntyre, Su Britton, Sue Dyke, Sue Jaiteh, Sue Kelsey Ryan, Sue Pawling, Sue Rssex, Summer Smith, Susan Bailey, Suzanne Bradshaw, Suzanne Kopich, Suzy Butler BSc, Sylvia Fowles, Tadhg Niziblian, Tammy Sawford, Tamsin

Williams, Tanya Sinett, Teresa Conway, Terri Chapman, Thomas Walker, Tim Bowly, Tim Jones, Tom Hill, Tracey Hewitt, Tracey Shea, Tracey Webster, Ute Methner, Vicki Harley, Victoria Wiksen, Viv Amos, Wendy Waters, Yolande Monks, Yvonne Walker, Zoe Brooks, Zoe Freel

Executive summary

DigVentures was commissioned by the Living Levels Landscape Partnership to provide volunteer opportunities for people to learn new and develop existing archaeological fieldwork skills and retain a core team of volunteers to collect data throughout the Gwent Levels. The overarching aim of was to engage participants with the archaeology and teach them core skills so that they could create a database to feed into the [Living Levels GIS](#).

This document is submitted to evaluate the multi-phased research project in the Gwent Levels, carried out by DigVentures. This report details the outputs created during the project, all the events delivered, and discusses the demographics and experiences of the volunteers who participated in the project. The fieldwork that took place between 3rd– 4th August 2019 and 3rd-4th July 2021 is covered in Appendix A.

Between July 2019 an December 2021 DigVentures organised 19 events which were joined by 462 participants. Due to Covid-19 the project had to pivot halfway through delivery to provide events within government guidelines on social distancing. This meant more online events were organised, and those event that took place in-person needed to occur with a limited number of participants and other Covid-19 measures. The following is a list of the events DigVentures delivered:

- Archaeology Taster Week – July 30 to August 4, 2019
- LiDAR Workshop – January 31, 2020
- Heritage on the Horizons Walks – June 16, 17 and 18, 2021
- Heritage on the Horizon Online Workshop – June 30, 2021
- Big Garden Dig on the Gwent Levels – July 3 & 4, 10 2021
- Oral Histories Online Workshop – September 2 and 16th, 2021
- Historic Building Survey Workshop – December 2 & 3, 2021
- Explore the Gwent Levels with Prof. Martin Bell Guided Walk – December 4, 2021
- Ancient Habitats Online Panel Show – December 16, 2021

The workshops were created to support the participants through the GIS mapping projects and taught participants many archaeological skills including:

- Use of GIS in Archaeology
- Practical experience using GIS
- Practical experience in historic building survey
- Practical experience in landscape survey
- Knowledge of archaeological resources such as HER datasets



- Greater knowledge of the archaeology of the Gwent Levels
- Greater knowledge of the history of the Gwent Levels
- Excavation and archaeological recording skills
- Greater understanding of finds identification

For each GIS project a searchable map layer on the living Levels GIS has been produced to display the dataset. Any new or updated archaeological data will be sent to the HER record. The LiDAR transcription project identified 275 sites of historic significance, and during the Heritage on the Horizon project known buildings/monuments were recorded, creating an up-to-date record for the buildings/monuments.

Crynodeb weithredol

Fe gomisiynwyd DigVentures gan Bartneriaeth Tirwedd Lefelau Byw i ddarparu cyfleoedd i ddysgu a datblygu sgiliau gwaith maes archeolegol yn ogystal â chreu tîm o wirfoddolwyr i gasglu data yn gysylltiedig â Lefelau Gwent. Prif bwrpas y gwaith maes oedd galluogi gwirfoddolwyr i ymgymryd â gweithgareddau archeolegol a dysgu sgiliau craidd fel eu bod yn gallu creu bas data ar gyfer y

[Living Levels GIS.](#)

Pwrpas y ddogfen yma ydy gwerthuso'r gwaith ar gyfer prosiect ymchwil amlgam DigVentures ar Lefelau Gwent. Mae'r adroddiad yma yn disgrifio allgynnyrch y prosiect, y digwyddiadau a drefnwyd, ac yn trafod cefndir a phrofiad y gwirfoddolwyr. Mae gwybodaeth ynglŷn â gwaith maes y 3ydd– 4ydd o Awst 2019 a'r 3ydd-4ydd o Orffennaf 2021 i weld yn Atodiad A.

Fe drefnodd DigVentures 19 digwyddiad rhwng Gorffennaf 2019 a Rhagfyr 2021 gyda chyfanswm o 462 o gyfranwyr. Gyda Covid 19 yn effeithio ar y digwyddiadau roedd yn rhaid addasu'r trefniadau fel bod canllawiau a rheolau'r llywodraeth yn cael ei dilyn. Roedd rhaid trefnu mwy o ddigwyddiadau ar-lein ond hefyd cyfyngu'r niferoedd oedd yn mynychu'r lleoliadau priodol. Dyma restr o'r digwyddiadau a drefnwyd:

- Wythnos rhagflas Archaeoleg – Gorffennaf 30 - Awst 4, 2019
- Gweithdy LiDAR – Ionawr 31, 2020
- Teithiau cerdded "Heritage on the Horizons" – Mehefin 16, 17 a 18, 2021
- Gweithdy ar-lein "Heritage on the Horizon" – Mehefin 30, 2021
- "Big Garden Dig on the Gwent Levels" – Gorffennaf 3 & 4, 10 2021
- Gweithdy ar-lein hanes ar lafar – Medi 2 a 16, 2021
- Gweithdy arolygu adeiladau hanesyddol – Rhagfyr 2 & 3, 2021
- Taith gerdded "Darganfod Lefelau Gwent" gyda Prof. Martin Bell – Rhagfyr 4, 2021

- Sioe banel ar-lein "Cynefinoedd Hynafol" – Rhagfyr 16, 2021

Mi roedd gweithdai i gefnogi'r cyfranwyr ddysgu sgiliau archeolegol, a mapio GIS, yn cynnwys y themâu isod:

- Defnydd GIS yn Archeoleg
- Profiad ymarferol o ddefnyddio GIS
- Profiad ymarferol o arolygu adeiladau hanesyddol
- Profiad ymarferol o arolgu'r tirwedd
- Gwybodaeth am adnoddau archeolegol, ee. bas data HER
- Gwybodaeth pellach am archeoleg Lefelau Gwent
- Gwybodaeth pellach ynglyn a hanes Lefelau Gwent
- Sgiliau cloddio a chofnodi archeolegol
- Deall sut i adnabod gwrthrychau archeolegol

Mae gwahanol haenau map treiddiol GIS wedi eu creu i ddangos data'r lefelau byw. Mi fydd unrhyw wybodaeth newydd yn cael ei roi ar y cofnod HER. Fe gofnodwyd 275 o safleoedd o ddiddordeb hanesyddol yn defnyddio'r data LiDAR, ac yn ystod prosiect "Heritage on the Horizon", fe gofnodwyd a diweddarwyd y data wrth arolygu nifer o adeiladau a henebion y Lefelau.

Table of contents

1	INTRODUCTION	12
1.1	Background to the project	12
1.2	Location, topography and geology	12
2	BACKGROUND	13
2.1	Introduction	13
2.2	Research significance	13
2.3	Historical background	13
2.4	Summary of previous work	14
3	AIMS AND OBJECTIVES	15
3.1	Project model	15
3.2	Aim 1 - To engage and train local people and other participants in the research of Gwent Levels landscape	16
3.3	Aim 2 – To undertake landscape survey, archaeological investigation and building recording to contribute new knowledge and understanding of the Gwent Levels landscape	16
3.4	Aim 3 – To produce an online and publicly-accessible GIS which provides a comprehensive account of the Gwent Levels landscape and highlights existing heritage assets and raises awareness of the project outputs.	16
3.5	Aim 4 – To support the evaluation of the project and the future management of the Gwent Levels landscape	17
4	THE IMPACT OF THE COVID-19 PANDEMIC	17
4.1	Pre-Covid	17
4.2	Postponement	18
4.3	Delivery of engagement programme during a global pandemic	19
5	LIVING LEVELS GIS	20
5.1	Aim and method	20
5.2	The online GIS	20
5.3	Court of Sewers Digitisation	21
5.4	Using LiDAR data to identify archaeology	21
5.5	Heritage on the Horizon	22
5.6	Mapping Memories	23
6	COMMUNITY ACTIVITIES	24
6.2	Archaeology Taster Week – July 30 to August 4, 2019	24
6.3	LiDAR Workshop – January 31, 2020	25
6.4	Archaeology Taster week – June 2021 (Cancelled due to Covid-19)	25
6.5	Heritage on the Horizons Walks – June 16, 17 and 18, 2021	26
6.6	Heritage on the Horizon Online Workshop – June 30, 2021	26
6.7	Big Garden Dig on the Gwent Levels – July 3 & 4, 10 2021	26
6.8	Oral Histories Online Workshop – September 2 and 16th, 2021	27
6.9	Historic Building Survey Workshop – December 2 & 3, 2021	27
6.10	Explore the Gwent Levels with Prof. Martin Bell Guided Walk – December 4, 2021	27
6.11	Ancient Habitats Online Panel Show – December 16, 2021	28



7	PUBLIC IMPACT	28
7.1	Introduction	28
7.2	Evaluation methodology	28
7.3	Social impact – 2019 archaeology taster week	29
7.4	Social impact – LiDAR workshops	31
7.5	Social impact – Big Dig Weekend	31
7.6	Social impact – Heritage on the Horizon	32
7.7	Social impact – Mapping Memories	33
7.8	Social impact – Panel debate	34
7.9	Conclusion	35
8	CONCLUSIONS	35
9	BIBLIOGRAPHY	37

Appendices

Appendix A	Living Levels: Community Archaeology Project: Assessment Report	60
------------	---	----

Figures

Figure 1	Project Area	40
Figure 2	Plan of St. Mary's Church, Undy	41
Figure 3	Sketch of the east elevation of St. Mary's Church, Undy	42
Figure 4	Sketch of the four elevations of St. Mary's Church, Undy	43
Figure 5	Photos of St. Mary's Church, Undy	44
Figure 6	Photos of 2019 archaeology taster week participants	46
Figure 7	Photos of 2020 LiDAR workshop participants	47
Figure 8	Photos of 2021 Heritage on the Horizons walks participants	48
Figure 9	Photos of participants at 2021 building survey at Undy and Magor and Martin Bell's foreshore walk	49
Figure 10	OUR THEORY of CHANGE	50
Figure 11	Standards of evidence	51
Figure 12	Project evaluation matrix	52
Figure 13	2019 archaeology taster week - participant demographic and experience	53
Figure 14	2019 LiDAR workshop - participant demographic and experience	54
Figure 15	Heritage on the Horizons - participant demographic and experience	55
Figure 16	Mapping Memories- participant demographic and experience	56
Figure 17	2021 panel debate - participant demographic and experience	57
Figure 18	Examples of feedback from the panel debate	58
Figure 19	Participant demographic and experience for all Living Levels projects delivered by DigVentures	59

1 INTRODUCTION

1.1 Background to the project

- 1.1.1 The Living Levels Partnership is a Landscape Partnership Scheme being delivered by RSPB Cymru (lead agency), Gwent Wildlife Trust, Monmouthshire County Council, Natural Resources Wales, Newport City Council, Cardiff Council, Sustrans, National Trust, Buglife Cymru, Bumblebee Conservation Trust and Cardiff Story Museum. The Partnership developed a range of projects to conserve and enhance the natural heritage of the Gwent Levels and re-connect people with this amazing landscape on their doorstep.
- 1.1.2 DigVentures was appointed to help deliver several important outputs and outcomes of the Living Levels 'Recapturing the Historic Landscape' Project, specifically to develop an online accessible GIS, to populate the GIS with data co-produced with volunteers and to deliver a series of professionally led, volunteer projects designed to engage people with the unique historic landscape of the Gwent Levels. The archaeological research and fieldwork aimed to investigate the development of the landscapes of the Gwent Levels through an examination of historical maps, field survey and test-pit archaeological excavations in historic villages.
- 1.1.3 The project was designed to include two seasons of fieldwork with an embedded public engagement programme maximising the impact of the investigations through walk and talk training walks, structured workshops, public talks and displays. The first season which included earthwork survey, building survey and test-pitting, and took place between 30th July – 4th August 2019. The second was planned to take place during 2020 but was initially postponed due to Covid-19. Following that, aspects of the project were redesigned in late 2020, to accommodate ongoing issues with the pandemic. A second, shorter season of fieldwork, planned to take place in 2021, due to continuing restrictions this was also cancelled. Through the second half of 2021, the project team were able to deliver some in person activities (including heritage recording walks and building survey), as well as a programme of digital volunteering to enhance data on the Living Levels GIS. The results of the test pitting weekend 3rd-4th August 2019 and Big Garden dig 3rd-4th July 2021 are presented in Appendix A.

1.2 Location, topography and geology

- 1.2.1 The Gwent Levels comprise the Caldicot and Wentloog Levels, intertidal wetlands situated on either side of the River Usk in southeast Wales. The resulting coastal plain is the largest reclaimed wetland in Wales and provides an excellent example of how people have adapted a landscape to live and work within (Rippon 1996, 3). The project area spans the reclaimed coastal alluvium which occupies the northern side of the Severn estuary, from Cardiff Flats to the south, to the Caldicot Level in the north. The inland boundary follows incorporates Chepstow, following the line of the M48, A48 and M4 to incorporate the towns and villages which site within the coastal plain (Figure 1). This low lying, flat and an expansive coastal plain is up to 6km wide. The 1:50,000 scale Geological Survey indicates that the geology at Caldicot consists of superficial tidal flats, comprised of clay, silt sand and gravel overlying mudstone bedrock (British Geological Survey 2019).

2 BACKGROUND

2.1 Introduction

- 2.1.1 This project involved training and supporting the local community participants in undertaking and recording archaeological sites and features using the developed GIS platform. New data was collated by volunteers supported by a professional team during training workshops, site visits and archaeological fieldwork, with participants inputting directly into a web accessible GIS database. The resulting GIS provides rich content which has informed and underpinned the development of new physical and digital interpretation designed to improve the visitor experience across the Levels and help reconnect people to this historic landscape.

2.2 Research significance

- 2.2.1 The Gwent Levels represent an area of archaeological and historical significance. They are listed in the Register of Landscapes of Outstanding Historic Interest in Wales as they are 'one of the most extensive and best preserved reclaimed coastal wetland landscapes' (Rippon 1996). The inhabited areas of the Levels have been repeatedly reclaimed from encroaching sea-levels and has been actively maintained since the Roman period (Cadw 1998).
- 2.2.2 Being a reclaimed landscape, the Gwent Levels are under constant threat of erosion. This presents a long-term threat to the archaeology, especially areas not protected by the sea wall. The growth of the sub-urbanisation in the region, particularly around Newport and Cardiff as well as the expansion of the A48/M4 corridor and the renewal of drainage schemes on the Gwent Levels, will further reduce the visible and accessible archaeology.
- 2.2.3 The wetland environment of the Levels is well suited for the preservation of archaeology, in particular organic material. This has enabled discoveries such as medieval fish traps, Iron Age houses and Mesolithic footprints. Despite conducting large scale surveys and identifying many sites there has been little done in the way of large-scale analysis of the landscape. There are also sizable gaps in the understanding of transitional periods or how people used and moved around the landscape in the past.

2.3 Historical background

- 2.3.1 *The Gwent Levels: The evolution of a Wetland Landscape* (Rippon 1996) provides a comprehensive account of landform, archaeology and history of the levels, with findings from this work and more recent projects incorporated into the *Gwent Levels Landscape Character Assessment* (CBA 2017). A summary of the history and archaeology of the area is given.
- 2.3.2 Some of the oldest archaeology on the Gwent Levels has dated to the Mesolithic period. Hunter gathers seem to have moved through the landscape seasonally using the land to fish and hunt. There is little archaeology dating to the Neolithic and it is unclear if this is due to lack of investigating or lack of presence, though it is presumed that there may have been only limited activity. Occupation in the Bronze Age and Iron Age seems to have been opportunistic and seasonal; the fertile soil and coastal

landscape of the levels were probably used periodically to graze cattle and fish before returning to higher ground.

- 2.3.3 During the Roman Period the area was occupied by the Civitas of the Silures, with their caput at Venta Silurum (Caerwent). During this time, a drainage system was constructed to drain the Levels and make the land suitable for farming. After the end of the Roman period the area around the former caput became the small successor kingdom of Guenta. The name retention and the two sub-Roman style cemeteries suggest that there may have been some kind of political continuity after the Romans left and that the town of Caerwent continued to hold importance.
- 2.3.4 During the medieval period an extensive drainage system was put in place and a sea wall was constructed to reclaim land, although it is not clear if the inland drainage systems were built before or after the sea wall. Whilst most assume the sea wall was built before the inland drainage it is possible that summer dykes may have been constructed around fields to provide protection to the crops during the summer months and it was not until later that a sea wall was constructed giving the crops year-round protection. It is therefore assumed that the sea wall must have been built by c.1113 as this is when Goldcliff Priory was built, and it seems unlikely that this would have been built on marshland liable to flooding. The responsibility of maintaining this drainage system befell the landowner whose field bounded them. To ensure the entirety of the drainage system was maintained, in 1828 the Commissioners of Sewers ordered a survey of the Gwent Levels. They recorded field boundaries, drainage ditches and sea defences, their findings were made into two books of maps.

2.4 Summary of previous work

- 2.4.1 Mesolithic remains have been discovered at Goldcliff, stratified in an estuarine clay. These included finds of worked flint, animal bones, charcoal and cattle footprints. Further Mesolithic remains have been identified in the form of late Mesolithic human footprints found at Uskmouth that had been impressed into the lower Wentlooge (Barr and Bell 2017).
- 2.4.2 Bronze Age sites have been identified on desiccated raised peat beds, such as at Chapel Tump, Goldcliff and Caldicot Castle. At Caldicot Castle there is evidence of palaeochannels, pile structures, and a boat strake. At Redwick, more recent discoveries in the intertidal area include the discovery of a Bronze Age settlement indicated by four rectangular-shaped post-built structures as well the presence of both human and animal footprints (Bell 2013).
- 2.4.3 Iron Age timber buildings and fish traps were also located at Goldcliff in the intertidal area along a peat shelf (PRN 05754g). Inland, the remains of a 3rd century Romano-British boat were found at Wilcrick (Cadw 1998). At Portskewett recent excavations by GGAT and others have revealed evidence of a Roman villa with possible Iron Age activity. Romano-British pottery has been found on sites such as Llanmelin (Nash-Williams 1933) and Sudbrook (Nash-Williams 1939). Excavation at Lodge Wood Camp revealed a series of narrow terraces with small post holes and a limited amount of late Roman pottery in an oval enclosure in the interior of the Iron Age hillfort (Howell & Pollard 2000). GGAT excavations at Pencarn Farm (Coedkernew) yielded a late Roman fen-edge settlement which underlay a medieval site.

- 2.4.4 The medieval period can be seen both in buried archaeology and standing structures such as castles, moated sites, churches, mills, manor houses and court houses. The village of Redwick itself is subject to a conservation plan designed to help preserve the unique character of the village (Newport City Council 2002). The village is an example of a nucleated medieval village settlement, initially centred around the Church of St Thomas; this form of settlement pattern is an uncommon occurrence on the Levels. The origins of Redwick are believed to have been as a secondary settlement to nearby Magor in the 13th century.
- 2.4.5 Grangefield, in Redwick, is the location of a medieval moated site which was an early property to the Cistercian monks of Tintern (Cadw Listed Entry No. 54452, PRN 02313g). A detailed earthwork survey of Grangefield was conducted by Pete Bewers and students from St. Davids University College in 1994, and identified it to be in very good condition. The moated site consisted of two concentric, rectangular shaped ditches that surrounded a central platform. This is most likely the same site as 'New Grange' referred to in a deed dating to 1572. The land was probably gifted to the Abbey as it was a too wet to farm before the abbey constructed the moats; however, it is noted that the moated site was located by a modern working farm which dumps slurry.
- 2.4.6 A boat dating to the 13th century and was found close to Magor Pill, the largest wreck from this period found in Welsh waters. It is believed the boat was used to trade across the Severn estuary as it was carrying iron ore from Glammorgan. Evidence of maritime exploits continue throughout the medieval period with fish traps dating from the 6th century onwards found near Portsckwett.

3 AIMS AND OBJECTIVES

3.1 Project model

- 3.1.1 The overarching aim of the community project was to develop the web-based GIS system <http://livinglevelsgis.org.uk/> to allow project volunteers to analyse existing data and create new data for the project. The project aimed to recruit a core team of 15 to 20 participants, who through a programme of training and mentoring, were supported in undertaking new research, adding data to the GIS and interrogating the results. Additional participants (40 – 60) were encouraged to get involved through micro-volunteering opportunities, such as archaeological investigation and building recording, encouraging wider community connections and fostering civic awareness. Research was undertaken through a programme of desk-based investigation, local archive research, landscape survey, archaeological investigation and building recording. New data was incorporated into the online GIS, which was maintained as a publicly accessible dataset from the outset and transferred to curatorial bodies at the end of the project. The resulting data will facilitate the future management, research, presentation and enjoyment of the Gwent levels.
- 3.1.2 The RSPB Living Levels 'Recapturing the Historic Landscape' Project required a number of objectives to be fulfilled in the delivery of this project. These are presented below, broadly grouped under the delivery of three main aims;

3.2 Aim 1 - To engage and train local people and other participants in the research of Gwent Levels landscape

- To further the study, understanding and enjoyment of Gwent Levels landscape by interested individuals and community groups.
- To recruit and retain a core team of volunteers to collect data, populate the online GIS system, and to analyse and interrogate the results.
- The provision of training, guidance and technical support to members of the community in GIS, landscape survey, building recording, archaeological investigation and historic landscape interpretation.
- Through additional participation opportunities, stimulate local interest in archaeological and historical projects and research.
- To reinforce and develop the existing sense of place and belonging within the area.

3.3 Aim 2 – To undertake landscape survey, archaeological investigation and building recording to contribute new knowledge and understanding of the Gwent Levels landscape

- Train volunteers in contributing new data to an online GIS system, and to analyse and interrogate the data recovered from the Living Levels project.
- Undertake at least three walkover field surveys with volunteers to verify the status of identified historic landscape features in the present-day landscape.
- Train volunteers in undertaking Level 1 Building Recording survey, collecting additional data which can be uploaded to the project GIS.
- Undertake the archaeological excavation of a series of garden test pits at three historic village locations, during which volunteers were trained in excavation, archaeological recording and finds recovery.
- Analyse the results of archaeological fieldwork and produce a report on the test-pit excavations for the HER and a summary for publication in Archaeology in the Severn Estuary and Archaeology in Wales.
- Update the GIS with the results of landscape survey, fieldwork and excavation carried out with volunteers.

3.4 Aim 3 – To produce an online and publicly-accessible GIS which provides a comprehensive account of the Gwent Levels landscape and highlights existing heritage assets and raises awareness of the project outputs.

- Ensure that the public-facing website: <http://livinglevelsgis.org.uk/> is kept up to date and serves as a public data visualisation tool to support and promote the project as it progresses.
- Update the database with results of other research strands carried out during the project – in particular, including the addition of field and place name data from the documentary research and oral history projects.
- Preparation of data for transfer to curatorial bodies at the end of the project.
- Maintain a legacy version of the website summarising the project's achievements, to be maintained for at least five years beyond the end of the project.

- Deliver a number of community engagement public events to raise awareness of the project, encourage additional members of the community to join in and to provide guidance to members of the public in heritage interpretation.

3.5 Aim 4 – To support the evaluation of the project and the future management of the Gwent Levels landscape

- Collect engagement information and feedback from participants, and provide reports of target outputs in line with HLF requirements.
- Work closely with the Living Levels Programme Team to ensure that the outputs of this project are made available for use in other parts of the scheme, including to inform new interpretation at a series of Primary and Community Hubs and Churches.
- Make scheduling recommendations to Cadw.

4 THE IMPACT OF THE COVID-19 PANDEMIC

4.1 Pre-Covid

- 4.1.1 The heritage engagement programme for the Living Levels project started successfully in July 2019, with several subsequent events taking place in the following months. When the Covid-19 lockdown was announced in March 2020, all upcoming events, including one which had already been advertised, were postponed.

Events that took place:

- GIS and LiDAR workshop led by Rebecca Bennet (30th July, 2019) – 14 participants
- Introduction to field recording led by Rebecca Bennet and Chris Casswell (31st July, 2019) – 8 participants
- Maritime/ foreshore landscape survey workshop led by Martin Bell (1st August, 2019) – 15 participants
- Redwick History Group talk and walking tour (2nd August, 2019) – 9 participants
- Historic buildings survey workshop led by Chris Casswell (2nd August, 2019) – 9 participants
- Test pitting weekend at Redwick (3rd – 4th August) – 15 participants
- LiDAR Workshop (January 31, 2020) – 13 participants
- Presentation of 2019 test pitting results at Gwent Levels Revealed (1st February, 2020)
- Presentation of 2019 test pitting results to Redwick History Group (10th February, 2020) – 12 participants

Cancelled events:

- The second in the planned series of LiDAR workshops was originally scheduled for March 9th, 2020. Participants in this workshop would study LiDAR data and explore the landscape through targeted site visits. However, this event was postponed due to issues of access and landowner permissions. A new date and

location (Marshfield Village Hall) was tentatively set for May 2020, but government advice concerning Covid-19 meant that this was also cancelled.

- Plans for an historic buildings workshop (including a guided walk and practical learning session) were put on hold pending government advice re Covid-19.
- Plans for an archaeology fieldwork season (including test pitting, landscape survey workshops, geophysical survey, building recording workshops) scheduled to take place in August 2020, were put on hold until 2021.

4.2 Postponement

4.2.1 In 2019, the project was able to begin building the interactive GIS map of historical and archaeological sites on the Levels and develop user functionality around the map itself. Initially, our aims for 2019 were to begin with building the GIS mapping database and create a field recording element, designed to enable in-the-field documentation of landscape survey results collected by the volunteers. The LiDAR and landscape survey projects would then follow and provide targets for an archaeological excavation to be delivered in 2020. Unfortunately, because of COVID-19 and a nationwide lockdown beginning in March 2020, the project trajectory was severely altered and the majority of our planned in-person activities became virtual events. In cases where we could proceed with in-person events, they were carried out with restricted numbers and strict safety precautions.

4.2.2 In 2021 plans were made for a 12-day programme of archaeological investigation scheduled for the week commencing 7th June 2021 at Whitson. The archaeological activities would have included test pitting, geophysical surveys, mapping memories workshops, and earthwork/building surveys on archaeological monuments visible from the walks newly created by the RSPB. Unfortunately, this was cancelled due to ongoing Covid-19 restrictions in Wales. Several outputs had already been generated for this event including the Updated Project Design and a public Eventbrite page where 33 participants had signed up to attend different sessions across the programme.

4.2.3 The situation around Covid-19 remained unpredictable throughout the delivery phase. Frequent changes to safety guidelines, social distancing, school bubbles, remote teaching, local outbreaks, and individual fears of infection were ever-present throughout the duration of the project. As a result, the programme embraced a virtual and desk-based approach to study the archaeology and heritage of the Gwent Levels with the volunteers.

4.2.4 Additional problems that arose through the postponement were:

- A high percentage of the existing project volunteers fell within the Covid-19 risk groups.
- Momentum was lost with the previously engaged and enthusiastic group of volunteers.
- Key training which would enable participants to undertake self-guided landscape or buildings survey could not be delivered.
- 'Ground-observation' of possible archaeological features wasn't able to be done, as participants were not able to get access permissions without support from the Living Levels team, key members of whom were on furlough, and could not be accompanied by members of the project team due to lockdown regulations.

- While our pivot to virtual events was largely successful, there was still a bracket of participants who were not as comfortable with digital engagement. Considering a large part of the mapping was desk-based, without a hands on, in-person workshop some people struggled to participate.
- Many of the staff working on the project were placed on furlough during 2020.
- People were hesitant to sign up for events as they might be cancelled.
- Additional precautions put in place for rescheduled events meant lower participant numbers, for example, some were not comfortable taking LFT tests in order to attend.

4.3 Delivery of engagement programme during a global pandemic

- 4.3.1 From June 2021 until December 2021, DigVentures delivered an amended engagement programme for Living Levels. Delivery was impeded by government restrictions that prohibited larger events in Wales. It was difficult to organise activities inside for significantly sized participant groups, and even when restrictions were loosened, potential participants were still careful and hesitant towards physical events.
- 4.3.2 Nevertheless, as a reaction to the lockdown restrictions, the project pivoted to a programme of virtual delivery. Some activities that were planned as in-person events were subsequently moved online. For example, the GIS workshops originally scheduled to take place during the archaeology taster weeks were held as a live Zoom events. By removing the geographical barriers of an in-person event, the virtual event increased the range and diversity of people who engaged with the Gwent Levels. However, as many companies and organisations had also moved their offers online, there was a growing feeling of digital fatigue in potential users which eventually lead to a negative impact on the interest in online offers for the project.
- 4.3.3 Neither a complete move online, nor sticking solely with in-person events was advisable. DigVentures chose a hybrid approach, offering digital events with the option of an in-person component if the situation improved. In-person events were planned for summer 2021, but because of the constant uncertainty, not all of them could take place.
- 4.3.4 Planning and delivering events during a pandemic meant that DigVentures had to be flexible right up to the moment of delivery, which resulted in uncertainty for potential volunteers. For example, the June 2021 archaeology experience planned to take place in Whitson was pivoted two weeks before the event from in-person archaeological activities to a virtual dig. This meant that many of the original participants who had signed up for the June dig were unable to take part. This may be a result of many factors, most pertinent being the need to have a garden of your own, or access to a space with landowner permissions, especially as the event was organised in a short space of time.
- 4.3.5 DigVentures had prepared to attend *A Celebration of Living Levels*, at Tredegar House on 15th December 2021. At this event DigVentures would have had an opportunity to display results from the archaeological investigations, give live demonstrations of our online, interactive GIS map and to answer questions from visitors. This was planned to run with reduced number of visitors to four sessions with 30 visitors able to book into each slot. However due to changes in government guidelines this event was cancelled.

- 4.3.6 Overall, in-person events and activities had to be downsized, and the expected extent and range of visitors and footfall needed to be amended. Covid-19 presented DigVentures and the Living Levels Partnership with unprecedented challenges, but also opportunities that would otherwise likely would not have been taken advantage of.

5 LIVING LEVELS GIS

5.1 Aim and method

- 5.1.1 A key element of the delivery of the archaeological elements of the Living Levels project, has been the development of a web-based mapping platform. The online GIS was designed to support, facilitate and query local historical and archaeological research and responded to Aim 3 of the project model:

- To produce an online and publicly-accessible GIS which provides a comprehensive account of the Gwent Levels landscape and highlights existing heritage assets and raise awareness to the project outputs.

- 5.1.2 Once developed, the platform was used for volunteer transcription and historic landscape analysis projects, as well as to house local history research and oral history results. Key projects included the transcription of the Course of Sewers maps and Census Records, using data collected by volunteers as part of archives and history projects. The inclusion of historic map layers and LiDAR data also facilitated landscape research using the platform to both review and add transcriptions, enhancing existing HER data and recognising potential new archaeological sites. The map has also been used as a dissemination tool for historical/archaeology projects, adding data collected during the Life on the Levels project, heritage recording walks, and building survey workshops. Linking more intangible heritage to location based data has also provided an additional opportunity to provide access to project data, including the rich resource provided by oral history recordings.

5.2 The online GIS

- 5.2.1 The vision driving the development of a publicly accessible webmap was to provide a Living Levels GIS website which would underpin the historic environment research and enable dissemination of volunteer work. An accessible tool for project volunteers, the web map would not only house different project elements but provide participants with new heritage skills, including GIS and map reading, as well as digital and landscape literacy. These were then supported with in person training and fieldwork elements, linking the different strands of the project and enhancing project dissemination.

- 5.2.2 The system uses a combination of QGIS and HEROS. HEROS has high level GIS and spatial database functionality, can handle a wide range of media (sound, photo and video) and is fully customisable allowing not only bespoke data entry forms but also an adapted user experience for different groups of volunteers (including multiple languages), reflecting the various types of research and resulting data. It is also compliant with [MIDAS heritage data standards](#), and has built-in access to the [FISH thesauri of terms](#).

- 5.2.3 The Living Levels GIS can be accessed here: <https://www.livinglevelsgis.org.uk>.



- 5.2.4 The nature of the different projects demanded the development of a series of tools able to facilitate the needs of participants. For example, volunteer archival researchers needed to be able to add geographic data to the Court of Sewers and Census transcriptions. The various projects that contributed to the GIS map are outlined below.

5.3 Court of Sewers Digitisation

- 5.3.1 Digitising the 1830s Court of Sewers (CoS) maps was the first of several mapping projects for the Living Levels GIS. The Living Levels RATS had carefully transcribed the CoS maps, noting who owned the land and other significant details they could gather from the physical records. This information became the basis for the digitised Court of Sewers map layer on the GIS. The GIS volunteers added the transcriptions to the digital map while also creating geolocational data associated with particular fields. Digital visitors to the online GIS would then be able to click on any field on the map and see all known information associated with that area.

5.4 Using LiDAR data to identify archaeology

- 5.4.1 Volunteers as part of this project looked at pre-existing LiDAR data for the levels to look for any archaeological features that were visible. The original aim of this project is that the survey would take place half online, looking at the LiDAR maps on the living levels GIS platform, and half in the field ground truthing the features identified. However, due to Covid-19 restrictions the in the field element of the project had to be cancelled.
- 5.4.2 275 sites were identified through the project compiled by 12 volunteers, after cleaning the data 262 of these have been made viewable on the living levels GIS. The following types of sites were identified:

Type of site	Number identified
Cricket pitch	1
Poor House	1
Non-archaeology	2
Palaeochannel	2
Pit/Hollow	3
C20th	8
Mound	12
Field System	23
Uncertain/Other	23
Settlement	27
Routeway	28
Bank (earthwork)	32
Ditch	51
Enclosure	62

- 5.4.3 Most (69%, n=190) of the records created were considered significant to the Historic Environment Record. The number of entries entered by each volunteer ranged from one entry to 93, with a core group of six participants who created 96% (n=263) of the entries.

5.4.4 The volunteers who attended the LiDAR workshops also learnt many skills including how to:

- Identify archaeological features on LiDAR
- How to find HER data online and use publicly accessible archaeological resources
- The uses of GIS in archaeology
- Practical experience using a GIS system

5.5 Heritage on the Horizon

5.5.1 A number of trails are located around the project area and guide people near to many of the area's historic sites and structures. Due to Covid-19 and subsequent restrictions, the project team were unable to progress with original plans for mapping the levels through LiDAR and ground observation within the project timeframe. This activity was redesigned to the Heritage on the Horizons project, reviewing the location, nature and visibility of sites visible from the trails in order to enhance the Living Levels interpretation.

5.5.2 The workshops took volunteers along the trail routes with an information pack of sites which may be visible from the trail. In visiting historic sites, the volunteers would record what they could see and compare notes with the Historic Environment Record to assess the preservation and conservation of archaeology over time. Each site was recorded through photography and writing a short description, noting any differences to the existing record. However, the impact of the Covid-19 meant that the number of days and participants that could be hosted in-person was limited. Three days of walking the routes did take place in June and in December two building survey workshops were held.

5.5.3 The project achieved pinpointing places of interest along the route and providing photos of the condition of the archaeological remains as of 2021. The information provides a useful addition to the HER. This will enable visitors of the region, to look up what they might see on the horizon, and to deepen both visitors and locals understanding of the historic landscape. Figures 2-4 show some examples of primary resources created by volunteers to record the condition of St. Marys Church, Undy as of 2021. The participants also took record photos of St. Marys Church, Undy (Figure 5) and created 3D models of:

- [The entrance to St. Marys Church, Magor.](#)
- [A ruin, Magor](#)
- [Porch at St. Marys Church, Undy - showing text inscribed into the wall](#)

5.5.4 The volunteers who attended the workshop also learnt many skills including how to:

- Identify archaeological features on the ground



- How to find HER data online and use publicly accessible archaeological resources
- The uses of GIS in archaeology
- How to take record photographs and create 3D photorealistic models
- How to draw plans of buildings
- How to sketch building elevations
- To think about the development of a building/village/town and how to identify phasing in a building/village/town.

5.5.5 The project's chief output is the online interactive map which will allow individuals to identify what they may be able to see along the routes and therefore more actively interact with the archaeological landscape. The project also created many resources for those participating in the project, this included a [project portal](#) that contained a detailed step by step guide, and the [recording of the online workshop](#).

5.6 Mapping Memories

5.6.1 The online GIS mapping technology was able to apply to other areas in the Living Levels Partnership, including the oral histories project, Life on the Levels. Volunteers worked with oral historian Marsha Maloney to capture the stories of those living and working across the Levels. The full transcripts and audio recordings are available at the Peoples Collection Wales, the mapping memories project has mapped clips from these interviews onto the online interactive map, to make the stories even more accessible.

5.6.2 Underpinned by a landscape approach, the mapping memories project launched September 2021. Volunteers listened to oral histories, selecting moments which record the locations of particular memories and mapped them on the Living Levels interactive GIS map. The project aim was to record the geography of each story, so that people can discover them while exploring the physical landscape of the Living Levels.

5.6.3 Six individuals added 186 points to the GIS map, covering the entirety of the Living Levels area. Participants were asked how long they had spent contributing towards the project, four responded with spending 20, 12, 10, and 42 hours. Those who participated in the project learnt many skills including:

- Theoretical knowledge of the uses of GIS in archaeology
- Practical skills using GIS
- Knowledge of the history of the levels learnt through the interviews

5.6.4 The project's main output is the online interactive map which will allow individuals to hear participants in the Life on the Levels project talk about the places marked on the map. The project also created many resources for those participating in the project,



this included a [project portal](#) that contained a detailed step by step guide, and the [recording of the online workshop](#).

5.6.5 A WhatsApp group was set to aid those doing the oral histories and to create a community of those participating in the project. 10 participants joined the group and between 3rd September 2021 when the group was created and the 7th January 2022 260 messages were sent in the group. The WhatsApp group was a large success for the project as it allowed participants to connect and assist each other while working remotely on the project. This was particularly advantageous as the participants in the project had a far wider geographical dispersal, a key advantage to hosting a project completely online. Common themes in the WhatsApp group were sharing interesting stories from the interviews, for example:

- "Hi all, I'll do Ray Evans next thanks! He talks about trains 🚂. I think I may have a couple more clips of Tim Rooney left, which I should finish by tmrw. He didn't have any ghosts, but it's still fascinating to listen to the slipping away of 'old ways'. Hope your weather's good in the N.E.! " - Hazel M
- "I love all these different stories" - Sigrid Osbourne in response to "I have my 1st entry to the 'fun fact' sheet: Ray Evans talks of an old train driver who used to carry a bottle of cold tea and a bottle of beer to work in each pocket... the bottle of tea always went home full 😊 (Great weather for a bit of LotL, btw)" - Hazel M
- "There's an archaeologists' 'fun fact' in Prof Martin Bell's interview. Towards the end, he describes the discovery of Mesolithic fish traps at Gold Cliff, radiocarbon dated to 7000 years old" – David Hazel

5.6.6 Or to ask questions, particularly about where places mentioned in the interviews are, for example:

- "Does anyone know where Hendre Ganol is? Arthur Thomas mentions it in connection with his father, but I can't find it. It may just be a house or a farm, from the context, rather than a town or village." – David Hazel

5.6.7 Or to update others on their progress, for example:

- "I have finished the Pam Robertson entries. I won't be able to do another one, as my full study timetable has started and I am off to do fieldwork as well. I really enjoyed the experience though and if any stories are still outstanding in late December/early January then I am happy to do some more" - Sigrid Osbourne

6 COMMUNITY ACTIVITIES

6.1.1 During the duration of the project DigVentures delivered many events and activities, a complete list of activities delivered is outlined below:

6.2 Archaeology Taster Week – July 30 to August 4, 2019



6.2.1 A carefully designed mix of professional excavation and workshops with public participation programmed over a week (30th July – 4th August 2019), creating a breadth and depth of participation opportunities from informal site visits to structured field training (Figure 6). This blended model comprised a week dedicated to training volunteers to National Occupational Standards, two days of test pitting, and one day of fieldwalking with public events running alongside:

- GIS and LiDAR workshop led by Rebecca Bennet (30th July) – 14 participants
- Introduction to field recording led by Rebecca Bennet and Chris Casswell (31st July) – 8 participants
- Maritime/ foreshore landscape survey workshop led by Martin Bell (1st August) – 15 participants
- Redwick History Group talk and walking tour (2nd August) – 9 participants
- Historic buildings survey workshop led by Chris Casswell (2nd August) – 9 participants
- Test pitting (3rd – 4th August) – 21 participants

6.2.2 A 'light' online strategy was implemented to amplify the social footprint of the project. This included posting key developments on social media and on the project timeline, to keep the primary audience of participants, as well as Living Levels and DigVentures followers informed.

6.3 LiDAR Workshop – January 31, 2020

6.3.1 This workshop was designed to bring archaeologists and local historians together to locate, investigate and identify historic sites on the Levels' landscape (Figure 7). There were 13 attendees for this one day workshop.

6.3.2 Using LiDAR data of the Living Levels project area, combined with digital and historic maps, this workshop showed participants how to spot areas of historical significance on the landscape, and how to determine the possible age, function and relationship to other features on the landscape.

6.3.3 The aim of this workshop was to not only to identify possible historic features on the landscape, but to provide basic skills training to volunteers as part of our effort to populate the Living Levels GIS map. Volunteers would then continue to use LiDAR data to identify areas of historic interest to be included on the map for future possible archaeological investigation.

6.4 Archaeology Taster week – June 2021 (Cancelled due to Covid-19)

6.4.1 This taster week was the postponement of the archaeology taster week planned for 2020, though again due to Covid-19 related lockdowns the event had to be cancelled. The taster week was going to investigate the archaeology at Whitson Village (Hogue et al. 2021). The week was planned to include training volunteers in geophysical surveys and to conduct geophysical surveys in the fields surrounding Whitson. Test pitting was also going to be conducted in the fields surrounding Whitson village.

6.4.2 Several outputs had already been generated for this event including the Updated Project Design (Hogue et al. 2021) and a public Eventbrite page where 33 participants had signed up to attend different sessions across the programme.

6.4.3 In person events for the Heritage on the Horizons project were planned to run alongside the Whitson investigation. The walks were able to go ahead in person (Section 6.5) but the workshop was pivoted to be an online event (Section 6.6).

6.5 Heritage on the Horizons Walks – June 16, 17 and 18, 2021

6.5.1 These in-person workshops were organised as part of the Heritage on the Horizons project. Over the three days of the event, participants walked three of the RSPB trails created as part of the Living Levels Partnership to identify heritage features in the landscape visible from these trails (Figure 8). Volunteers would then photograph and record the features they could see. The following routes were investigated:

- Magor and Magor Marsh Loop, June 16 2021 – 13 participants
- Newport Wetlands and Goldcliff loop, June 17 2021 – 13 participants
- Caldicot and Black Rock loop, June 18 2021 – 14 participants

6.6 Heritage on the Horizon Online Workshop – June 30, 2021

6.6.1 This online event was a follow up the in-person walks organised the week before (Section 6.5). This workshop aimed to teach participants how to navigate and use the Living Levels GIS to add the features identified during the walks. The workshop also aimed to equip volunteers with background knowledge on landscape surveys, LiDAR and Historic Environment Records. A [recoding of the workshop](#) was made accessible after the event. 16 participants signed up to this event.

6.7 Big Garden Dig on the Gwent Levels – July 3 & 4, 10 2021

6.7.1 An online event organised in place of the in person test pitting planned as part of the 2021 taster week at Whitson (Section 6.3). This event was organised to be in line with Covid-19 restrictions in place at the time of organising the event. Participants joined an online workshop on the morning of 3rd July where they learnt basic excavation principles including how to layout a test pit and identify and record contexts. They then excavated test pits in their back gardens where they could stay in touch with DigVentures Staff via a WhatsApp group. In the afternoon an informal zoom call was organised to catch up, and discuss any problems encountered. The morning of 4th July Martin Bell gave a short lecture on his work on the Gwent levels before the group carried on excavating their test pits, again where they could stay in touch with DigVentures Staff via a WhatsApp group. On the afternoon a second online workshop was provided which aimed to teach participants how to identify, quantify and record finds as well as archaeological drawings. The group then finished recording their test pits and recording their finds.

6.7.2 This event was organised and advertised in two weeks in response to a change in COVID-19 restrictions preventing the field school planned to take place (Section 6.4). Participant uptake was relatively low on the virtual Big Garden Dig (n=26), but well-

received by those who attended. Unfortunately, due to particularly bad weather, few of the signed up participants were able to fully participate.

6.7.3 An [online step-by-step guide](#) was created to aid participants when independently excavating their test pits. Recordings of the two workshops were made accessible to participants afterwards.

6.7.4 On the 10th July an online workshop followed up with those who participated in the Big Garden Dig. This workshop aimed to be a catch-up for those who had attended the Big Garden Dig workshops and to chat about the finds they uncovered in their test pits. The workshop gave participants a broad overview to what artefacts teach us about the past, and also provided a specialist eye to identify the finds participants had excavated.

6.8 Oral Histories Online Workshop – September 2 and 16th, 2021

6.8.1 These online workshop was delivered as part of the mapping memories project. The workshop on the 2nd September 2021 aimed to teach participants how to navigate and use the Living Levels GIS to add the oral history clips relating to places on the Gwent Levels. The key aim of the workshop was to give participants hands on knowledge of how to participate in the mapping memories project by proving a live step by step walk though of the process. This workshop also aimed to give participants deeper knowledge of how geographical information systems work, what GIS can contribute to archaeology and the practice of oral histories. A [recoding of the workshop](#) was made accessible after.

6.8.2 The workshop on the 16th September 2021 brought participants in the mapping memories project together for an informal zoom. The zoom call gave participants an opportunity to raise any problems encountered with using the GIS maps or accessing the oral histories after the initial workshop. The workshop was also a space for the participants of the project to be social and share stories they encountered while doing the project.

6.9 Historic Building Survey Workshop – December 2 & 3, 2021

6.9.1 An in-person two-day workshop was delivered as part of the Heritage on the Horizons project. Volunteers were trained by a professional historic building surveyor to acquire new skills in identifying historic architecture and how to record historic buildings (Figure 9). All information collected by volunteers during this workshop was added to Living Levels GIS. Volunteers identified and recorded previously unrecorded remains of historic buildings. Volunteers also created 3D models of important architectural features. The following locations were investigated:

- St. Mary's Church, Undy – December 2, 2021 – 7 participants
- Magor Village – December 3, 2021 – 7 participants

6.10 Explore the Gwent Levels with Prof. Martin Bell Guided Walk – December 4, 2021

6.10.1 Professor Martin Bell led a group of 10 participants on a guided walk from Redwick to Magor Pill (Figure 9). Based largely on his body of research from the area, Prof. Bell pointed out areas of historical significance and important archaeological find spots,



such as where the Magor Pill Medieval boat was discovered and the location of Bronze Age wooden structures on the foreshore.

- 6.10.2 There were 15 participants signed up for the walk, but following a recent spike in Covid-19 cases and DigVentures' requirement for all attendees to take lateral flow test prior to the event, 5 individuals elected not to participate.

6.11 Ancient Habitats Online Panel Show – December 16, 2021

- 6.11.1 In this live panel discussion via Zoom, DigVentures invited guest speakers from the Living Levels Landscape Partnership Scheme to speak on issues surrounding wildlife, landscape, ecology and heritage on the Gwent Levels. Archaeologists Professor Martin Bell, Dr Mark Lewis and Professor Stephen Rippon discussed how the Gwent Levels has been moulded by human activity over thousands of years, and how our understanding of the past is changing how we approach conservation today. Topics included how the landscape of the levels has evolved from human habitation, the archaeological evidence for understanding land management, different approaches to conservation efforts and a Q&A with viewers. 381 participants signed up for this event.

7 PUBLIC IMPACT

7.1 Introduction

- 7.1.1 This section details the social impact of the Living Levels project public programming for visitors and project participants over the course of July 2019 – December 2021. DigVentures defines social impact as a measure of the positive and negative primary and secondary long-term effects produced by the programme, whether directly or indirectly, intended or unintended, over and above what would have happened in the absence of the project initiative. Results were analysed using a bespoke social impact methodology, drawing on DigVentures' Theory of Change and Standards of Evidence framework (Wilkins 2019a, 77; Wilkins 2019b, 30)

- 7.1.2 Public engagement was integral to the research aims of Living Level project (Fieldwork Aim 4), designed to engage and train local people in the research of the Living Levels Study Area and provide opportunities for public engagement (Forster 2019). The Living Levels study area is large and encompasses many different deprivation levels. With parts of Newport and Cardiff being in the 10-20% most deprived areas in Wales while most of the surrounding countryside is in the 30-50% most deprived or 50% least deprived areas in Wales (Source: Welsh Index of Multiple Deprivation 2019). The project therefore presented an opportunity to help address the social and educational needs of the surrounding communities, based on the principle that archaeology can do so much more than answer a planning brief: it can transform lives and communities and provide the kind of public support that underpins positive, sustainable growth (Wilkins 2020: 33)

7.2 Evaluation methodology

- 7.2.1 The Living Levels project audience was separated into two broad categories: project participants, who joined the project through a formal booking process, and site visitors, with all opportunities delivered free of charge. DigVentures have developed a methodology for measuring the social impact of archaeology programmes for both

participants and visitors, pictured as a Theory of Change detailing outputs, outcomes and impacts (Figure 10). In this framework, social impact can be conceived as the difference that activities make to people's lives over and above what would have happened in the absence of that initiative. Outputs are a measurable unit of product or service, such as a community excavation; outcomes are an observable change for individuals or communities, such as acquiring skills or knowledge. Impact is therefore the effect on outcomes attributable to the output, measured against two metrics: scale, or breadth of people reached; and depth, or the importance of this impact on their lives.

- 7.2.2 The credibility of a Theory of Change rests on the level of certainty that organisational activities are the cause of this change. In order for this certainty to be achieved, the correct data must be collected to isolate the impact to the intervention. The DV Theory of Change is therefore linked to a Standards of Evidence framework designed to articulate and highlight the causal links between activity and change (Figure 11). These tools are then used to create a bespoke, project specific evaluation table linking activities, outputs, outcomes and evidence base (Figure 12).
- 7.2.3 In support of this overarching methodology, two slightly different data collection strategies were undertaken for both project participants and site visitors; for in-person events participants were interviewed before and after the activity experience (98% completion rate for pre-activity questions, or 83 in total, and 72% completion rate for post-activity questions, or 61 in total), for online activity the participants were interviewed before the activity (85% completion rate, or 351 in total). The age, gender and professional background of participants was derived through digital analytics, with categories derived from the Office for National Statistics, followed by more in-depth analysis designed to reveal 'whether or not people will have learnt about heritage, developed skills, changed their attitudes and/or behaviour, and had an enjoyable experience'. Questionnaires combined closed-end questions easily convertible to statistical data (usually attitudinal questions) and open-ended questions designed to elicit extended responses which were then coded for statistical analysis or otherwise consolidated in order to address the observable implications. The social impact results for both groups are discussed in turn below, with evidence organised according to the specific social outcome that activities were designed to achieve.

7.3 Social impact – 2019 archaeology taster week

- 7.3.1 To ensure that 'a wide range of people will be involved in archaeology and heritage', people were invited to actively participate in the excavation. To help decrease perceived barriers to participation, accessible day sessions were offered to give venturers a taste of the work happening in the trench, all of which followed DigVentures' ClfA-endorsed Field School curriculum.
- 7.3.2 Gender profiles for participants were broadly balanced, with 55% female and 45% male, with the youngest aged 9 and the oldest 81. Participants represented a variety of full-time occupations (54%) and retirees (36%). The remainder were students, either of compulsory educational age or those attending university (10%). Those in full time employment were divided into categories based on the Office of National Statistics (ONS) classifications, the breakdown of which can be seen in Figure 13, illustrating that the excavations and workshop opportunities were taken up by a significant number of people with low income, as well as young people. Examples of professions

included HR manager, engineer, driver, kindergarten assistant, teacher, retail manager, warehouse and manufacturing supervisor and Labour MP. Taking this into consideration, all age groups and socio-economic backgrounds were well represented in the data, with a marked improvement on existing community archaeology provision compared with the typically retired, over 65 local civic society groups (Wilkins 2020, 33).

- 7.3.3 Participants joined the project from the immediate locality (56% of participants, n=22, drove no further than 10 miles to take part in the project), regionally (one third of participants, n=13, living no further than 50 miles from the site), nationally (11% of participants, n=4, having travelled more than 50 miles to have the opportunity to take part in the project (Figure 13).
- 7.3.4 In addition to widening the demographic and socioeconomic range of participation (when compared to existing community archaeology provision), the project attracted an overwhelmingly new audience for archaeology, with 66% of participants (n=26) having never taken part in archaeology activities before (Figure 13). Pre-experience interviews were completed with all project participants to help understand why each had decided to get involved in an archaeology project, and provide a baseline understanding against which the impact of the experience could be determined through post-experience interviews. Participants answered in their own words, and the responses were coded into nine categories.
- 7.3.5 The results show that almost 33% of participants (n=13) took part in the project because they are specifically interested in the Gwent Levels. Some 13% of participants (n=5) took part in the project because they are generally interested in the Archaeology. Some 13% described themselves as actively involved in archaeology, similarly, 5% of participants (n=2) were prospective archaeology students. 31% of participants (n=12) joined the project to learn or develop their archaeological skills (Figure 13).
- 7.3.6 Post-experience 'exit' interviews were also undertaken for all participants, indicating how initial perceptions of archaeology changed and providing evidence for wider social outcomes, such as learning, skills acquisition and well-being. Participants were asked to summarise their highlight of the project in their own words, with responses then codified into four categories in order to visualise the results. The most important consideration for 48% of participants was the experience of real archaeology, and the opportunity to get hands-on experience with finds and in the trench (Figure 13).
- 7.3.7 Closely related to experience of real archaeology was the 'thrill of discovery' for 37% of participants, indicating an overwhelmingly positive experience for first time participations (Figure 13). Nevertheless, a third of participants also described the social life, teamwork and camaraderie as the highlight of their experience, illustrating a powerful positive side product of taking part in archaeology. A closer assessment of interviewees answers (often elicited through follow up questions) reveals that in addition to having a good time, more subtle impacts could be clearly discerned and will be analysed more in depth in the final report.
- 7.3.8 In addition to the participants who formally signed up to partake in the test pitting and workshops, 25 visitors came to see the excavations. 12 of these visitors were part of a bike gang who were riding through the village happened upon the excavations

and wanted to know more. The rest of the visitors were mainly made up of cyclists and families who were travelling through Redwick on the cycle route.

- 7.3.9 This event meets the three pillars of social outcomes. The fieldwork generated archaeological results that can be accessed publicly or viewed in appendix A. The archaeological interventions increased our knowledge of the area and the landscape survey identified new areas of interest. These outputs mean that heritage has been identified and better explained. Those who took part in the workshops learnt new skills in GIS, landscape survey, historic building survey and excavation. As can be seen from the varied demographic background the participants in the events meant a wider range of people were involved in archaeology and heritage. As a third of the participants described enjoying the team working aspect of the project it can also be seen to have improved the participants' wellbeing.

7.4 Social impact – LiDAR workshops

- 7.4.1 13 participants attended the LiDAR workshop on 30th January 2020. The age profiles for participants were not balanced, with most of the participants aged over 55 (90%, n=9). Most of the participants were retirees (80%, n=8), with some in full time employment (20%, n=2). The demographic of the workshop was probably because it took place during work week/ school day. Those in full time employment were divided into categories based on the Office of National Statistics (ONS) classifications, showing the two participants in full time employment had lower supervisory or technical occupations Figure 14, illustrating that the workshop opportunities were taken up by a small number of people with lower income.
- 7.4.2 Pre-experience interviews were completed with all project participants to help understand why each had decided to get involved in an archaeology project. Participants answered in their own words, and the responses were coded into nine categories. The results show that 55% (n=6) of participants took part in the project because they were generally interested in the Archaeology. Some 18% of participants (n=2) took part in the project because they were specifically interested in landscape Archaeology. Some 18% (n=2) described themselves as actively involved in archaeology. 9% (n=1) of participants joined the project to learn or develop their archaeological skills (Figure 14).
- 7.4.3 This event meets the three pillars of social outcomes. The results of the project are publicly accessible on the [living levels GIS](#) including the 275 sites identified by the participants that are considered significant to the historic record. The results were submitted to the Historic Environment record and have contributed to better identified and better explained archaeology. Those who took part in the workshops learnt new skills in GIS, reading LiDAR data and understanding other archaeological datasets. As a consequence of or work people have developed skills and people will have learnt about heritage leading to change in ideas and actions.

7.5 Social impact – Big Dig Weekend

- 7.5.1 39 participants signed up for the weekend, it was advertised as an outdoor activity and the weekend it ran had very poor weather so many of the sign ups didn't show. The majority (79%, n=15) of the sign ups were from individuals living in the living

levels project area. 63% of those who signed up (n=12) had never done any archaeology before.

- 7.5.2 Due to the weather not that many attendees participated in the excavation. However many of the sign ups enjoyed the workshops and participating in the group WhatsApp researching the finds of those excavating. The group fostered a positive atmosphere where participants both living in the region and out where activity engaging with the buried archaeology of the Gwent Levels.
- 7.5.3 This event meet the three pillars of social outcomes. The fieldwork generated archaeological results that can be accessed publicly or viewed in Appendix A. The archaeological interventions increased our knowledge of the area. Theses outputs mean that heritage has been identified and better explained. Those who took part in the workshops learnt new skills in finds processing and excavation. The use of a WhatsApp group created a community atmosphere, despite the participants joining remotely, this improved the participants wellbeing.

7.6 Social impact – Heritage on the Horizon

- 7.6.1 45 participants attended the various Heritage on the Horizon workshops, the gender profiles for participants were balanced, with 49% female (n=22) and 51% (n=23). The age profiles for participants were not balanced, with the largest age category (age 65-74) accounting for 48% (n=20) of attendees and no attendees in the 16-24 and 25-34 categories. Participants represented a variety of full-time occupations (16%, n=7) but the majority of attendees were retirees (73%, n=32). The remainder were students, either of compulsory educational age or those attending university (7%, n=3) or unemployed/ carer/homemakers (5%, n=2). The demographic of these events was probably most of the events took place during work week/ school day. Those in full time employment were divided into categories based on the Office of National Statistics (ONS) classifications, the breakdown of which can be seen in Figure 15, illustrating that the workshop opportunities were taken up by a small number of people with low income, as well as some young people. Examples of professions included veterinary surgeon, RSPB events officer, civil servant, local MP, head of a business group. Taking this into consideration, a range of age groups and socio-economic backgrounds were represented in the data.
- 7.6.2 Participants joined the project from the immediate locality (71% of participants, n=10) joined from no further than 10 miles to take part in the project, and the rest joining the project from the surround region (29% of participants, n=4) living no further than 50 miles from the site (Figure 15).
- 7.6.3 Pre-experience interviews were completed with all project participants to help understand why each had decided to get involved in an archaeology project, and provide a baseline understanding against which the impact of the experience could be determined through post-experience interviews. Participants answered in their own words, and the responses were coded into nine categories. The results show that 40% of participants (n=14) attended the workshop because they were specifically interested in the archaeology of the Gwent Levels and building surveys and 26% of participants (n=9) attended the workshops because they were generally interested in archaeology. 11% of attendees joined (n=4) to learn or develop their skills in building surveys. 3% of those who attended the workshop (n=1) joined as they were

considering archaeology for further study. 6% of attendees (n=2) joined the workshops as a family activity and some 9% joined (n=3) due to attending DigVentures events in the past and enjoying them (Figure 15).

- 7.6.4 Post-experience 'exit' interviews were also undertaken for all participants, indicating how initial perceptions of archaeology changed and providing evidence for wider social outcomes, such as learning, skills acquisition and well-being. Participants were asked to summarise their highlight of the project in their own words, with responses then codified into four categories in order to visualise the results. The most important consideration for 40% (n=17) of participants was the 'thrill of discovery', an example response is 'learning new things about an area I've driven past and visited before'. 29% of participants (n=12) mentioned the fieldwork skills and experience as their highlight, this was often related to their ability to phase buildings, identify architecture, or identify archaeological features in the landscape. 38% of participants (n=16) mentioned the teamwork or social life as a highlight for the workshops, some of these responses were from the July events where this was one of the first in-person events possible after a lift in Covid-19 restrictions. A common comment on December workshops was the skills of those running and attending the event and learning from others (Figure 15).
- 7.6.5 The Heritage on the Horizons events meet the three pillars of social outcomes. The fieldwork generated archaeological results that can be accessed publicly on the [online GIS map](#). These outputs mean that heritage has been identified and better explained. The additions to the known record, and updated conditions will be submitted to the HER record, furthering the archaeological record in the project area. The easily accessible format of the data for a non-expert means that a wider range of people can be involved in heritage, and people can learn about heritage leading to change in ideas and actions. Those who took part in the workshops learnt new skills in landscape surveys and historic building surveys. As 38% of the participant described enjoying the team working aspect of the project it can also be seen to have improved the participants wellbeing.

7.7 Social impact – Mapping Memories

- 7.7.1 31 participants signed up for the mapping memories workshop. The age profiles for participants were broadly balanced, with the largest age category (age 55-64) accounting for 37% (n=11) of attendees. Participants represented a variety of full-time occupations (45%, n=14) and some were retirees (39%, n=12). The remainder were students, either of compulsory educational age or those attending university (6%, n=2) or unemployed/ carer/homemakers (10%, n=3). Those in full time employment were divided into categories based on the Office of National Statistics (ONS) classifications, the breakdown of which can be seen in Figure 16. Examples of professions included software developer, auditor, writer, public rights of way officer, teacher and a fire safety engineer. Taking this into consideration, most age groups and socio-economic backgrounds were well represented in the data, with a marked improvement on existing community archaeology provision compared with the typically retired, over 65 local civic society groups (Wilkins 2020, 33).
- 7.7.2 Participants joined the project from the immediate locality (39% of participants (n=12) joined from no further than 10 miles to take part in the project) regionally (19% of participants (n=6) living no further than 50 miles from the Living levels project area)

nationally (39% joined (n=12) from more than 50 mile away in the UK) and even internationally (3% joined (n=1) from outside the UK) (Figure 16).

- 7.7.3 Pre-experience interviews were completed with all project participants to help understand why each had decided to get involved in an archaeology project, and provide a baseline understanding against which the impact of the experience could be determined through post-experience interviews. Participants answered in their own words, and the responses were coded into nine categories. The results show that 60% of participants (n=84) attended the workshop because they were specifically interested in the oral histories and 23% of participants (n=7) attended the workshops because they were generally interested in archaeology/history. 13% of attendees (n=4) joined to learn or develop their GIS skills. 3% joined (n=1) due to attending DigVentures events in the past and enjoying them (Figure 16).
- 7.7.4 The Mapping Memories project meet the three pillars of social outcomes. The project generated archaeological results that can be accessed publicly on the [online GIS map](#). These outputs mean that oral histories have been inputted onto an easily accessible format understandable to a non-expert meaning that a wider range of people can be involved in heritage, and people can learn about heritage leading to change in ideas and actions. Those who took part in the workshops learnt new skills in landscape surveys and historic building surveys. The use of a WhatsApp group created a community atmosphere, despite the participants joining remotely, this improved the participants wellbeing.

7.8 Social impact – Panel debate

- 7.8.1 In total, 381 participants signed up to the panel debate. The age profiles for participants were broadly balanced, with the largest age category (age 55-64) accounting for 33% (n=112) of attendees but all age ranges were represented. Participants represented a variety of full-time occupations (45%, n=129) and retirees (40%, n=114). The remainder were students, either of compulsory educational age or those attending university (9%, n=27) or unemployed / carer / homemakers (6%, n=16). Those in full time employment were divided into categories based on the Office of National Statistics (ONS) classifications, the breakdown of which can be seen in Figure 17, illustrating that the debate was attended by a number of people with low income, as well as young people. Examples of professions included doctor, civil servant, cook, author, mental health social worker, farmer, software researcher, tour guide and attorney. Taking this into consideration, all age groups and socio-economic backgrounds were well represented in the data, with a marked improvement on existing community archaeology provision compared with the typically retired, over 65 local civic society groups (Wilkins 2020, 33).
- 7.8.2 Participants joined the project from the immediate locality (17% of participants (n=57) joined from no further than 10 miles to take part in the project), regionally (8% of participants (n=27) living no further than 50 miles from the site), nationally (52% of participants (n=178) having travelled more than 50 miles to have the opportunity to take part in the project), and internationally (23% of participants (n=80) joining from outside the UK) (Figure 17).
- 7.8.3 In addition to widening the demographic and socioeconomic range of participation (when compared to existing community archaeology provision), the project attracted

a new audience for archaeology, with 28% of participants (n=97) having never taken part in archaeology activities before (Figure 17). Pre-experience interviews were completed with all project participants to help understand why each had decided to get involved in an archaeology project, and provide a baseline understanding against which the impact of the experience could be determined through post-experience interviews. Participants answered in their own words, and the responses were coded into nine categories.

- 7.8.4 The results show that 36% of participants (n=117) attended the debate because they were specifically interested in the archaeology of the Gwent Levels and 40% of participants (n=133) attended the debate because they were generally interested in archaeology. Some 3% of the participants (n=11) attended the debate because it would contribute to their studies, while 9% of attendees joined (n=29) to learn. 1% of those who attended the debate (n=3) joined as they were considering archaeology as a degree. 1% of attendees (n=4) joined the debate as a family activity and some 4% joined (n=14) due to attending DigVentures events in the past and enjoying them (Figure 17).
- 7.8.5 This panel debate event had positive outcomes for the individuals who attended the event and for community and society. The event reached 381 individuals increasing the range of people have been involved with the heritage of the Gwent Levels. The comments from those who attended (a sample of which can be seen in Figure 18) showed that those who attended learnt about the heritage of the region and therefore could lead to change in ideas and actions. The recording of the debate has been made public, adding to the resources available for the region.

7.9 Conclusion

- 7.9.1 Between July 2019 and December 2021, 462 individuals participated in projects delivered by DigVentures for the Living Levels Partnership. While the demographic that participated in some projects was not very diverse, for example Heritage on the Horizons, most of the events organised had a diverse range of participants. This is reflected in the demographic data across all projects (Figure 19). An equal number of participants were retired (n=171) and in full or part time employment (n=171). The age demographic did tend towards older individuals with the largest age category being 55-64 (31%, n=141), however this was not the majority of participants and a good number of all ages were present. For 34% (n=135) of those who attended our events this was the first time they had experienced archaeology. The diversity of those who participated, along with the high number of those new to archaeology has brought more and a wider range of people to be involved in heritage.
- 7.9.2 Those who participated in the project experienced many outcomes including: developed skills, learning about heritage leading to change in ideas and actions, and had a greater wellbeing. This is seen in participants feedback to what their highlight or the project was with 58% (n=22) mentioning increased skills, and experience as being their highlight. 31% of participants mentioned enjoying the teamwork and/or social aspects of the projects, this was mentioned particularly for post-lockdown in-person events (Figure 19).

8 CONCLUSIONS



8.1.1 Between July 2019 and December 2021, DigVentures organised 19 events which were joined by 462 participants. Due to Covid-19 the project had to pivot halfway through delivery to provide events within government guidelines on social distancing. The events organised fed into a number of projects hosted and disseminated via the Living Levels online GIS:

- Mapping Memories
- Heritage on the Horizons
- LiDAR transcriptions
- Digitisation of the Court of Sewers maps
- Digitisation of census data

8.1.2 For each GIS project, a searchable map layer on the [Living Levels GIS](#) has been produced to display the dataset and allow it to be searched. New or updated archaeological data will be sent to the HER record. The LiDAR transcription project identified 275 sites of historic significance and, during the Heritage on the Horizon project, known buildings/monuments were recorded and an up-to-date record of the heritage asset created. DigVentures also organised excavations in the region, the results of which can be seen in Appendix A.

8.1.3 The project has included outcomes for heritage, individuals and the community (Figure 12). The web accessible GIS maps have created an accessible resource for non-professionals to interact with the heritage of the levels, and provides a useable map-based interface with new digitised records which can support new research about the Gwent Levels. The creation of the map has given opportunities for volunteers to learn new skills around:

- Use of GIS in Archaeology
- Practical experience using GIS
- Practical experience in historic building survey
- Practical experience in landscape survey
- Knowledge of archaeological resources such as HER datasets
- Greater knowledge of the archaeology of the Gwent Levels
- Greater knowledge of the history of the Gwent Levels
- Excavation and archaeological recording skills
- Greater understanding of finds identification

8.1.4 The project has also created a greater sense of wellbeing for those who participated, all of the projects aimed to provide a community/team atmosphere in the delivery of the project. When the project pivoted to occur online due to Covid-19 restriction this using WhatsApp groups, which the volunteers engaged with. On-site this was also



significant, and for 31% of participants this aspect of the project delivery was their highlight.

9 BIBLIOGRAPHY

Albarella, U. 2003. Animal bone. In: Germany, M. (Ed.), *Excavations at Great Holts Farm, Boreham, Essex, 1992-94. East Anglian Archaeology* 105: 193-200.

Anon. 1994. Clay tobacco pipes from sites in Carmarthen. *Medieval and Later Pottery in Wales* 14: 63-108.

A Research Framework for the Archaeology of Wales, 2017. Published by ClfA Wales/Cymru. Accessed October 2019. <https://www.archaeoleg.org.uk/>

Atkinson, D. R. and Oswald, A. 1969. London clay tobacco pipes. *Journal of the British Archaeology Association* 32: 171-227.

Baker, P. and Worley, F. 2019. *Animal Bones and Archaeology - Recovery to archive*. Historic England Handbooks for Archaeology.

Barclay, A., Knight, D., Booth, P., Evans, J., Brown, D. H. and I. Wood. 2016. *A Standard for Pottery Studies in Archaeology*. Prehistoric Ceramics Research Group, Study Group for Roman Pottery & Medieval Pottery Research Group.

Barr, K. and Bell, M. 2017. Neolithic and Bronze Age ungulate footprint-tracks of the Severn Estuary: species, age, identification and interpretation of husbandry practices.

Bell, Martin. 2013 *The Bronze Age in the Severn Estuary*. Council for British Archaeology. British Geological Survey. Accessed October 2019. <http://www.bgs.ac.uk/GeolIndex/>

British Geological Survey Geology of Britain viewer: <http://mapapps.bgs.ac.uk>

Cadw, 1998. *Landscapes of Historic Interest in Wales Part 2.1: Landscapes of Historic Interest*. Cadw: Welsh Historic Monuments.

Cameron, A., Stones, J. A. and Croly, C. P. 2019. Excavations at Aberdeen's Carmelite Friary, 1980-1994. *Internet Archaeology* 52. <https://doi.org/10.11141/ia.52.1>

Chartered Institute for Archaeologists (CifA), 2014. *Standard and guidance for an archaeological watching brief*.

Chartered Institute for Archaeologists (CifA), 2014. *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives*.

Dobney, K. and Rielly, K. 1988. A method for recording archaeological animal bones: the use of diagnostic zones. *Circaea* 5: 79-96.

Foster, M. 2019. *Living Levels: Recapturing the Historic Landscape: Tender for a Community Archaeology Project*.

- Gustafson, G. and Koch, G. 1974. 'Age estimation up to 16 years of age based on dental development'. *Odontologisk Revy.* 25: 297-306
- Harward, C. 2014. *Clay tobacco pipes*. London artefact series No 2.
- Hillson S. 1996. *Dental Anthropology*. Cambridge University Press: Cambridge
- Hillson, S. 2003. *Mammal Bones and Teeth. An introductory guide to methods of identification*. London: Institute of Archaeology, University College London.
- Hillson, S. 2005. *Teeth*. Second Edition. Cambridge Manuals in Archaeology. Cambridge: Cambridge University Press.
- Hogue, J. Jago, I. Casswell, C. 2021. *Living Levels: Project Design for a Community Excavation*. Unpublished DigVentures Report.
- Hughes, S. 2003. *A Research Framework for the Archaeology of Wales Southeast Wales - Post Medieval to Modern*.
- <https://www.archaeoleg.org.uk/pdf/postmed/REGIONAL%20SEMINAR%20SE%20WALES%20POST%20MEDIEVAL%20AND%20MODERN.pdf>
- Jago, I., Casswell, C. and Hogue, J. 2021. *Living Levels Community Archaeology Project. Assessment Report*. Unpublished DigVentures Report.
- Kissock, 2003. *A Research Framework for the Archaeology of Wales Southeast Wales - Medieval*.
- National Panel for Archaeological Archives in Wales. 2017. The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales.
- National Pipe Archive. Accessed 13.12.2021 <http://www.pipearchive.co.uk>
- Newport City Council. 2002. Redwick Conservation Area Appraisal. Planning Services, Newport City Council.
- Rippon, S. 1996. The Gwent Levels: The Evolution of a Wetland Landscape. Council for British Archaeology.
- Scheuer, L., Black, S. 2000. *Developmental Juvenile Osteology*. (Academic Press, San Diego)
- The Welsh Archaeological Trusts. July 2018. Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs).
- Townley, E L, 2004, The medieval landscape and economy of the Forest of Dean, e-thesis available at <https://research-information.bris.ac.uk/ws/portalfiles/portal/34499551/411102.pdf>
- Welsh Government. 2017. Technical Advice note (TAN) 24: The Historic Environment.

Welsh Government. December 2018. Planning Policy Wales: Edition 10.

Wilkins, B. 2019a. A theory of change and evaluative framework for measuring the social impact of public participation in archaeology. *European Journal of Post-Classical Archaeologies* 9: 77-100.

Wilkins, B. 2019b. The Loss of Innocence 2.0 – a ‘new New Archaeology’ of public value. *The Archaeologist* 108: 30-33.

Wilkins, B., 2020. Designing a Collaborative Peer-to-peer System for Archaeology: The DigVentures Platform. *Journal of Computer Applications in Archaeology* **3**(1), 33–50.

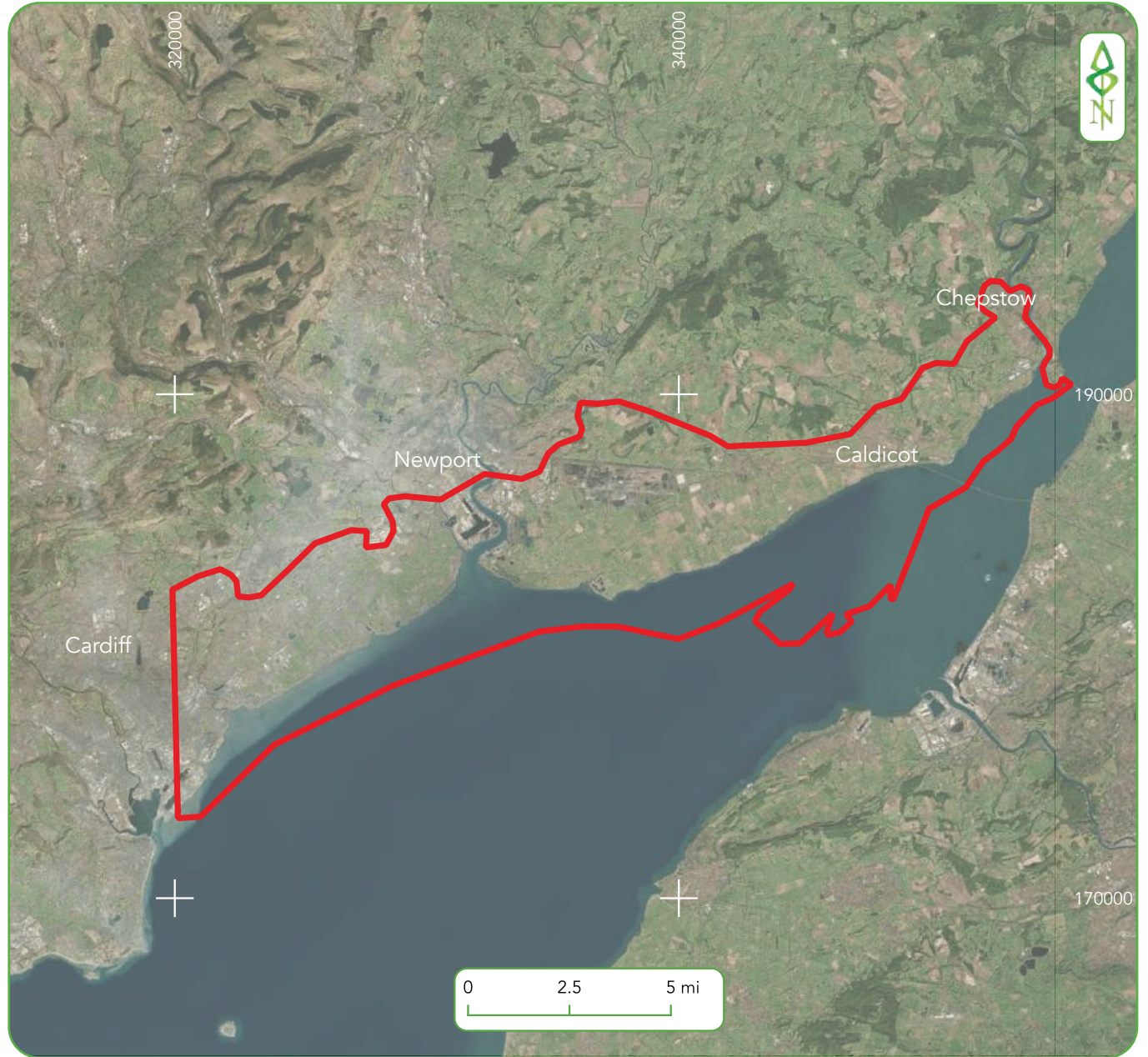
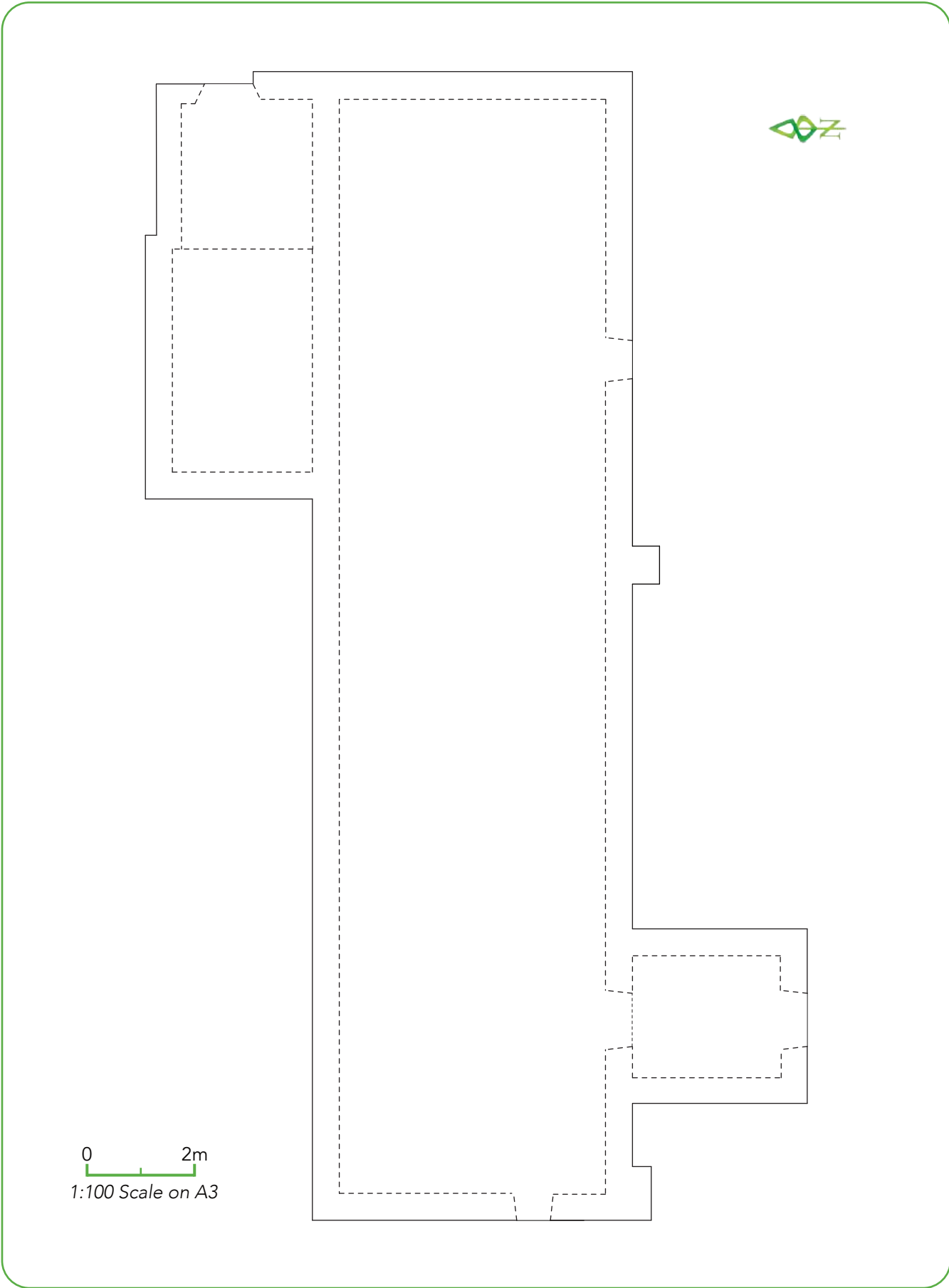
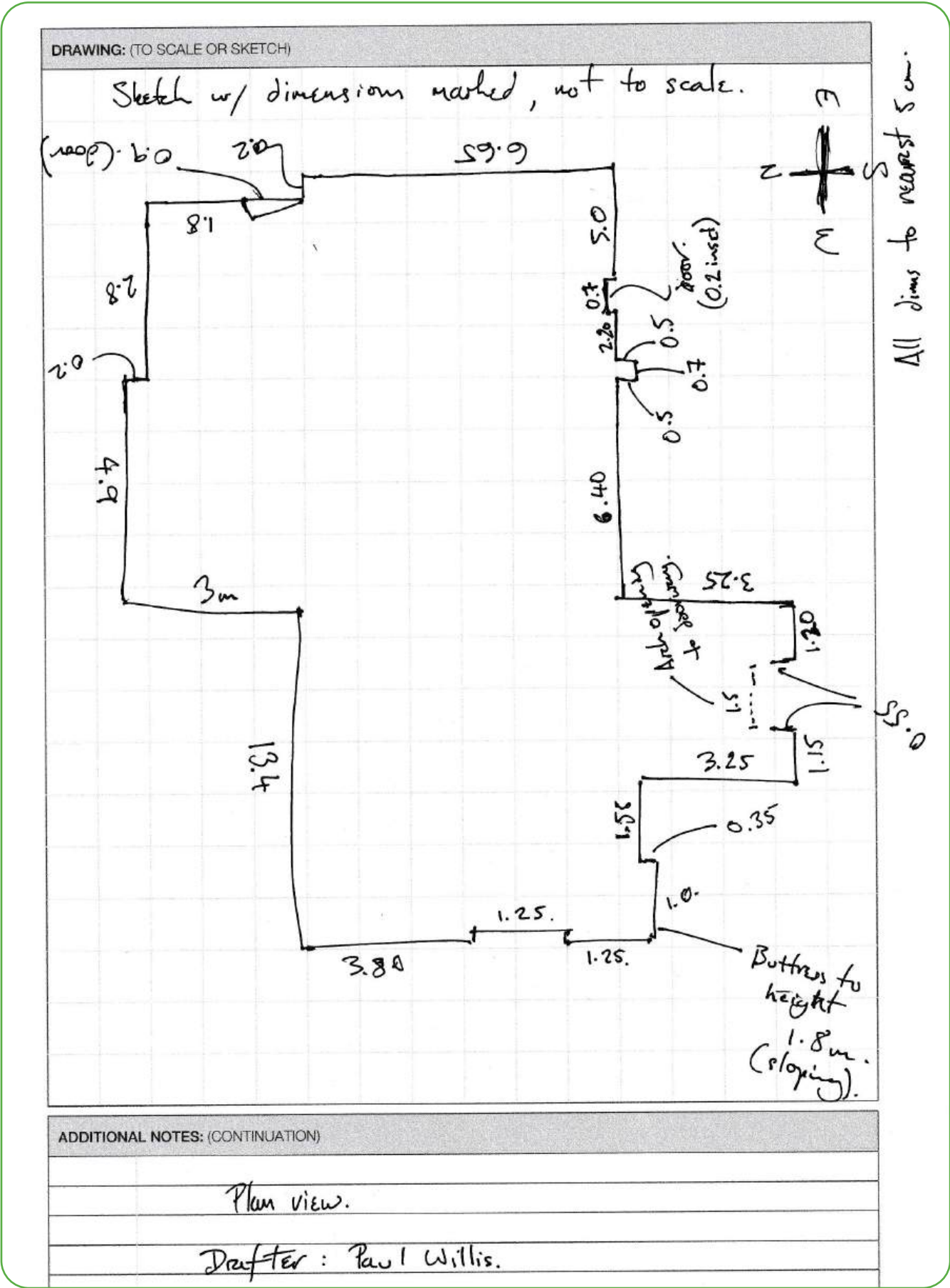


Figure 1. Project area



Sketch plan of St. Mary's Church, Undy. Drawn by volunteer Paul Willis. Not drawn to scale but with dimensions annotated

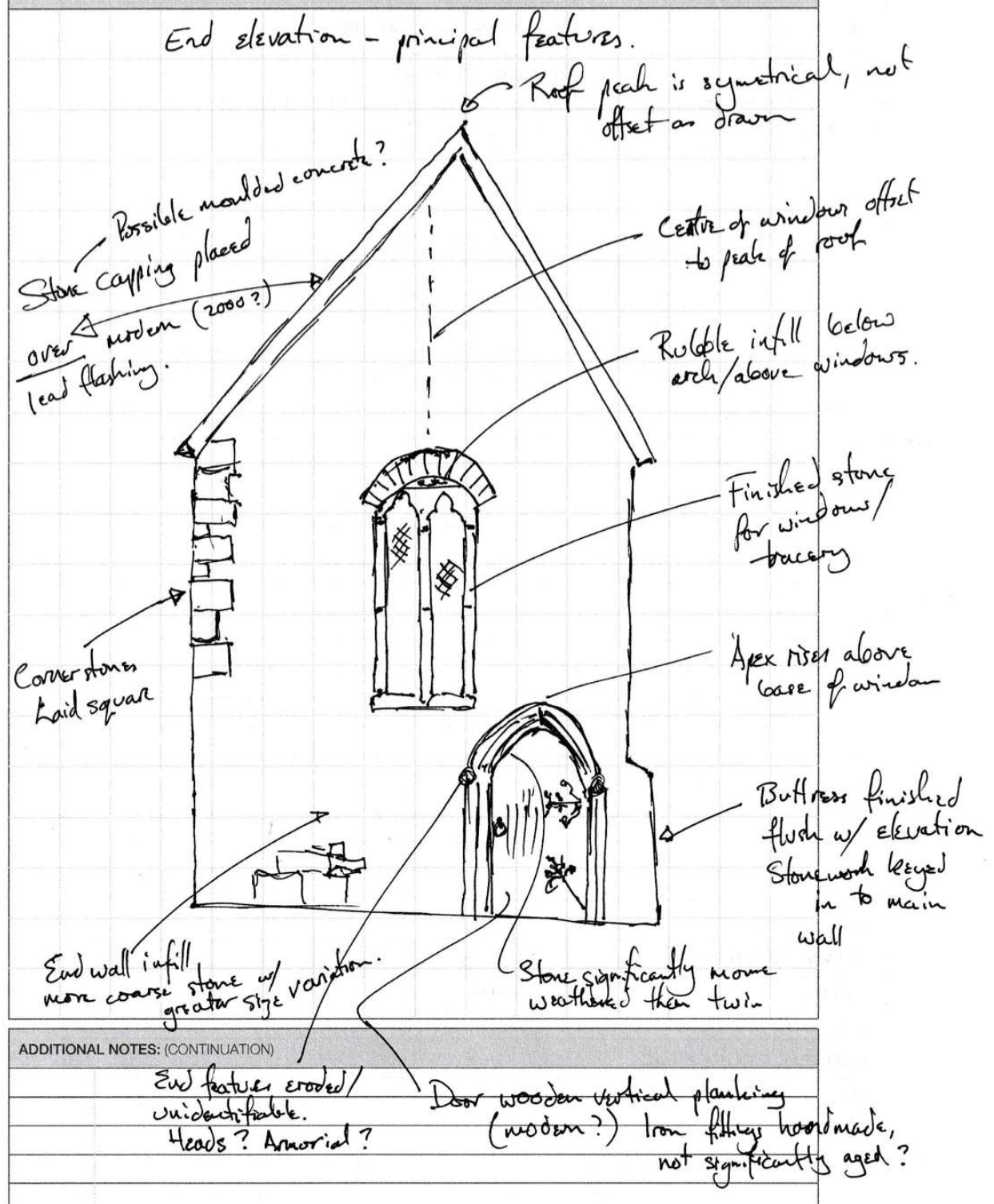
Plan of St. Mary's Church, Undy. Based of sketch drawing by Paul Willis. The survey was of the exterior dimensions only, wall thickness and interior walls are estimated

Figure 2. Plan of St. Mary's Church, Undy

BUILDING SURVEY RECORD SHEET

sheet of

DRAWING: (TO SCALE OR SKETCH)



ADDITIONAL NOTES: (CONTINUATION)

Drawn by Paul Willis

The JESSOP Consultancy

Sheffield + Lichfield + Oxford

Figure 3: Sketch of the east elevation of St. Mary's Church, Undy. Drawn by volunteer Paul Willis



Figure 4 Sketch of the four elevations of St. Mary's Church, Undy. Drawn by volunteer Linda Burnell



South elevation of St. Marys Church, Undy



South and west elevation of St. Marys Church, Undy



West elevation of St. Marys Church, Undy



West and north elevation of St. Marys Church, Undy



North elevation of St. Marys Church, Undy



North and east elevation of St. Marys Church, Undy

Figure 5a. Photos of St. Mary's Church, Undy



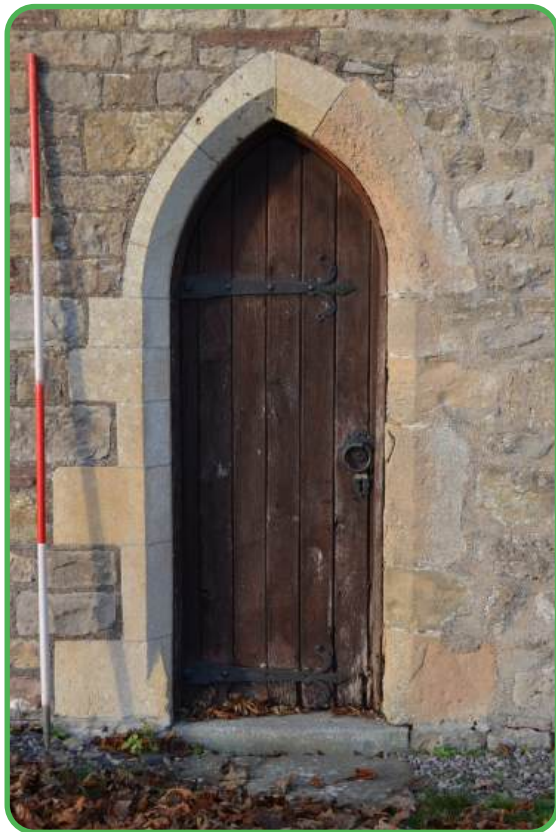
East elevation of St. Marys Church, Undy



East and south elevation of St. Marys Church, Undy



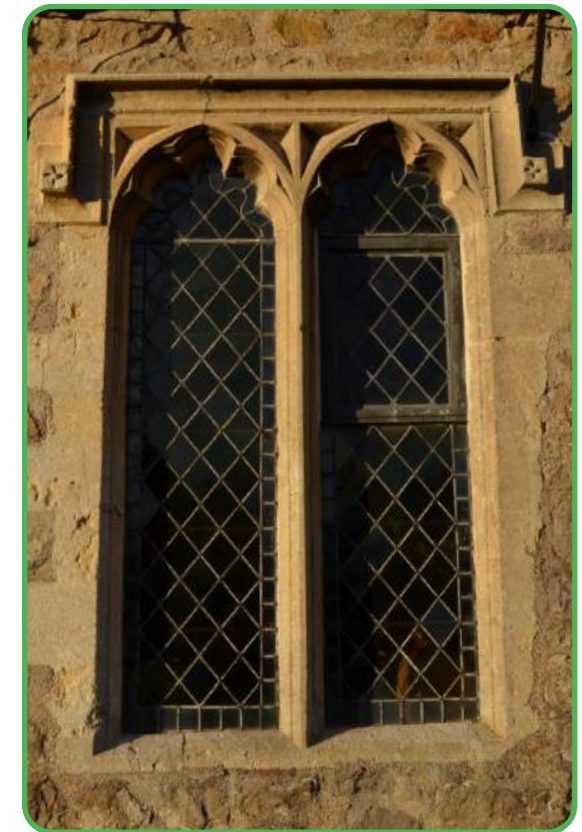
Inscription on north porch of st. Mary's Church, Undy



Door on north elevation of St. Mary's Church, Undy



Door on east elevation of St. Mary's Church, Undy



West most window on north elevation of St. Mary's Church, Undy

Figure 5b. Photos of St. Mary's Church, Undy



14 participants joined us for a GIS and LiDAR workshop led by Rebecca Bennet



9 volunteers learnt how to spot earthworks at Grangefield. They got stuck in, getting closer to ground level to identify the lumps and bumps



Participants excavating Test Pit 2, they identified many finds types including pottery, CBM, and clay pipe.



The Phillips family learn to excavate Test Pit 3, they identified the medieval land surface



Volunteers Mary Knight and x learnt how to use the GPS to locate the extent of Test Pit 4



15 participants joined us for a Maritime/ foreshore landscape survey workshop led by Martin Bell

Figure 6. Photos of 2019 archaeology taster week participants



Rebecca Bennett handed out LiDAR maps of the Gwent Levels to workshop participants. She wanted participants to practice identifying both archaeological features and modern features that look archaeological.



Workshop participants started to explore LiDAR maps on their own, looking to see if they could spot any archaeological features on the landscape.



Jeremy and Jo identified several potential archaeological features, but also think they may have discovered a golf course



Jo compares the features they found on the printed-out LiDAR maps to digital mapping layers on the Living Levels GIS to learn more about their findings. Was it a golf course? Or several iron age round barrows?



Jeremy also explored the mapping layers to check their results against the LiDAR



Sue enjoyed comparing the different mapping layers of the Living Levels GIS to see if she could find any unknown archaeological features. She was particularly interested learning how technology can help her learn more about history

Figure 7. Photos of 2020 LiDAR workshop participants



13 volunteers joined us to record heritage in Magor Village. Greg, Gilliean and Indie discuss where the original floor surfaces were at the Procurators house, Magor



Volunteers joined us to look for heritage along the Magor and Magor Marsh Loop



13 participants joined us to walk the Newport Wetlands and Goldcliff loop. Martyn and Indie consult historical maps as they walk through the landscape.



14 participants joined us to walk the Caldicot and Black Rock Loop. Tim and Indie consult LiDAR data as they walk through the landscape

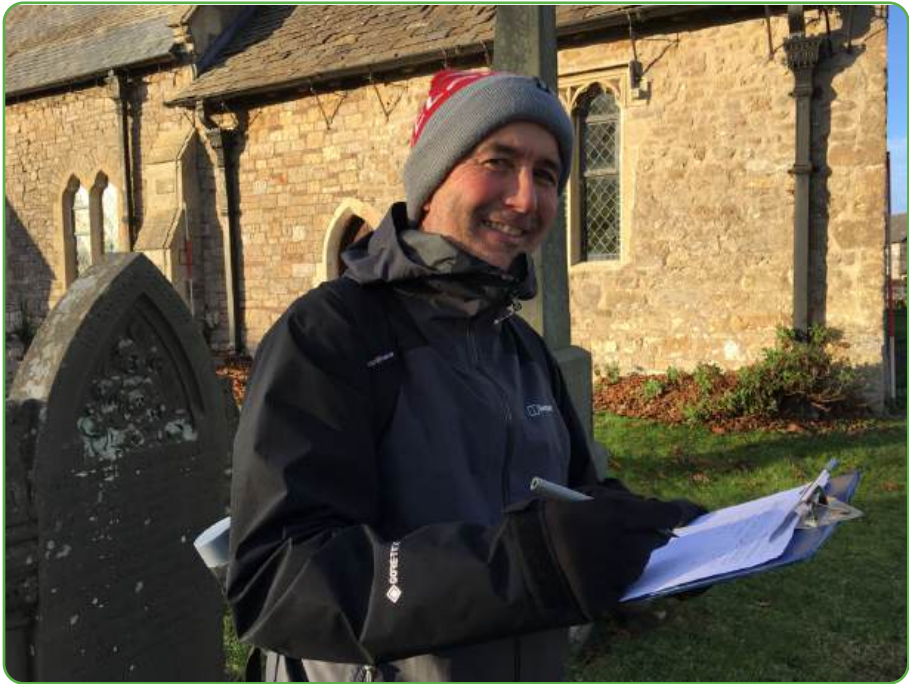


Jo and Martyn investigate Harolds field, Portskwett



Lann, Tadhg investigate the Iron Age hillfort, Sudbrook Camp, and identify it as being under threat of continuous erosion from the sea

Figure 8. Photos of 2021 Heritage on the Horizons walks participants



X conducting a building survey at St. Mary's Church, Undy



X learning how to take record photos for a building survey at St. Mary's Church, Undy



X and X recording St. Mary's Chruch, Magor



Maggie taking record photos of a previously unrecorded ruin in Magor village centre



Martin Bell told participants about his body of work on the Gwent Levels foreshore



X participants joined us for a Maritime/ foreshore landscape walk led by Martin Bell

Figure x. Photos of participants at 2021 building survey at Undy and Magor and Martin Bell's foreshore walk



Figure x: OUR THEORY of CHANGE - Measuring impact for both intrinsic outcome for archaeology and instrumental benefits for people and communities

	EXPECTATION	SUGGESTED METHOD	OUTCOMES FOR HERITAGE	OUTCOMES FOR PEOPLE	OUTCOMES FOR COMMUNITIES
	Providing an academically rigorous framework, whilst ensuring that impact measurement is appropriate to the stage of development of a variety of different products, services and programmes.	Steps needed to ensure correct evidence is collected to determine whether or not a venture is making a positive difference	Intrinsic benefits relating to the research dividend and evidence baseline required for successful management of archaeological sites and landscapes	Instrumental benefits for participants and platform users, enabling the voluntary sector to scale in a sustainable and ethically responsible fashion	Wider social impacts received by those who may not be direct participants, but benefit through increased amenity value, tourism and local distinctiveness.
Level One	A low threshold, appropriate to very early stage innovations, which may still be at the idea stage. Involving little more than a clear articulation of why the intervention is needed, what it will aim to achieve why this is better than what currently happens. Project owners will be able to give an account of impact, providing a logical reason why their intervention could have an impact and why that would be an improvement on the current situation.	A clear rationale to show why the product/service could have an impact, and why that would be an improvement on the current situation. Articulated as a theory of change and logic model, linking activities, outputs, outcomes to hypothesised impact.	A fully illustrated Project Design, signed off by statutory stakeholder, outlining key archaeological research questions, roles, procedures, stages and outputs.	A training or activity plan, linking activities to outputs, outcomes and impact, and an explanation of how the outcome could be measured.	A training, activity, audience development and/or heritage resource management plan, linking activities to outputs, outcomes and impact, and an explanation of how the outcome could be measured.
Level Two	At Level 2 projects will be gathering data that shows some change amongst those receiving or using the intervention. At this stage, data can begin to show that there is a change in the measure of the outcome among the recipients of the product or service, but this may not be sufficient to provide evidence of direct causality.	Pre and post-survey evaluation; cohort/panel study; and regular interval surveying.	Assessment Report; Management Report, base-lined against previous investigations	Evaluation survey for participants to quantify demographics, socio-economic characteristics and spatial data, followed up with a pre and post-survey qualitative evaluation using a separate questionnaire methodology to determine any changes as a consequence of taking part	Evaluation survey for site visitors to quantify audience demographics, socio-economic characteristics and spatial data, followed up with a qualitative study using a separate questionnaire methodology to determine any changes that took place as a consequence of the visit
Level Three	At Level 3 projects will be able to demonstrate that they are causing the hypothesised impact, by showing less impact amongst those who don't receive the product/ service.	Robust methods using a control group, or evaluating a random selection of participants, begin to isolate the impact of the product/ service. All products/services at Level 3 will be well documented, with necessary skills, training (and other delivery requirements) outlined clearly, to enable effective replication in alternative places, situation, contexts etc.	Analytical report, synthesising specialist reports with previous work locally, regionally and nationally, to determine significance, importance and potential of the site.	Meta-analysis of evaluation results with those derived from projects delivering similar community-based activities, including archaeological/ heritage and other unrelated arts/ citizen science projects.	Meta-analysis of evaluation results with those derived from projects delivering similar community-based activities - including both archaeological/heritage and other unrelated arts/citizen science projects.
Level Four	At Level 4 projects can explain why and how the intervention is having the impact observed and evidenced so far, supported by an independent evaluation to validate the findings. This will also assess the extent to which the intervention can deliver impact at a reasonable cost, and whether it can be replicated and purchased in multiple locations.	Robust independent evaluation that investigates and validates the nature of the impact; this might include endorsement via commercial standards or industry kitemarks, underpinned by a documented standardisation of delivery and processes, data on costs of production and acceptable price point for customers.	Quality assured by the Chartered Institute for Archaeologists (CIfA) under the Registered Organisation scheme, and involving independent site inspections and documentary audit.	External audit of quality of training programmes and activities by CIfA, The Archaeological Training Forum, Register of Professional Archaeologists, Skills Passport and National Occupational Standards.	External audit of community programming and impact by specialist consultancy, undertaken independently of project team.
Level Five	At Level 5, projects will be able to demonstrate that the intervention could be operated up by someone else, somewhere else and scaled up, whilst continuing to have positive and direct impact on the outcome, and whilst remaining a financially viable proposition. For a service, this will establish whether it can be delivered by different staff in different locations.	Evidence will be derived from multiple evaluations of the product/ service in different settings (at least two evaluations; one of which will be independent) to demonstrate that the product/service can be used in different settings (which could be in different settings geographically and/or with different types of product/service users). Appropriate methods at this level will include multiple replication evaluations; future scenario analysis; or fidelity evaluation.	An excavation manual, underpinned by a broader operations manual and 'culture deck', detailing how the DigVentures project model should be applied in differing contexts.	A syllabus and training manual, underpinned by a broader operations manual and outline spectrum of engagement, detailing the participant's journey from digital supporter to experienced field digger.	An audience engagement and communications plan, underpinned by a broader operations manual and tailored 'culture deck', detailing how the intervention should be applied with clear and measurable benchmarks.

Figure 11. Standards of evidence

ACTIVITIES

the processes and tasks undertaken by the organisation



OUTPUTS

a quantifiable unit of 'product' or 'service' measurable once completed



OUTCOMES

Observable change for heritage, individuals or communities



STANDARDS OF EVIDENCE

Data collection and confidence rating demonstrating the positive difference made by an intervention



For Archaeology and Heritage

Digitisation of Court of Sewers Map with digitised historic landowner information.

LiDAR data of the Living Levels area compiled and added to Living Levels GIS.

Audio clip extracts of oral histories from 'Stories from the Gwent Levels' included in online interactive map with transcriptions of interviews.

Recorded known archaeological sites and identify further potential/previously unknown sites.

Historic Building Surveys in Undy, Redwick and Magor

Information related to the Court of Sewers map digitised and researched by volunteers

Online visitors to the map can easily look up relevant plot of land and see digitised records

Accessible and navigable online resource for landscape survey of Living Levels landscape, included as part of the Living Levels GIS

Volunteers identified areas of potential archaeological interest using survey data on Living Levels GIS. Lead to a more robust understanding of potential heritage on the Gwent Levels landscape

Where memories of places where discussed the clip was added on Living Levels GIS. This data was compiled and included on the 'Storymapping' layer of the Living Levels GIS

All information collected by volunteers during this building survey workshop was added to Living Levels GIS. Volunteers identified and recorded previously unrecorded remains of historic building. Volunteers also created 3D models of important architectural features.

As a consequence of our work:

Heritage has been identified and better explained

Level 3 – Analytical report, synthesising specialist reports with previous regional, national and international work to determine significance, importance and potential of the site.

For Individuals

Four training workshops in digital mapping (both in-person and virtual).

Five heritage walks

Historic Building Survey workshops in Undy, Redwick and Magor taught participants skills building recording

Two social WhatsApp groups where participants in Mapping Memories project and Big Garden Dig created a community atmosphere

A panel show with the area leading academics provided an easily accessible activity for a large number of individuals to learn about the Levels

72 participants attended LiDAR workshops, Heritage on the Horizon workshop, Oral History workshop where volunteers learnt about existing and known archaeology and historic landscape features on the Levels

40 volunteers participated in an archaeological taster week which included various events for example, test pits, landscape surveys, historic building surveys and digital mapping workshops

381 attendees to the online panel show

17 volunteers acquired new skills in identifying historic architecture and how to record historic buildings

By taking part in our work:

People have developed skills

People will have learnt about heritage leading to change in ideas and actions

A wider range of people have been involved with heritage

People will have greater wellbeing

Level 3 – Field school training programme quality assured and endorsed by CIfA.

Level 2 – Project evaluation report including survey data for Finds Lab, DigCamp and project participants to determine changes for individuals as a consequence of taking part, and highlighting scalability, implementation and ability to meet local needs.

For Communities / Society

Creation of Living Levels GIS – online interactive heritage mapping tool

Updated HER records

Teaching resources have been made public

A week-long series of events located in Redwick village to engage and involve community with archaeology, and to learn more about the history of the village

How to dig a test pit portal

<https://livinglevelsgis.org.uk/>

As a consequence of our work:

More and a wider range of people will be involved in heritage

People have learned about archaeology and heritage, leading to change in ideas and actions

The local area will be a better place to live, work or visit

Level 2 – Collection of evaluation survey data for participating schools, visitors to the archaeological site, temporary exhibitions, aiming to quantify audience demographics and determine any changes which took place as a consequence of the visit

Figure 12. Project evaluation matrix

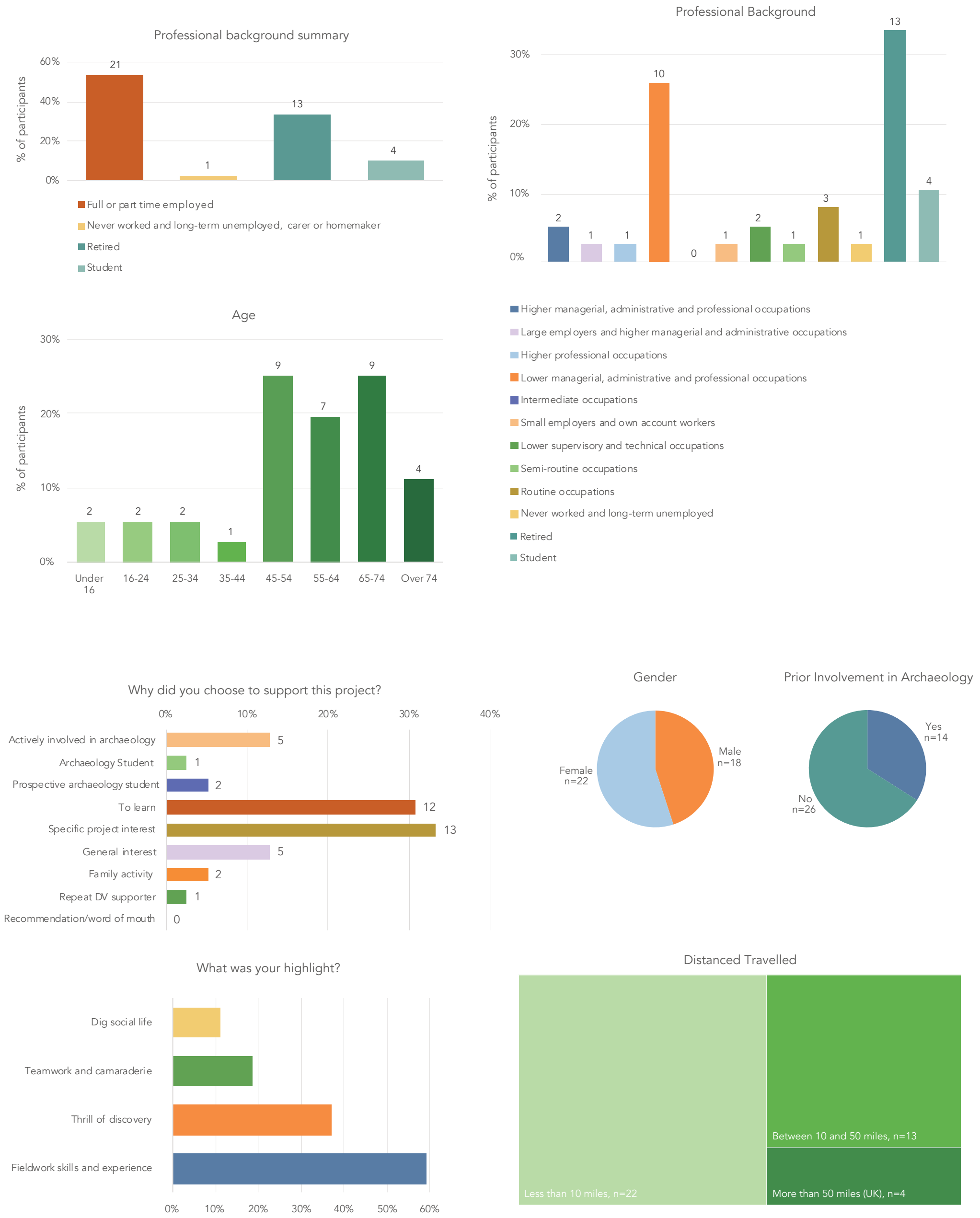


Figure 13. 2019 archaeology taster week - participant demographic and experience

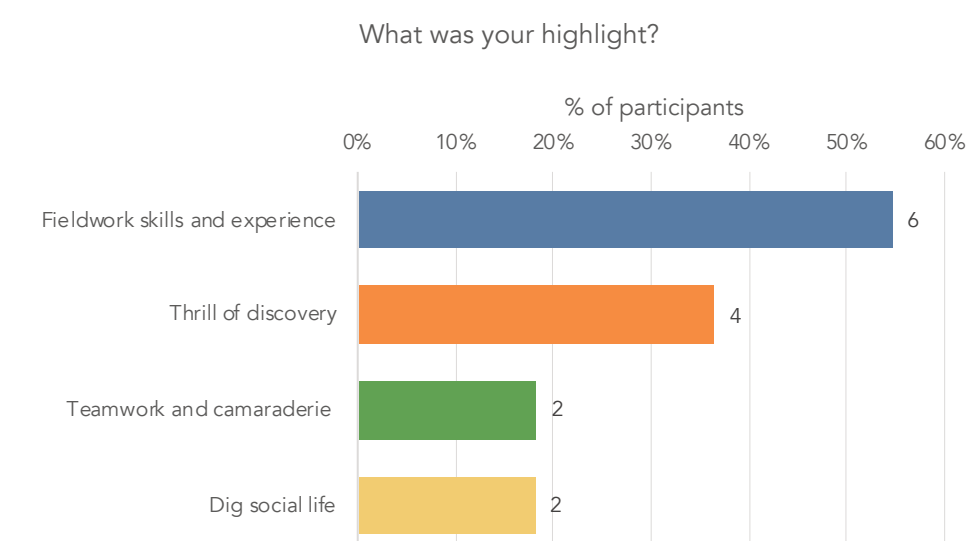
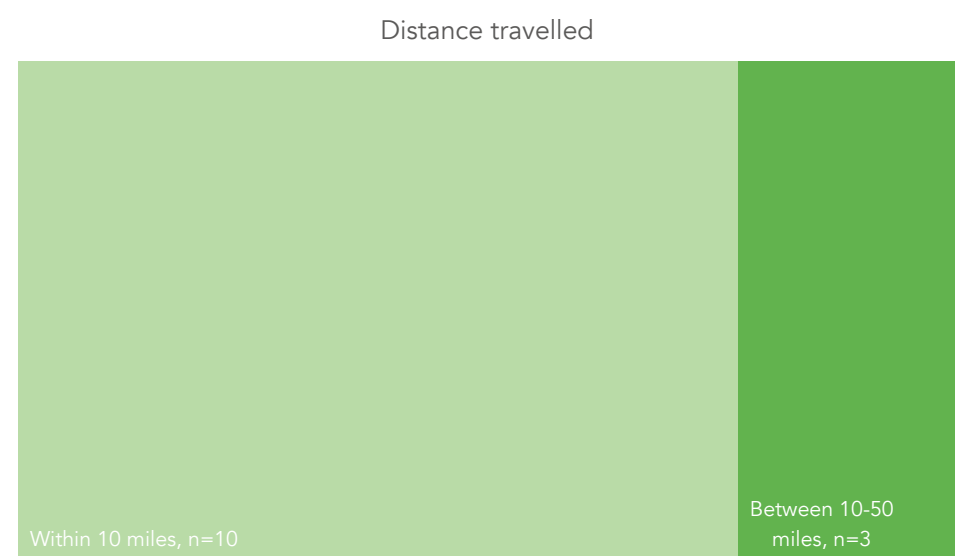
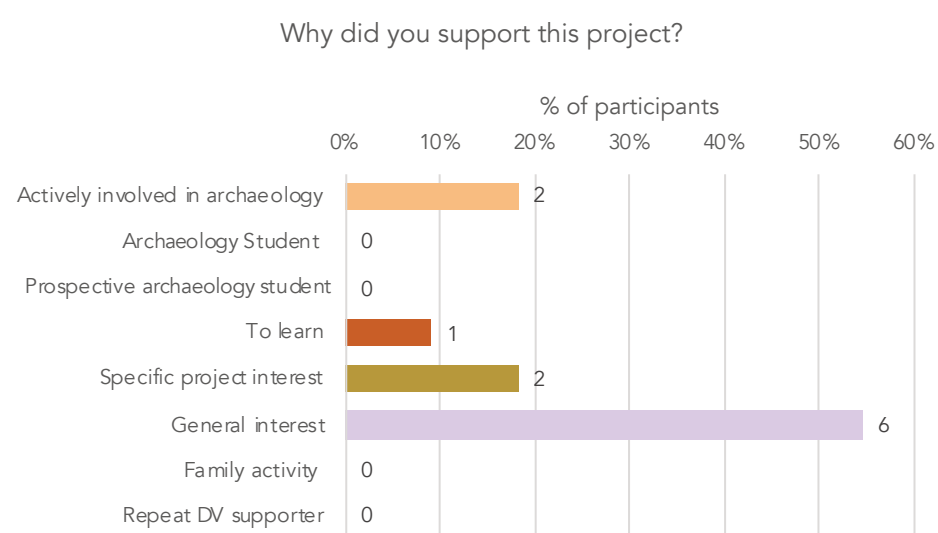
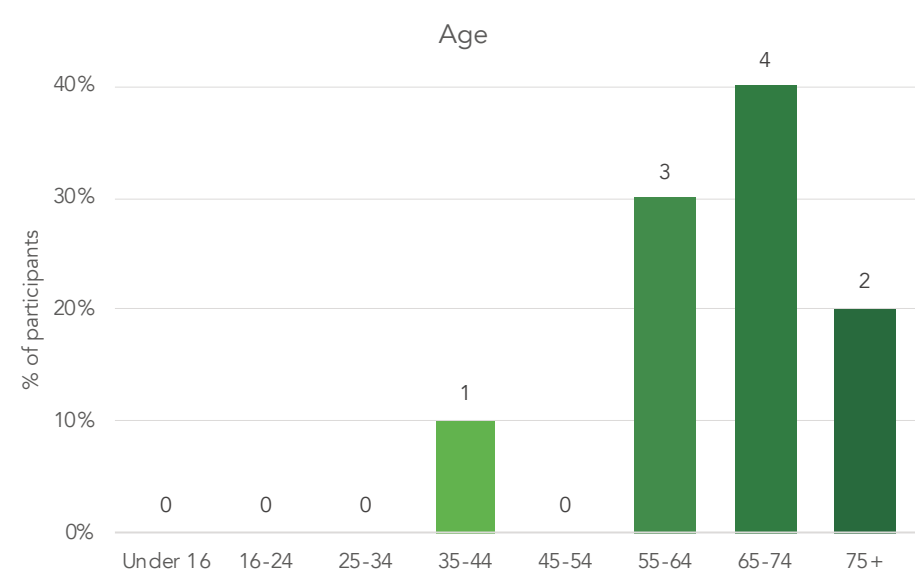
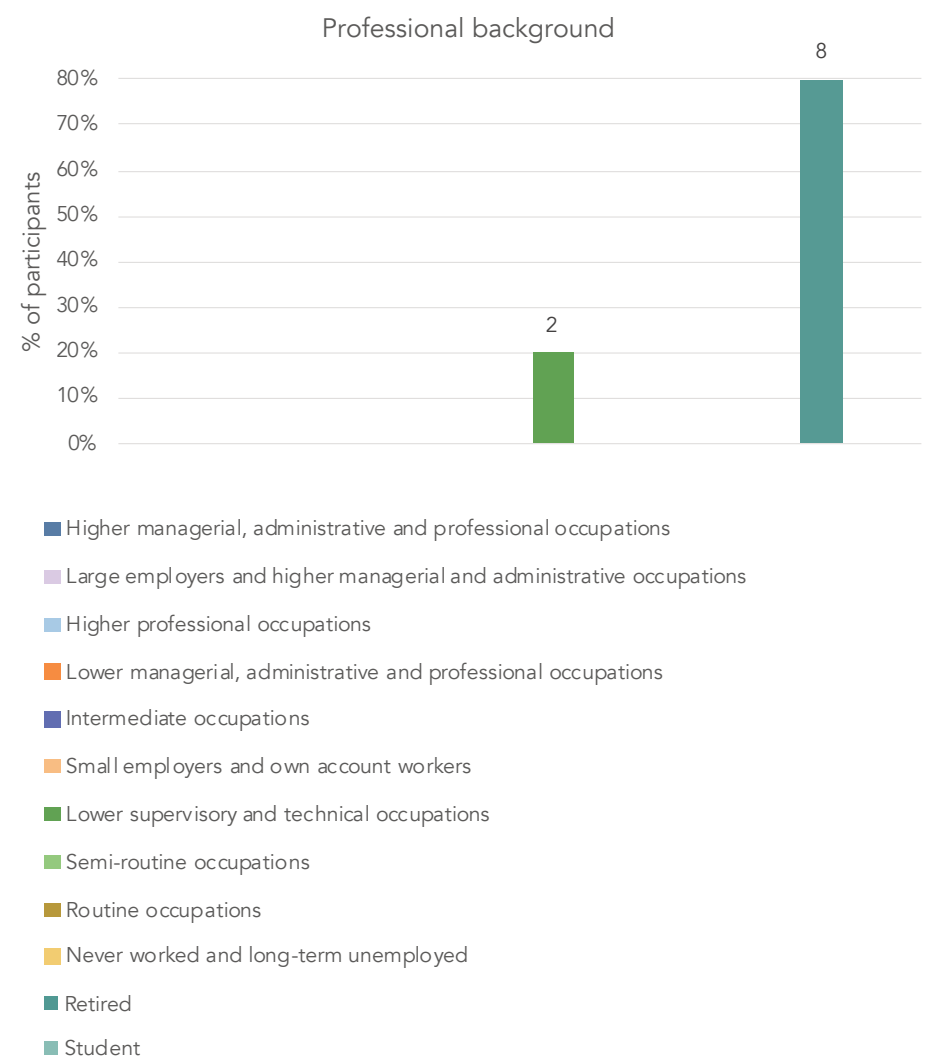
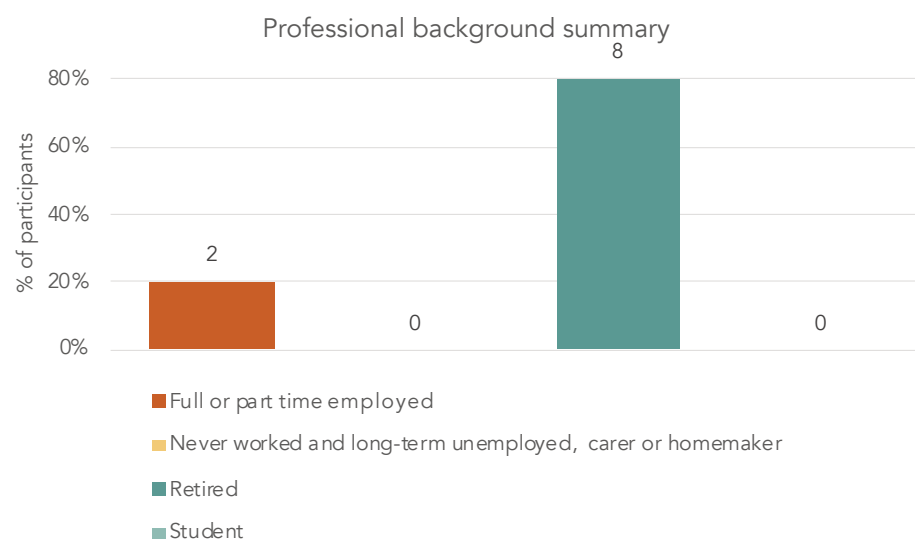
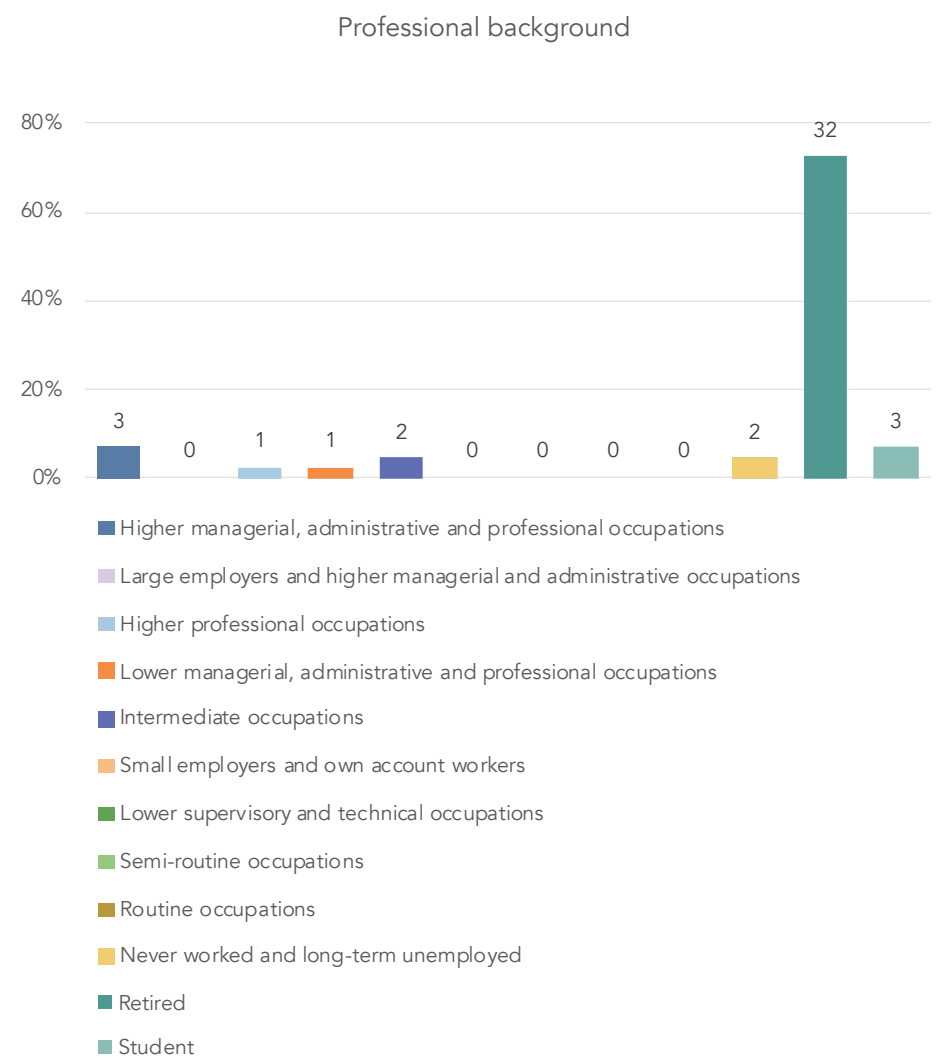
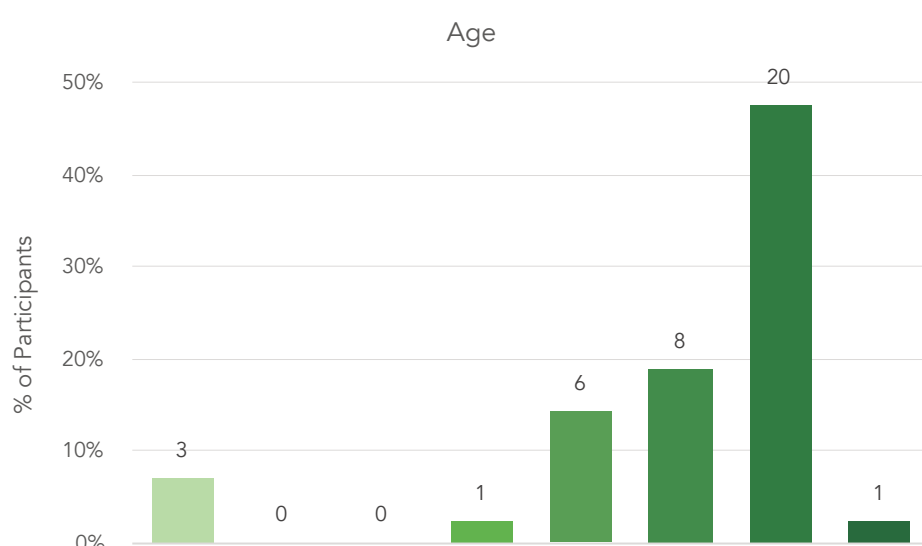
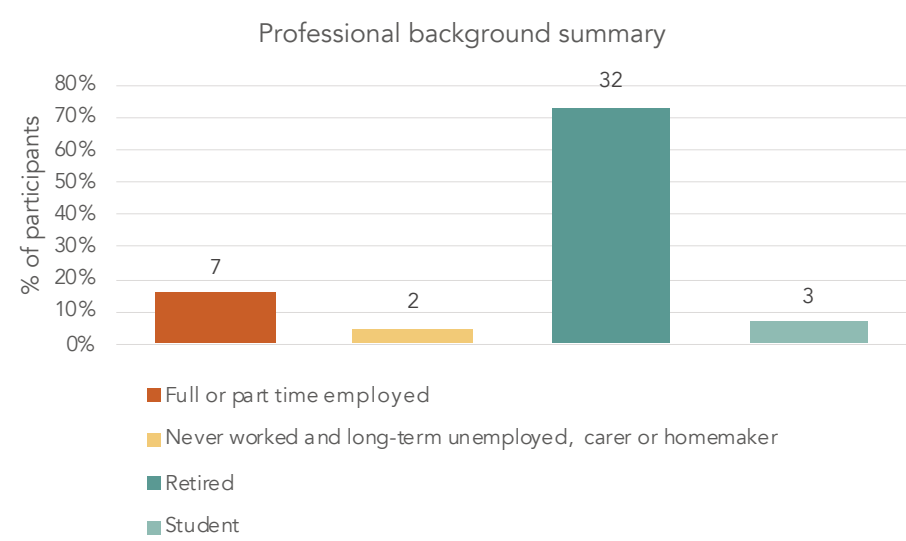
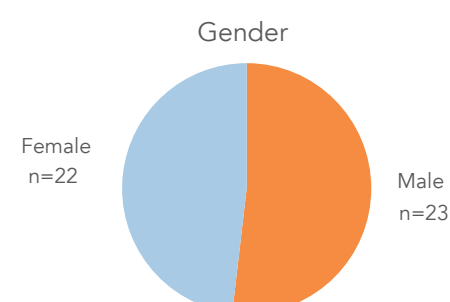
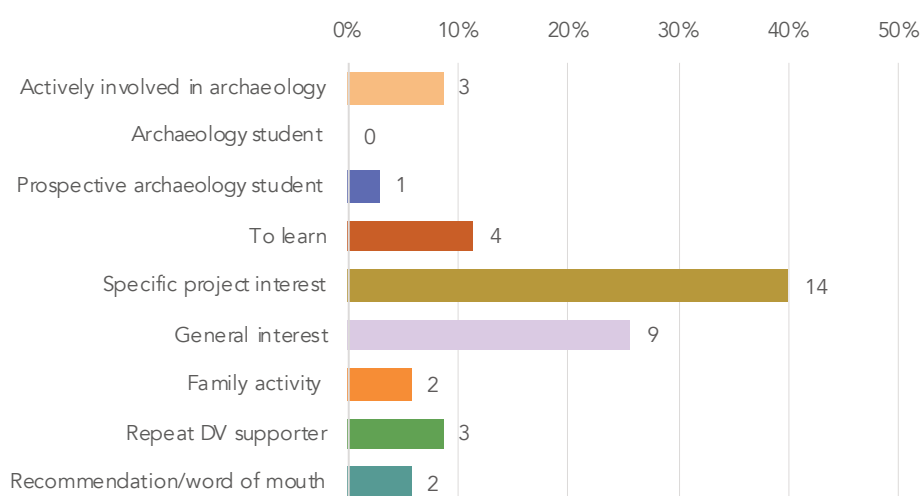


Figure 14. 2019 LiDAR workshop - participant demographic and experience



Why did you choose to support the project?



What was your highlight?

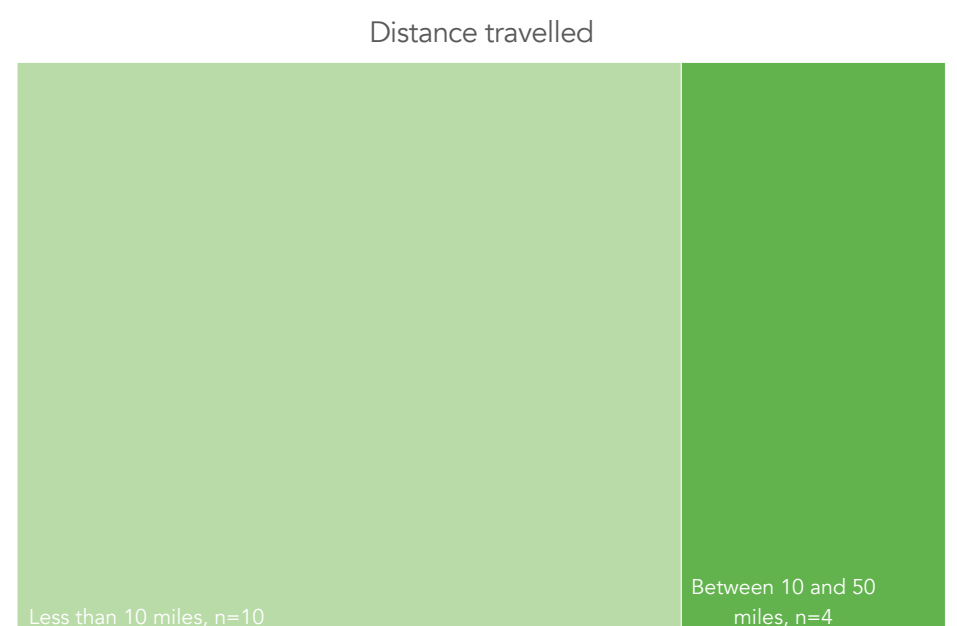
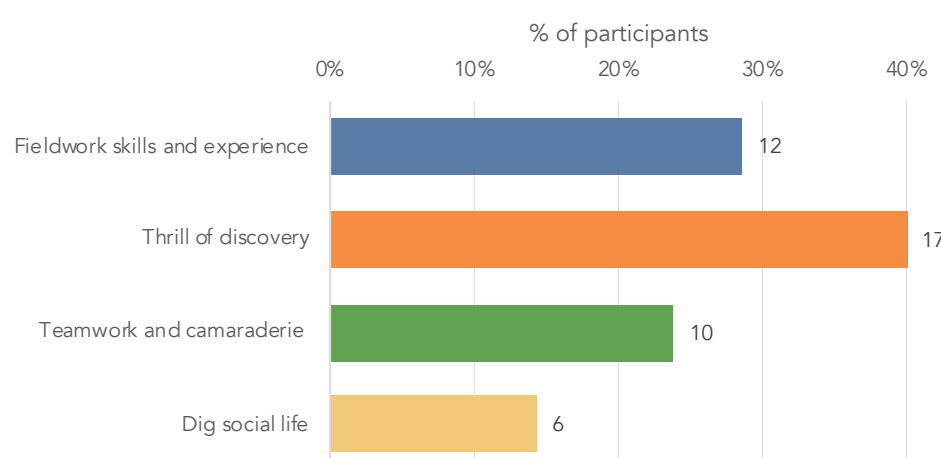
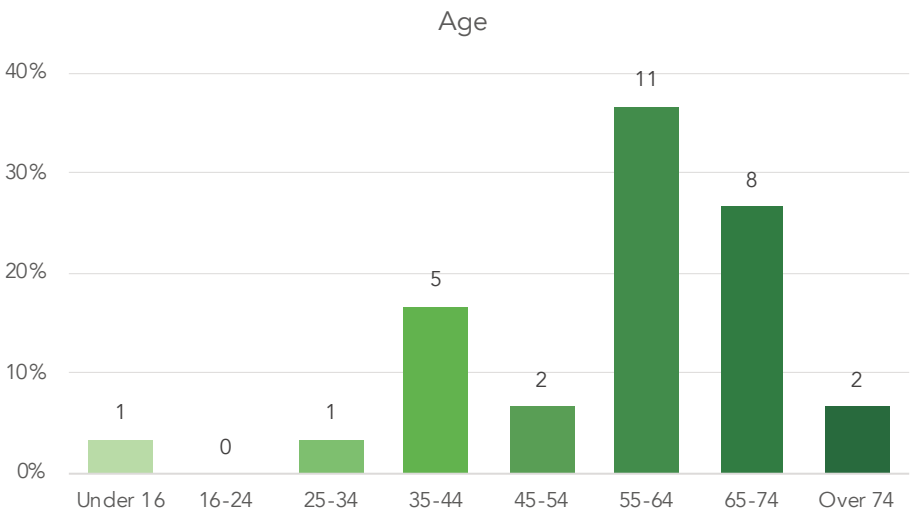
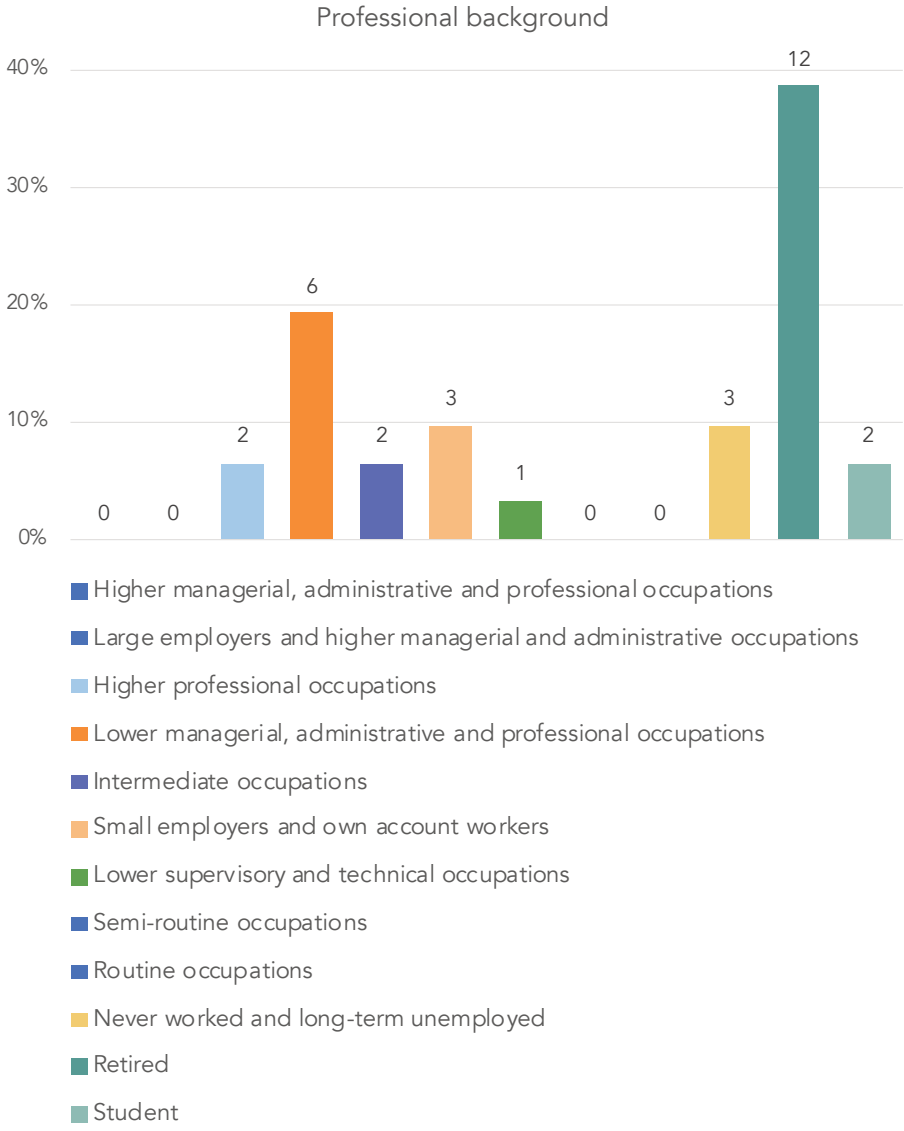
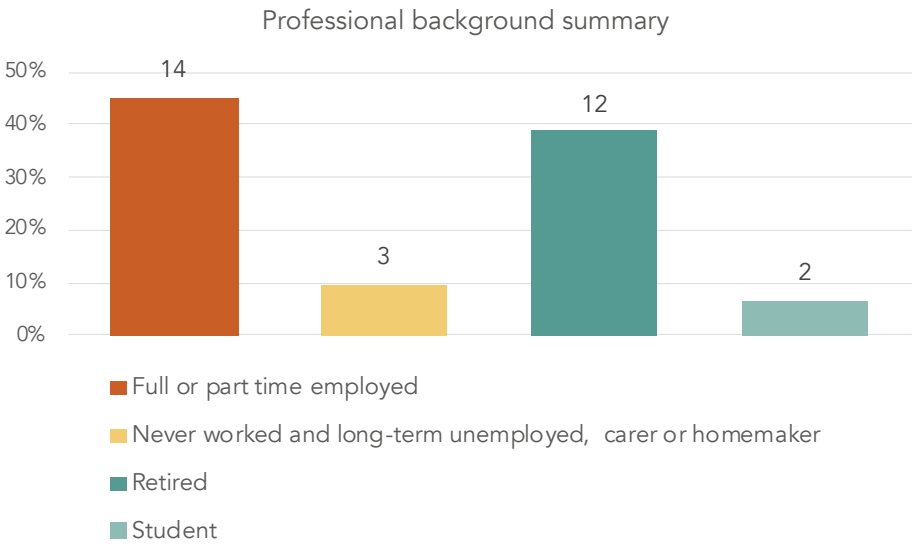


Figure 15. Heritage on the Horizons- participant demographic and experience



Why did you choose to support this project?

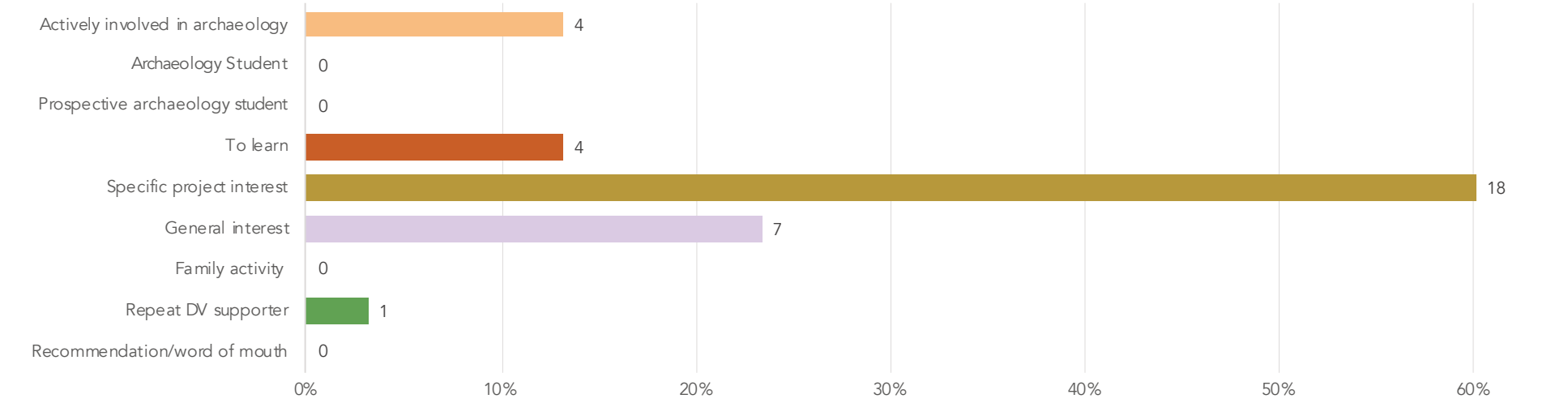


Figure 16. Mapping Memories- participant demographic and experience

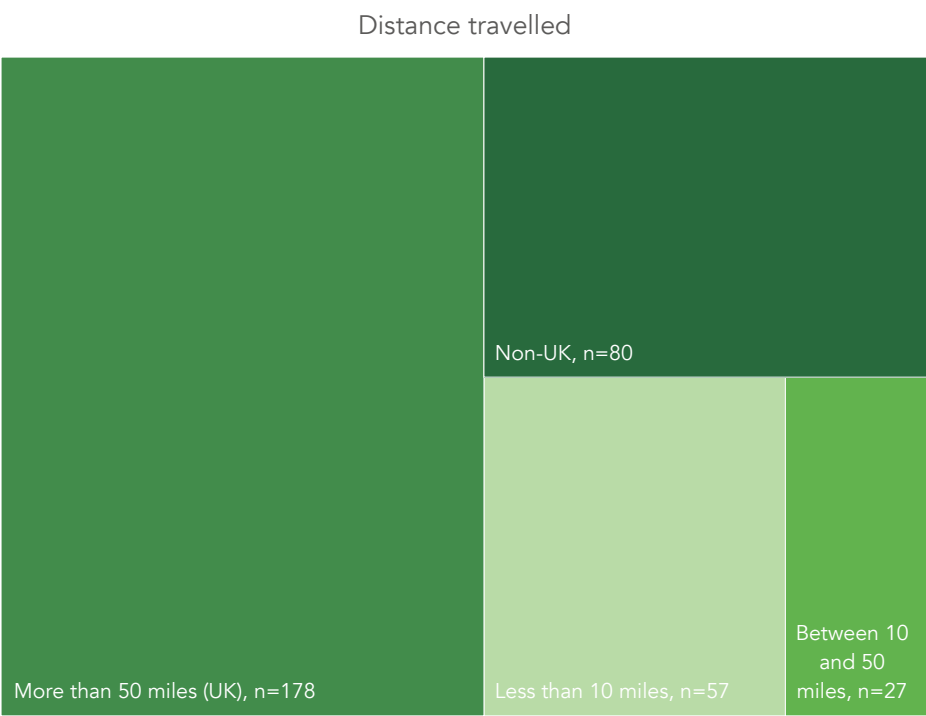
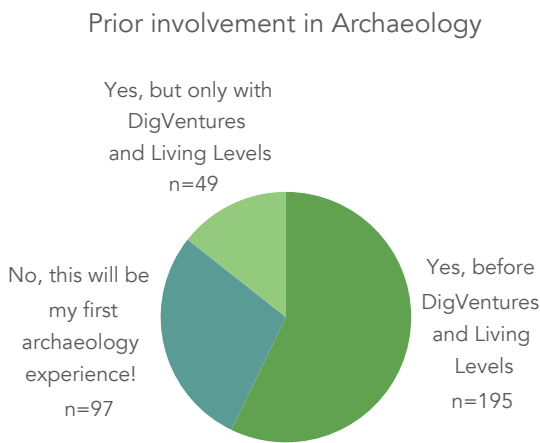
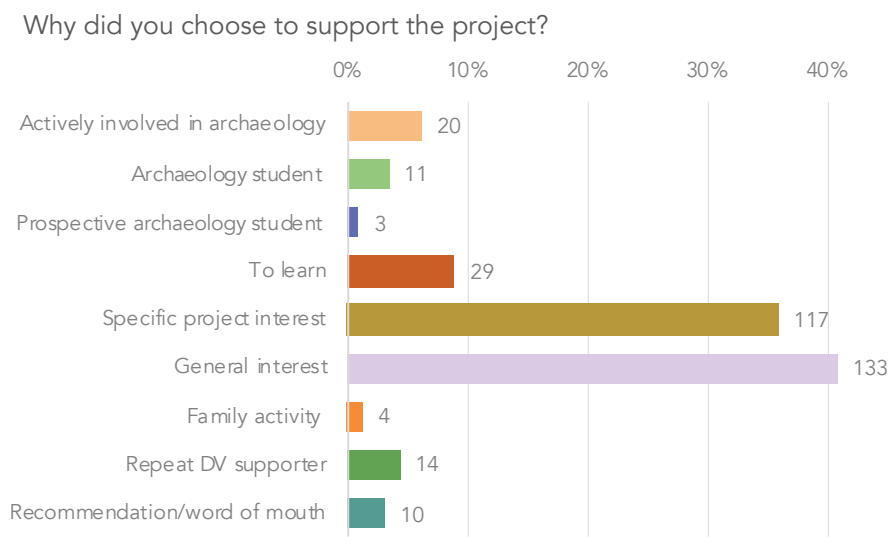
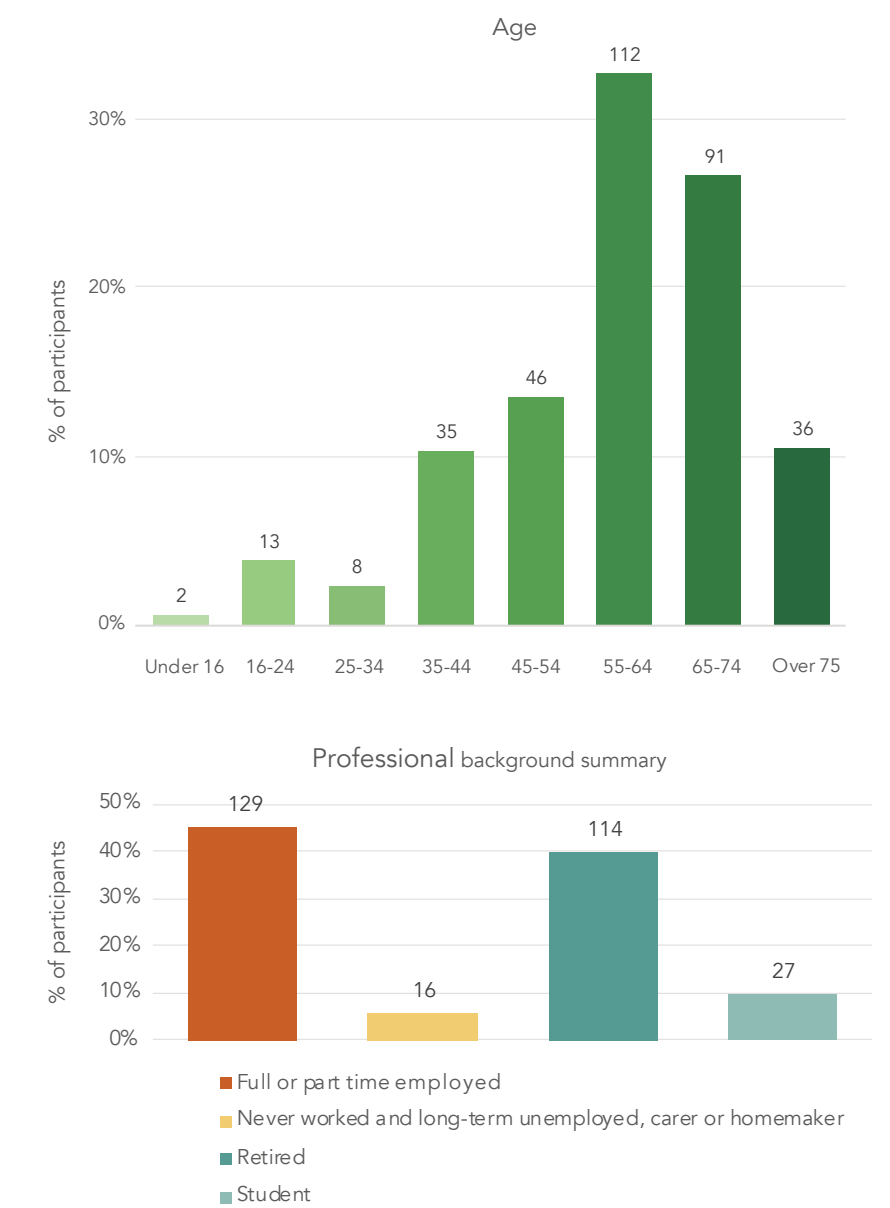


Figure 17. 2021 panel debate - participant demographic and experience

Amazing and fascinating as always! Thank you all.

Thank you, DV, for hosting this fascinating presentation. Cheers! See you in the DT portal, Maiya!

Thank you all so much, *really* enjoyed this!

Wonderful range of information – thanks!

We're so lucky to be able to access such wonderful information in an easy format. Thanks DigVentures, funder, speakers etc.etc.

Thank you, Martin, Mark and Stephen for your expertise and knowledge, It's been a fascinating event to listen to.

Thank you for a fascinating talk

Excellent talks by all, as ever. Always interesting and with new perspective and information. Many thanks.

This was fascinating and so important! Thank you for an excellent discussion.

Thank you all so much, fascinating evening.

Diolch yn fawr. Diddorol. – nos da Rob!

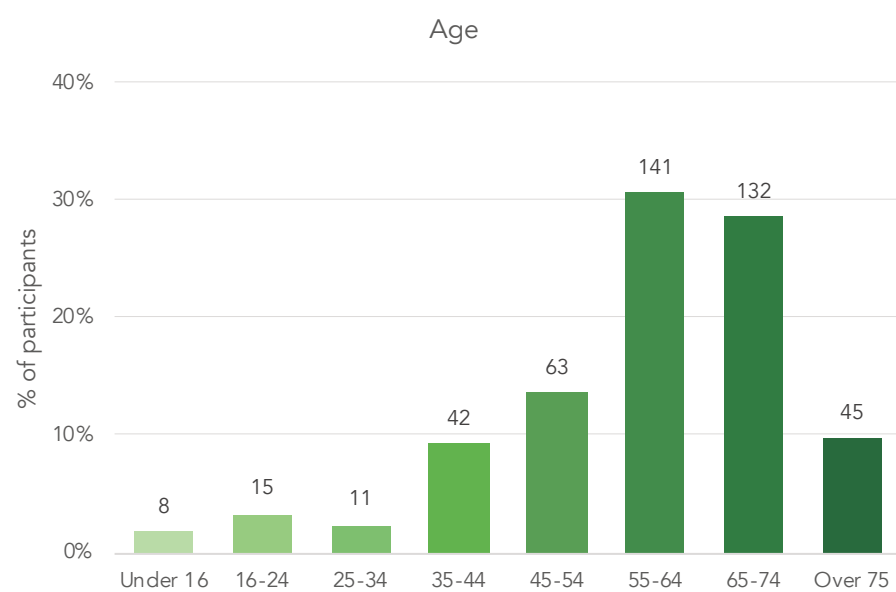
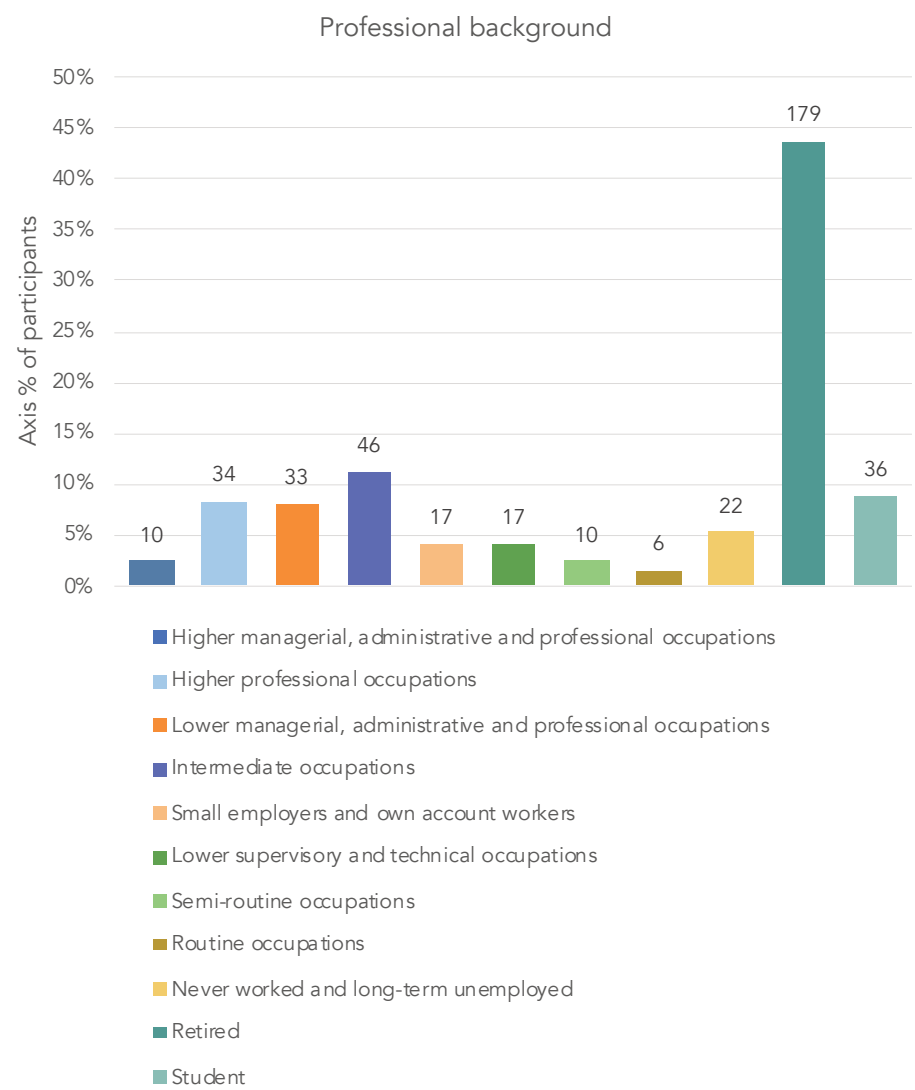
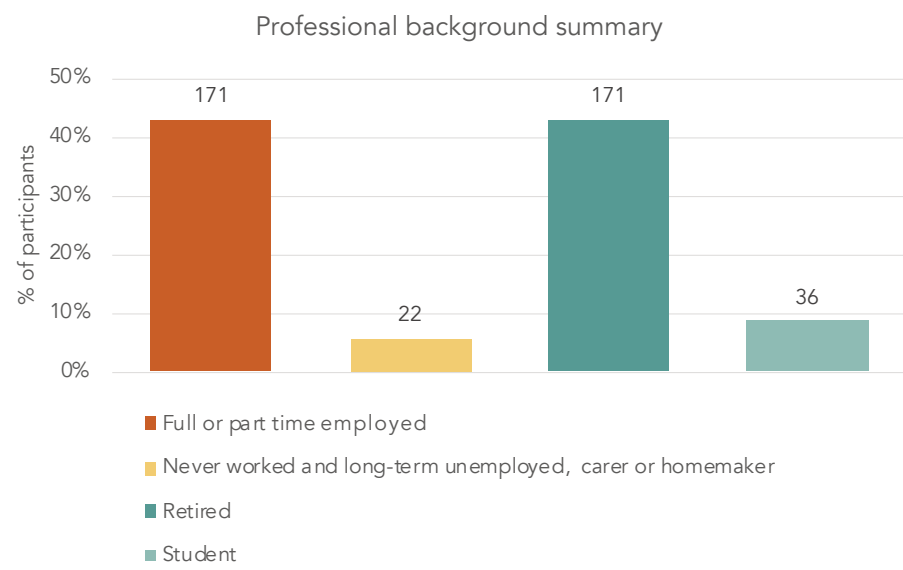
Have loved listening this evening – thanks for giving me so much more understanding of the area I live in.

Brilliant line-up and format! Thank you.

Many thanks to all of the speakers, a really fantastic group of talks, all really insightful and thought-provoking! Many thanks also of course to DV for organising this excellent event.

Thank you – I have learned much today about an area I knew little about – having only passed by on the way to Cardiff. It's also fascinating to learn how humans have interacted with the landscape. Go well and keep safe all until next we meet.

Figure 18. Examples of feedback from the panel debate



Gender

Prior involvement in archaeology

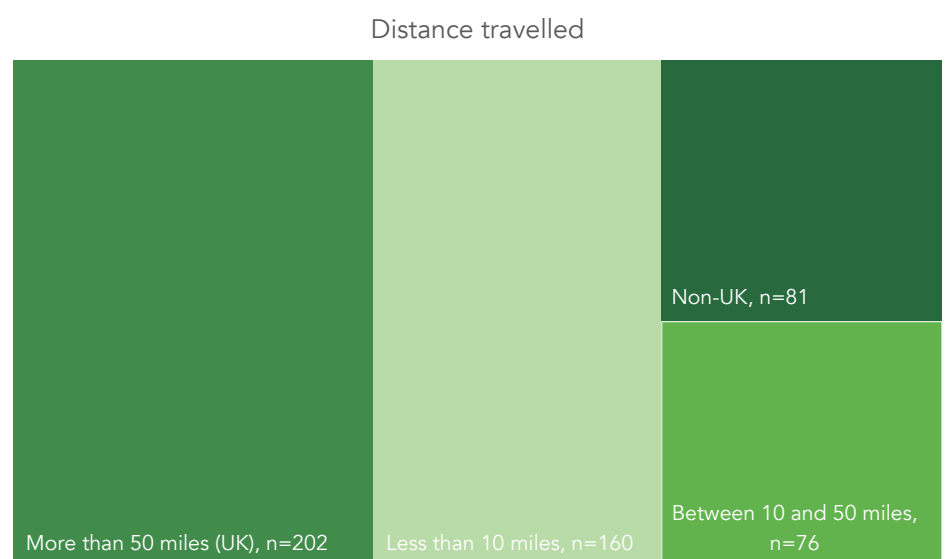
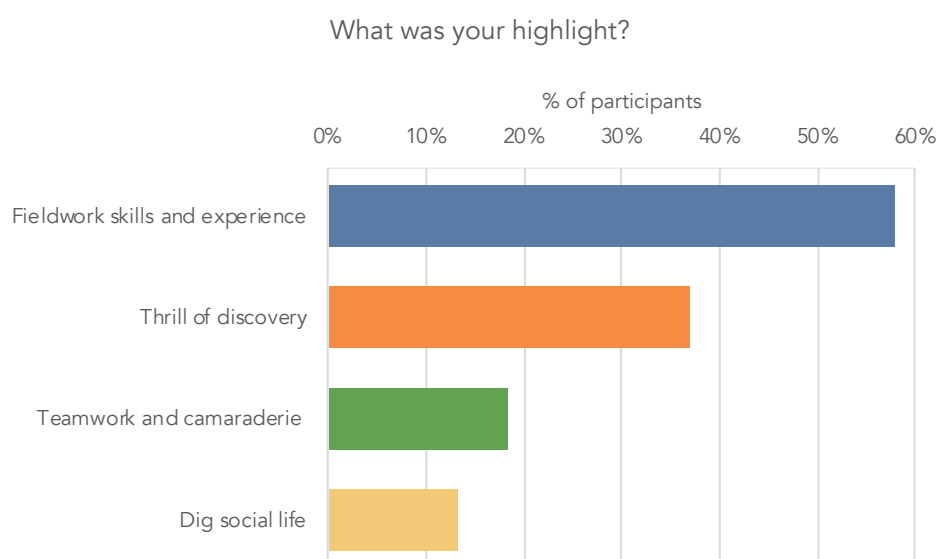
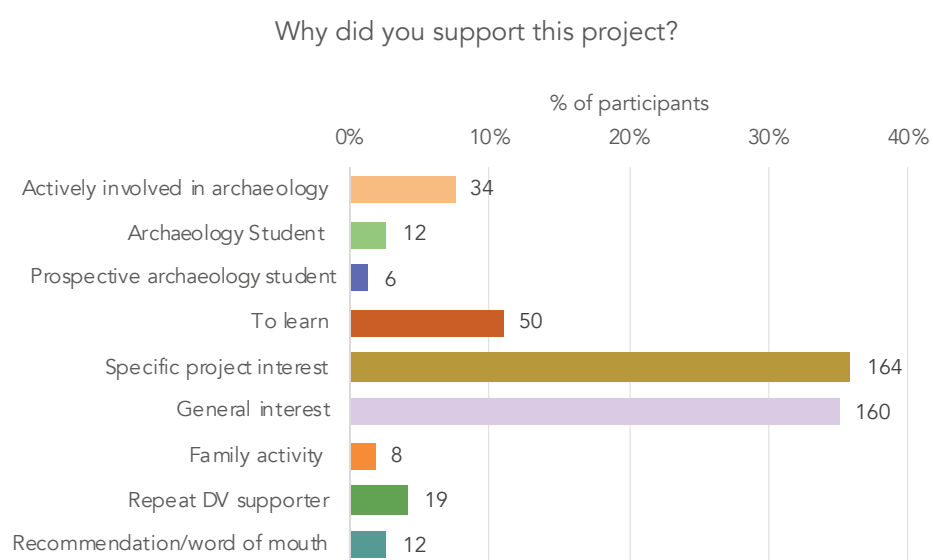
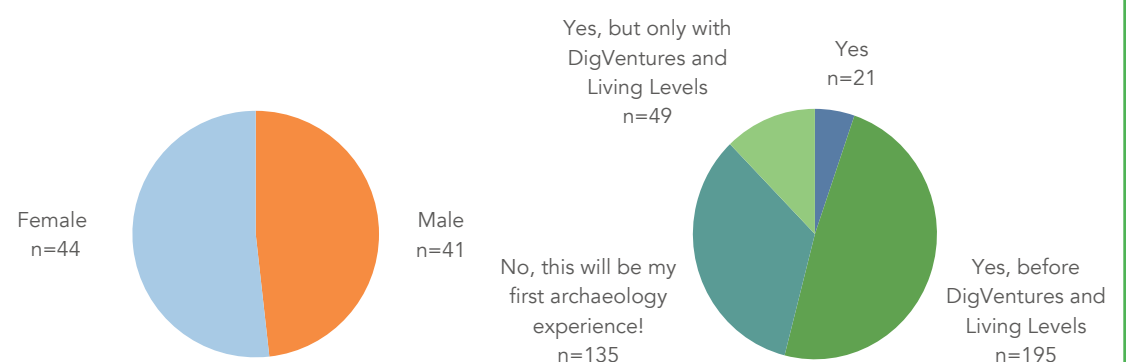


Figure 19. Participant demographic and experience for all Living Levels projects delivered by DigVentures

Appendices

Appendix A: Living Levels, Community Archaeology Project, Assessment Report (bound under separate cover)



THE LOCAL LANDSCAPE RESEARCH FRAMEWORK

APPENDIX G: LIVING LEVELS - COMMUNITY ARCHAEOLOGY PROJECT



Living Levels

Community Archaeology Project

Assessment Report

Indie Jago

Living Levels
Community Archaeology project
Assessment Report

Prepared on behalf of:
RSPB Living Levels Project Team

Compiled by:
Indie Jago

DigVentures

The Workshop
24a Newgate
Barnard Castle
County Durham
DL12 9PL

hello@digventures.com
0333 011 3990
@thedigventurers



Purpose of document

This document has been prepared as a post-excavation assessment report for RSPB Living Levels Project Team and DigVentures' global community. The purpose of this document is to provide a summary of results from the 2019 test pitting, 2019 earthwork and building survey, 2021 test pitting including aims and objectives of the work and the methodology employed.

DigVentures accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared. DigVentures has no liability regarding the use of this report except to RSPB Living Levels Project Team.

Copyright

© DigVentures Limited 2021

Project summary

DV project code and type	LVL19, LVL21
National Grid Reference	ST 41436 84490
County	Monmouthshire
Designations	Cadw Scheduled Monument Legacy Ref. No. 54452 HER No. GGAT02313g
Title:	Living Levels Community Archaeology Project Assessment Report
Author(s):	Indie Jago ACIfA
Origination date:	11th February 2022
Circulation:	RSPB Living Levels Project Team
Reviewed by:	Manda Forster MCIfA PhD
Approval:	Brendon Wilkins MCIfA



Social Value Act

DigVentures is a social enterprise dedicated to designing and delivering publicly focussed archaeology projects. We are constituted as a limited company, with a constitution reflecting the wider social, economic and environmental benefits of the projects we deliver.

Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of 99g if 100% post-consumer recycled paper is used and 126g if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

DigVentures is aiming to reduce its per capita carbon emissions.

Acknowledgements

We'd like to begin with a sincere thank you to the Living Levels Project Team for providing such an exciting opportunity. The project has benefited from the ongoing support and advice from Alison Offord and Elinor Meloy, Programme Manager and Gavin Jones, Community Engagement Officer. We would also like to thank Martin Bell, University of Reading, and Steve Rippon, University of Exeter, for their help and support. The Project Executive for DigVentures was Lisa Westcott Wilkins, with Manda Forster as Project Manager, Joshua Hogue as Programme Manager, Chris Casswell as Site Director, supported by Maiya Pina-Dacier as Community Manager, Maggie Eno, Indie Jago, and Johanna Ungemach. Rebecca Bennett, PTS Consultancy, is Project Lead for the development of the Living Levels GIS, and coordinating volunteer transcription projects.



Executive summary

DigVentures was commissioned by the Living Levels Landscape Partnership to provide volunteer opportunities for people to learn new and develop existing archaeological fieldwork skills and retain a core team of volunteers to collect data throughout the Gwent Levels. The overarching aim of this fieldwork was to engage participants with the archaeology and teach them core skills so that they could create a database to feed into the Historic Environment Records Open System (HEROS).

This document is submitted in support of the final phase of a multi-phased research project in the Gwent Levels, carried out by DigVentures. Fieldwork took place between 30th July – 4th August 2019 and comprised a community-based archaeological test pitting exercise, a building survey in the village of Redwick and an earthwork survey at Grangefield Farm. The test pitting in Redwick aimed to investigate the potential and significance of archaeology relating to the Poorhouse which was located behind where the bus shelter now stands, and to the Pound. Between 3rd-4th June 2021, DigVentures hosted the 'Big Garden Dig Weekend', during this weekend an additional test pit was excavated by project participants, Gavin Jones, Sue Waters and David Waters, the results of which are also presented here.

This report presents results from the test pitting, building survey and earthwork survey, incorporating an assessment of the potential and significance of the site archive, the finds and samples, in the context of the project aims and objectives. A series of recommendations for further work is made by the Project Team.

Crynodeb weithredol

Fe gomisiynwyd DigVentures gan Bartneriaeth Tirwedd Lefelau Byw i ddarparu cyfleoedd i ddysgu a datblygu sgiliau gwaith maes archeolegol yn ogystal â chreu tîm o wirfoddolwyr i gasglu data yn gysylltiedig â Lefelau Gwent. Prif bwrpas y gwaith maes oedd galluogi gwirfoddolwyr i ymgymryd â gweithgareddau archeolegol a dysgu sgiliau craidd fel eu bod yn gallu creu bas data ar gyfer system cofnodion agored yr amgylchedd hanesyddol (HEROS).

Mae'r ddogfen yma yn amlinellu gwaith amlgam terfynol prosiect DigVentures ar Lefelau Gwent rhwng 30 ain o Orffennaf a 4ydd o Awst, 2019. Yn ystod y cyfnod yma fe gloddiwyd cyfres o dyllau prawf gan y gymuned yn ogystal ag arolygu adeiladau yn Redwick a'r gwrthgloddiau ar Fferm Grangefield. Pwrpas y tyllau prawf yn Redwick oedd i weld a oedd olion Teios yn goroesi tu ôl i ble mae'r gysgodfa bws heddiw, a hefyd wrth ymyl y Pound. Rhwng Mehefin y 3ydd a'r 4ydd fe drefnodd DigVentures penwythnos y "Big Garden Dig", lle cloddiwyd twll prawf arall gan Gavin Jones, Sue Waters a David Waters. Mae canlyniadau'r gwaith ychwanegol yma yn yr adroddiad islaw.

Mae'r adroddiad yma yn cynnwys canlyniadau'r arolygon a'r gwaith tyllu ac yn asesu arwyddocâd yr archif, y darganfyddiadau a'r samplau yng nghyd-destun amcanion y gwaith. Mae'r tîm hefyd yn awgrymu gwaith ychwanegol all ddilyn rywbryd yn y dyfodol.

Results summary

Fieldwork was undertaken between 30th July – 4th August 2019, investigating the area behind Redwick bus shelter, where a Poorhouse was located, and a stone structure known as the Pound. Four test pits were excavated to investigate these two features. Test Pits 1 and 2



focused on the Poorhouse, Test Pit 3 focused on the area within the Pound and Test Pit 4 investigated the area immediately outside the Pound.

Test Pit 9 was located in the back garden of Sue Waters and David Waters, in the village of Whitson and was excavated with the assistance of Gavin Jones as part of the 'Big Garden Dig Weekend'. The test pit was located in behind the farmhouse in an old orchard which was replanted in 2001, on top of ridge and furrow.

The data from the 2019 excavations were recorded by project archaeologists using a web-accessible relational database. This is housed on the project microsite, which can be explored by following the links shown in green font throughout the report. The project microsite includes a background to the project, profiles of participants and updates from the trenches: <https://digventures.com/living-levels/>. The records produced for Test Pit 9 were produced by the volunteers using the online resources provided by DigVentures, these were posted to DigVentures and have been incorporated into this report.

The Poorhouse demolition layers and floor surface were all identified. A range of modern refuse was found within these layers with alluvial deposits covering them, relating both to the demolition of the Poorhouse and also the construction of the nearby bus stop. A 3m x 3m area was cleared within the Pound revealing a flagstone floor. Test Pit 4 which was located just outside the Pound identified the medieval land surface 0.3m below the current land surface. Test Pit 9 identified a density of finds including 115 sherds of pottery. The pottery predominately dated to the post-medieval with some potential later medieval green glazed sherds.

The earthwork survey at Grangefield farm identified that the site was in very good condition and has been highlighted as a potential site for further work.

Crynodeb canlyniadau

Yn ystod y cyfnod rhwng Gorffennaf 30ain a'r 4ydd o fis Awst, 2019, fe archwiliwyd yr ardal tu ôl y gysgodfa bws yn Redwick, lleoliad Teios yn y gorffennol, ac wrth ymyl adeilad gerrig a elwir y Pownd. Fe gloddiwyd pedwar pwll prawf. Roedd twll prawf 1 a 2 yn agos i'r hen Deios, pwll 3 o fewn y Pownd, a thwll 4 tu allan y Pownd.

Roedd twll prawf 9 yng ngardd Sue Waters a David Waters, ym mhentref Whitson, ac fe gloddiwyd, gyda chymorth Gavin Jones, fel rhan o benwythnos y "Big Garden Dig". Roedd y twll prawf yma ar ben olion grwn a rhych o fewn hen berllan, ail blannwyd yn 2001, a thu ôl i'r ffermdy.

Casglwyd data o waith maes 2019 yn defnyddio bas data perthnasol gyda chynnwys ar wefan y prosiect, ac mae'r safle yma ar gael drwy ddolen yr ysgrifen werdd yn yr adroddiad yma. Mae'r wefan yn cynnwys gwybodaeth gefndirol y prosiect a'r newyddion diweddaraf o'r ffosydd: <https://digventures.com/living-levels/>. Yr oedd cofnodion twll prawf 9 wedi eu casglu gan y gwirfoddolwyr yn defnyddio adnoddau DigVentures ar gael ar y we.

Fe gofnodwyd haenau yn gysylltiedig â dymchwel adeilad y Teios ac fe welwyd pob math o sbwriel modern yn y dyddodion llifwaddodol oedd yn eu gorchuddio. Fe gloddiwyd darn 3m x 3m o waelod mewnol y Pownd a dadorchuddiwyd llawr o gerrig fflacs. Yn nhwll prawf 4, tu allan y Pownd, fe welwyd haenen ganol oesol 0.3m oddi tan wyneb presennol y tir. Yn nhwll



prawf 9 fe welwyd nifer fawr o wrthrychau yn cynnwys 115 o deilchion grochenwaith. Crochenwaith ôl-ganoloesol oedd y mwyafrif gyda rhai enghreifftiau o grochenwaith hwyr canoloesol gyda gwydredd gwyrdd.

Roedd arolwg y gwrthgloddiau ar dir Fferm Grangefield yn dangos bod y nodweddion gweladwy mewn cyflwr da ac mi fyddai'n safle i ddychwelyd ar gyfer gwaith posib yn y dyfodol.

Table of contents

1	INTRODUCTION	10
1.1	Background to the project	10
1.2	Location, topography and geology	10
2	BACKGROUND	11
2.1	Introduction	11
2.2	Research significance	11
2.3	Historical background	11
2.4	Summary of previous work	12
3	PROJECT AIMS AND OBJECTIVES	13
3.1	Project model	13
3.2	Aim 1 – Define the chronology and phases present on the site	13
3.3	Aim 2 – Understand the site’s archaeological conditions	14
3.4	Aim 3 – Make recommendations for further work, analysis and publication	14
3.5	Aim 4 – Engage and train local people in the research of Living Levels Study Area and provide opportunities for public engagement	14
4	METHODOLOGY	15
4.1	Living levels GIS	15
4.2	Earthwork survey	15
4.3	2019 excavation	15
4.4	2020 Excavation	16
5	EXCAVATION RESULTS	16
5.1	Introduction	16
5.2	Test Pit 1	17
5.3	Test Pit 2	17
5.4	Test Pit 3	17
5.5	Test Pit 4	17
5.6	Test Pit 9	18
6	EARTHWORK SURVEY RESULTS	18
6.1	Grangefield	18
7	BUILDING SURVEY RESULTS	18
7.1	Bus shelter, Redwick	18
7.2	Brick House, Redwick	19
8	ARTEFACTS	19
8.1	Introduction	19
8.2	Methods	20
8.3	Results - Small Finds	20
8.4	Results – Human bone	21
8.5	Results - Animal bone and shell	21
8.6	Discussion	21



9	CONCLUSIONS AND RECOMMENDATIONS	22
9.2	Grangefield Farm earthwork survey	23
9.3	Test Pitting in Redwick Village	23
9.4	Building survey	23
9.5	Test pitting in Whitson Village	23
10	BIBLIOGRAPHY	24

Appendices

Appendix A	Context descriptions	25
Appendix B	Finds catalogue	29
Appendix C	Summary of bulk finds	33
Appendix D	Summary of animal bones	40
Appendix E	Summary of human remains	41

Figures

Figure 1	Site location	42
Figure 2	2019 Test pit results	43
Figure 3	Grangefield Farm earthwork survey	44
Figure 4	Bus shelter building survey	45
Figure 5	Brick House building survey	46



1 INTRODUCTION

1.1 Background to the project

- 1.1.1 The Living Levels Partnership is a Landscape Partnership Scheme being delivered by RSPB Cymru (lead agency), Gwent Wildlife Trust, Monmouthshire County Council, Natural Resources Wales, Newport City Council, Cardiff Council, Sustrans, National Trust, Buglife Cymru, Bumblebee Conservation Trust and Cardiff Story Museum. The Partnership has come together and developed a range of projects that work towards conserving and enhancing the natural heritage of the Gwent Levels and re-connect people with this amazing landscape on their doorstep. DigVentures was appointed to help deliver several important outputs and outcomes of the Living Levels 'Recapturing the Historic Landscape' Project, specifically to deliver a series of professionally led, volunteer projects designed to engage people with the unique historic landscape of the Gwent Levels.
- 1.1.2 This project was designed to investigate the development of the landscapes of the Gwent Levels through an examination of historical maps, field survey and test-pit archaeological excavations in historic villages. The project explored features of the historic drainage system created over the last millennium through a combination of investigative techniques using historical maps, LIDAR data and field survey. These processes aimed to engage local people and others interested in the area in rediscovering a nationally important historic landscape, created and maintained by local people's actions for at least 1,000 years.
- 1.1.3 The project was designed to include two main seasons of archaeological fieldwork, with an embedded public engagement programme maximising the impact of the investigations through guided tours, workshops, public talks and displays. This document presents the results of the first season of a community-based training and archaeological research, which included earthwork survey, building survey and test-pitting, and took place between 30th July – 4th August 2019.
- 1.1.4 Due to the Covid-19 pandemic and subsequent lockdowns, a second season of fieldwork was not possible within the timeframe of the project. The project was refocussed to incorporate additional online and in-person participatory activities, the results of which are presented in the evaluation report (Jago and Eno 2022). One of those activities, the 'Big Garden Dig Weekend' delivered in July 2021, involved the excavation of a test pit in Whitson and the results are included in this report.

1.2 Location, topography and geology

- 1.2.1 The Gwent Levels comprise the Caldicot and Wentloog Levels, intertidal wetlands situated on either side of the River Usk in southeast Wales. The resulting coastal plain is the largest reclaimed wetland in Wales and provides an excellent example of how people have adapted a landscape to live and work within (Rippon 1996, 3). The project area spans the reclaimed coastal alluvium which occupies the northern side of the Severn estuary, from Cardiff Flats to the south, to the Caldicot Level in the north. The inland boundary follows incorporates Chepstow, following the line of the M48, A48 and M4 to incorporate the towns and villages which site within the coastal plain. This low lying, flat and an expansive coastal plain is up to 6km wide. The 1:50,000 scale



Geological Survey indicates that the geology at Caldicot consists of superficial tidal flats, comprised of clay, silt sand and gravel overlying mudstone bedrock (British Geological Survey 2019).

2 BACKGROUND

2.1 Introduction

- 2.1.1 This project has involved the training and support of local community participants in undertaking and recording archaeological sites and features using the developed GIS platform. New data collated by volunteers during training workshops, site visits and archaeological fieldwork, has been inputted directly into a web accessible GIS database. The resulting GIS provides rich content which has informed new physical and digital interpretation designed to improve the visitor experience across the Levels and help reconnect people to this historic landscape. The Living Levels GIS and map viewer can be found here: <https://www.livinglevelsgis.org.uk>.

2.2 Research significance

- 2.2.1 The Gwent Levels represent an area of archaeological and historical significance. They are listed in the Register of Landscapes of Outstanding Historic Interest in Wales as they are 'one of the most extensive and best preserved reclaimed coastal wetland landscapes' (Rippon 1996). The inhabited areas of the Levels have been repeatedly reclaimed from encroaching sea-levels and actively maintained since the Roman period (Cadw 1998).
- 2.2.2 Being a reclaimed landscape, the Gwent Levels are under constant threat of erosion. This presents a long-term threat to the archaeology, especially areas not protected by the sea wall. The growth of the sub-urbanisation in the region, particularly around Newport and Cardiff as well as the expansion of the A48/M4 corridor and the renewal of drainage schemes on the Gwent Levels, will further reduce the visible and accessible archaeology.
- 2.2.3 The wetland environment of the Levels is well suited for the preservation of archaeology, in particular organic material. This has enabled discoveries such as medieval fish traps, Iron Age houses and Mesolithic footprints. Despite conducting large scale surveys and identifying many sites there has been little done in the way of large-scale analysis of the landscape. There are also sizable gaps in the understanding of transitional periods or how people used and moved around the landscape in the past.

2.3 Historical background

- 2.3.1 Some of the oldest archaeology on the Gwent Levels has dated to the Mesolithic period. Hunter gathers seem to have moved through the landscape seasonally using the land to fish and hunt. There is little archaeology dating to the Neolithic and it is unclear if this is due to lack of investigating or lack of presence, though it is presumed that there may have been only limited activity. Occupation in the Bronze Age and Iron Age seems to have been opportunistic and seasonal; the fertile soil and coastal landscape of the levels were probably used periodically to graze cattle and fish before returning to higher ground.

- 2.3.2 During the Roman Period the area was occupied by the Civitas of the Silures, with their caput at Venta Silurum (Caerwent). During this time, a drainage system was constructed to drain the Levels and make the land suitable for farming. After the end of the Roman period the area around the former caput became the small successor kingdom of Guenta. The name retention and the two sub-Roman style cemeteries suggest that there may have been some kind of political continuity after the Romans left and that the town of Caerwent continued to hold importance.
- 2.3.3 During the medieval period an extensive drainage system was put in place and a sea wall was constructed to reclaim land, although it is not clear if the inland drainage systems were built before or after the sea wall. Whilst most assume the sea wall was built before the inland drainage it is possible that summer dykes may have been constructed around fields to provide protection to the crops during the summer months and it was not until later that a sea wall was constructed giving the crops year-round protection. It is therefore assumed that the sea wall must have been built by c.1113 as this is when Goldcliff Priory was built, and it seems unlikely that this would have been built on marshland liable to flooding. The responsibility of maintaining this drainage system befell the landowner whose field bounded them. To ensure the entirety of the drainage system was maintained, in 1828 the Commissioners of Sewers ordered a survey of the Gwent Levels. They recorded field boundaries, drainage ditches and sea defences, their findings were made into two books of maps.

2.4 Summary of previous work

- 2.4.1 Mesolithic remains have been discovered at Goldcliff, stratified in an estuarine clay. These included finds of worked flint, animal bones, charcoal and cattle footprints. Further Mesolithic remains have been identified in the form of late Mesolithic human footprints found at Uskmouth that had been impressed into the lower Wentlooge (Barr and Bell 2017).
- 2.4.2 Bronze Age sites have been identified on desiccated raised peat beds, such as at Chapel Tump, Goldcliff and Caldicot Castle. At Caldicot Castle there is evidence of palaeochannels, pile structures, and a boat strake. At Redwick, more recent discoveries in the intertidal area include the discovery of a Bronze Age settlement indicated by four rectangular-shaped post-built structures as well the presence of both human and animal footprints (Bell 2013).
- 2.4.3 Iron Age timber buildings and fish traps were also located at Goldcliff in the intertidal area along a peat shelf (PRN 05754g). Inland, the remains of a 3rd century Romano-British boat were found at Wilcrick (Cadw 1998). At Portskewett recent excavations by GGAT and others have revealed evidence of a Roman villa with possible Iron Age activity. Romano-British pottery has been found on sites such as Llanmelin (Nash-Williams 1933) and Sudbrook (Nash-Williams 1939). Excavation at Lodge Wood Camp revealed a series of narrow terraces with small post holes and a limited amount of late Roman pottery in an oval enclosure in the interior of the Iron Age hillfort (Howell & Pollard 2000). GGAT excavations at Pencarn Farm (Coedkernew) yielded a late Roman fen-edge settlement which underlay a medieval site.
- 2.4.4 The medieval period can be seen both in buried archaeology and standing structures such as castles, moated sites, churches, mills, manor houses and court houses. The village of Redwick itself is subject to a conservation plan designed to help preserve

the unique character of the village (Newport City Council 2002). The village is an example of a nucleated medieval village settlement, initially centred around the Church of St Thomas; this form of settlement pattern is an uncommon occurrence on the Levels. The origins of Redwick are believed to have been as a secondary settlement to nearby Magor in the 13th century. Grangefield, in Redwick, is the location of a medieval moated site which was an early property to the Cistercian monks of Tintern (Cadw Listed Entry No. 54452, PRN 02313g). A detailed earthwork survey of Grangefield was conducted by Pete Bewers and students from St. Davids University College in 1994, and identified it to be in very good condition. The moated site consisted of two concentric, rectangular shaped ditches that surrounded a central platform. This is most likely the same site as 'New Grange' referred to in a deed dating to 1572. The land was probably gifted to the Abbey as it was a too wet to farm before the abbey constructed the moats; however, it is noted that the moated site was located by a modern working farm which dumps slurry.

- 2.4.5 A boat dating to the 13th century and was found close to Magor Pill, the largest wreck from this period found in Welsh waters. It is believed the boat was used to trade across the Severn estuary as it was carrying iron ore from Glammorgan. Evidence of maritime exploits continue throughout the medieval period with fish traps dating from the 6th century onwards found near Portsckwett.
- 2.4.6 Whitson village was planned during 12th to 14th century possibly by the monks at Goldcliff, by Flemings or the lords of Caerleon. In this period there is an influx in Flemish immigrants to Wales and some of them were tasked by Henry I to create settlements in the Welsh borders. Initially, the village consisted of a series of long narrow strips surrounded by a "fen-bank", this is similar to a medieval 'cope' land allocation pattern which was commonly used in Holland. The villages linear planning makes it unique on the Levels. These strips were subsequently extended several times evidence of which had been observed during a LiDAR survey (Wessex 2011). Verbrugghe (2020) suggested that the extension of the village was due to individual famers expanding their land opposed to systemic expansion. During Wessex's LiDAR survey they identified many features including a group of ditched enclosures in a parcel of land on the easter edge of Whitson Common south of Whitson Lodge (PRN GGAT10943g).

3 PROJECT AIMS AND OBJECTIVES

3.1 Project model

- 3.1.1 The following aims were refined from those outlined in Living Levels: Recapturing the Historic Landscape; Tender for a Community Archaeology Project (Forster 2019) and relate specifically to the test pitting and earthwork survey that were conducted in 2019 and the 2021 virtual dig weekend.

3.2 Aim 1 – Define the chronology and phases present on the site

- 3.2.1 This aim was focused on understanding the formation of the site and the period(s) of archaeology that were present.
 - Q1: Can we corroborate chronology of the site?



- Q2: What was the character of the Poorhouse? What was the character of the Pound? What is the character of Grangefield?
- Q3: What is the landscape setting and character surrounding the sites, and how did this shape their location, design and development?

3.3 Aim 2 – Understand the site’s archaeological conditions

3.3.1 This aim was focused on the assemblage of findings and samples as defined and recovered in Aim 1, using appropriate archaeological techniques to establish the preservation and significance of the heritage assets. Key questions included:

- Q4: What was the state of preservation of the archaeological material across the sites?
- Q5: How well do deposits and artefacts survive, and how deeply are they buried?
- Q7: What is the range and spatial patterning of ecofacts and artefacts recovered from the sites? What do ecofacts and artefacts tell us about the nature of the Redwick?
- Q8: Can we increase our understanding of the local environment during the formation and/or occupation of the site?

3.4 Aim 3 – Make recommendations for further work, analysis and publication

3.4.1 This aim requires all data from Aims 1-2 to be collated, with an integrated synthesis of the archaeological resources at the site. Recommendations will be made informing further fieldwork stages, analysis, publication and final archiving. Key questions include:

- Q9: What can an integrated synthesis of the results of this work with previous studies of contemporary regional sites tell us about the sites and their settings?
- Q10: In light of the evidence recovered from this and previous work, can we articulate a link between the periods of use of the sites and their different areas?
- Q11: Can we formulate recommendations for future work?

3.5 Aim 4 – Engage and train local people in the research of Living Levels Study Area and provide opportunities for public engagement

3.5.1 The project offered a range of opportunities for local community members to get involved, providing training in heritage skills linked to the assessment and analysis of historic buildings. As part of the overarching project, providing opportunities for volunteers was an important component of the defined aims. Key objectives included:

- To further the study, understanding and enjoyment of the Living Levels Study Area by interested individuals and community groups

- To recruit and retain a core team of volunteers to collect data, record historic buildings, and to analyse and interrogate the results
- The provision of training, guidance and technical support to members of the community in, landscape survey, historic landscape interpretation and excavation skills.

4 METHODOLOGY

4.1 Living levels GIS

- 4.1.1 A key element of the delivery of the historical elements of the Living Levels project, has been the development of a web-based mapping platform which will be used to support, facilitate and query local historical and archaeological research generated by the various projects. The platform will be used for volunteer transcription and historic landscape analysis projects, as well as to house local history research and oral history results. The system uses a combination of QGIS and HEROS. HEROS has high level GIS and spatial database functionality, can handle a wide range of media (sound, photo and video) and is fully customisable allowing not only bespoke data entry forms but also an adapted user experience for different groups of volunteers (including multiple languages), reflecting the various types of research and resulting data. It is also compliant with [MIDAS heritage data standards](#), has built-in access to the [FISH thesauri of terms](#).

4.2 Earthwork survey

- 4.2.1 A community based earthwork survey was undertaken on 31st July 2019, exploring the nature of the locally and nationally listed Grangefield moated site (Cadw Listed Entry No. 54452, HER No. GGAT02313g)(Figure 1) whilst providing opportunities for public participation, skills training and volunteering. Half of the site was planned with a GPS and half was planned through traditional hand drawings. The volunteers participating in the workshop got to learn both techniques for planning and surveying.

4.3 2019 excavation

- 4.3.1 All work was completed to ClfA Standard and guidance for archaeological excavation (2014). The excavation 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 1999, 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.
- 4.3.2 All test pits were initially located using a GPS. The areas were then deturfed and topsoil and underlying deposits were subsequently removed by hand. Any archaeological features and deposits exposed were hand-cleaned and excavated to determine their nature, character and date.
- 4.3.3 A complete drawn record of the trenches comprises both plans and sections, drawn to appropriate scales and annotated with coordinates and AOD heights. A single context recording system was used to record the deposits, and a full list of all records is presented in Appendix A. Layers and fills are recorded with curved brackets (4001),



whilst the cut of the feature is shown [4002]. Each feature is prefixed with the relevant with the letter F (ie Trench 6, F601+, Trench 7, F701+).

- 4.3.4 All interventions were surveyed using a survey grade GPS tied into the Ordnance Survey grid. All recording was undertaken using the DigVentures Digital Dig Team recording system. Digital Dig Team is DigVentures' bespoke, cloud-based, open data recording platform, designed to enable researchers to publish data directly from the field using any web-enabled device (such as a smartphone or tablet) into a live relational database. Once recorded, the born-digital archive is instantly accessible via open access on a dedicated website and published to social profiles of all project participants (community, professional and specialist). Links to all individual feature and context records are provided in Appendix A, from where all associated finds, samples, plans, sections, photographic records and 3D models can also be explored.

4.4 2020 Excavation

- 4.4.1 All work was completed to ClfA Standard and guidance for archaeological excavation (2014). The excavation 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 1999, 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.
- 4.4.2 The test pit was initially located on a plan drawing. The area was then deturfed and topsoil and underlying deposits were subsequently removed by hand. The deposits were separate in 0.05m spits. Any archaeological features and deposits exposed were hand-cleaned and excavated to determine their nature, character and date.
- 4.4.3 A complete drawn record of the test pit comprises both plans and sections, drawn to 1:10 scale and annotated. A single context recording system was used to record the deposits, and a full list of all records is presented in Appendix A. Layers and fills are recorded with curved brackets (4001), whilst the cut of the feature is shown [4002]. Each feature is prefixed with the relevant with the letter F (ie Trench 6, F601+, Trench 7, F701+).

5 EXCAVATION RESULTS

5.1 Introduction

- 5.1.1 Archaeological excavation of four test pits was carried out between 3rd and 4th August 2019, exploring the nature and preservation of the archaeology of Redwick (Figure 1). Additional excavation of one test pit was carried out between 3rd and 4th June 2021, exploring the nature and preservation of archaeology at Whitson. These excavations provided opportunities for public participation, skills training and volunteering. The following stratigraphic assessment addresses Aims 1 and 2 of the Project Design (Forster 2019) by characterising the development of deposits at each location.
- 5.1.2 The test pit areas were a square shape in plan, with Test Pits 1, 2, 3 and 9 measuring 1m x 1m each, and Test Pit 4 3m x 3m. Figure 2 shows the results of this work and



detailed description of every context are included in Appendix A and a full list of finds collected are included in Appendix B.

5.2 Test Pit 1

- 5.2.1 Test Pit 1 was located to the rear of the bus stop in Redwick and placed over a mound thought to relate to the demolition of the Poorhouse. It was excavated to a depth of 0.44m and four layers were identified within it. The earliest layer encountered was a mixed rubble debris layer (1004) possibly formed through discarding waste in the backyard of the Poorhouse. This was where the highest density of finds was found, including pottery, glass, clay tobacco pipes, metal, ceramic building material, and animal bone. The pottery dates from the post-medieval to modern period, though most of the pottery was modern in date. Overlying this was a layer of subsoil (1003), within this layer SF2 was found, a decorated bone handle from a dip pen, dating from the beginning of the 19th century. Sealing this deposit was a later rubble dump (1002), followed by topsoil (1001) sealing all.

5.3 Test Pit 2

- 5.3.1 Test Pit 2 was located 4m away from the site of the Poorhouse and was excavated to a depth of 0.34m. At the base of the excavation a very compact floor surface deposit (2005) was encountered. Directly overlying this was a rubble debris layer (2004) that was sealed by a layer of alluvium (2003). This alluvial deposit produced the majority of the test pit's finds and included pottery, glass, clay tobacco pipes, metal, ceramic building material, shell and animal bone. Included within these finds were SF1, a decorated floor tile probably dating to the 19th/20th century. The pottery from within this layer dated from the post-medieval to the modern period. Small amounts of green glaze were found from within the alluvium and the overlying subsoil (2002) probably representing residue medieval wares. These layers were capped by topsoil (2001). 12 fragments of human bone were found in the subsoil (2002), they probably relate to the church yard located 13m away.

5.4 Test Pit 3

- 5.4.1 Test pit 3 investigated an area 3m outside the Pound and was excavated to a depth of 0.3m, and it is at this depth the medieval land surface (3003) was found. This was overlain by layers of subsoil (3002) and topsoil (3001). The medieval deposit was not excavated, and the subsoil and topsoil produced finds mainly consisting of metal, ceramic building material and some pottery. The pottery recovered dated to the medieval, post-medieval and modern periods. A single fragment of human bone was found in the subsoil (3002), the date and origin of the bone is uncertain, it is possible that flooding in the area has caused disturbance in churchyards, but Test Pit 3 is 80m from the nearest known church yard. The most likely explanation is that the soil may have been imported from elsewhere to this location in the past.

5.5 Test Pit 4

- 5.5.1 Test pit 4 targeted the area inside the Pound and a 3m x 3m square was cleared. The only deposit removed within the structure was a thin post-abandonment layer (4001), revealing a flagstone floor surface (4002). This floor was constructed with large irregular unbonded flagstones, there was a gentle slope to the southeast side which

ran to a drain that led under the wall. A few finds were collected from (4001) including some pottery that mostly dates to the modern period.

5.6 Test Pit 9

- 5.6.1 Test pit 9 was located in the back garden of Sue Waters and David Waters, in the village of Whitson and was excavated with the assistance of Gavin Jones as part of the Big Garden Dig Weekend. The test pit was located in behind the farmhouse in an old orchard which was replanted in 2001, on top of ridge and furrow. The test pit was located near an ancient trackway along the eastern edge of the orchard known as Wainbridge lane. Test pit 9 was excavated to a depth of 30cm. The soil was dark in colour with a high clay content, while the topsoil (9001) was friable the layer beneath, which was divided into three spits (9002), (9003) and (9004), was very compact. The oldest context identified was (9004), there was a density of finds within this layer including 115 sherds of pottery. The pottery predominately dated to the post-medieval with some potential later medieval green glazed sherds.

6 EARTHWORK SURVEY RESULTS

6.1 Grangefield

- 6.1.1 Grangefield is a locally and nationally listed moated site that lies on the Gwent Levels (Cadw Listed Entry No. 54452, HER No. GGAT02313g). It was designated a Scheduled Monument in 1979 and its description was only subsequently updated in 1990. Beyond these brief descriptions and a subsequent earthwork survey undertaken in 1994 (Rippon 1996), the site has been subject to limited further investigation.
- 6.1.2 An earthwork survey was conducted as part of this project, principally as a training exercise to teach a core group of volunteers how to undertake such a survey (Figure 3). All work was non-intrusive and focused on the production of an earthwork survey of the medieval moated site using both traditional hand drawing techniques and modern handheld dGPS.
- 6.1.3 The site comprised a rectilinear platform measuring c.27m x 25m surrounded by an inner ditch, measuring between c.2-4m wide, and an exterior ditch, enclosing the entirety of the site, but only partially surveyed due to time constraints. There were minor signs of erosion at the access point to the site, where cattle had left the concrete track into the field, though this was minimal, and otherwise the condition of the site was similar to that recorded during the 1994 earthwork survey (Rippon 1996).

7 BUILDING SURVEY RESULTS

7.1 Bus shelter, Redwick

- 7.1.1 The bus shelter (Figure 4) was built in 1971 by local artist Hubert Jones. It is a rectangular, one story building with a footprint of approximately 8m x 5m. The inside of the structure had a stone flag floor with inset millstones and was bonded with concrete. The millstones were made of a variety of materials and from a range of dates, and it appeared likely the flag floor stones were reused. Inside the bus stop was a large red sandstone cider mill with a stone runner set on top of a brick foundation.



- 7.1.2 The front entrance to the bus shelter was made of concrete but worked to look like stone. Inset next to the entrance way was a round headed boot scrapper. The back entrance to the bus shelter is built in a similar manner to the front, however it also has a two-part iron gate. There was one window on the front of the shelter with a wooden carved wooden panel similar to a rood screen, but carved with modern images including tennis, phones and guitars.
- 7.1.3 The walls of the shelter were made of a mixture of roughly coursed stone and brick. They were inserted with a variety of archaeological and agricultural finds the artist had collected from the local area, including on the back of the building four stone pieces probably from graves and field boundaries, one with the inscription '1888, Togarmah Rees, Engineer, Payne, Builder'. Two cannon balls were incorporated into the dove loft, one made of stone and one of iron. Other finds included Roman and Prehistoric artefacts, seawall maintenance markers, an iron grate, and commissioner of the sewers signs.

7.2 Brick House, Redwick

- 7.2.1 Volunteer participants surveyed a three-story red brick house (Figure 5). The front of the house was covered in Virginia creepers. Each story had a different window style, though within a story the windows matched. The ground floor had slash windows, as did the first floor, though these were taller. The second floor had cassette windows, two of which were bricked up, though this was difficult to see under the creepers. The house had three chimneys, one at either end and one offset in the centre. The building may have been extended, leaving the chimney off-centre. A modern porch accommodated the main entrance, which had evidently been built in the second half of the 20th century.
- 7.2.2 There was a small outbuilding in the garden identified as the original laundry. Two freshwater tanks were located nearby collecting water from the roof. A modern conservatory had been built onto the back of the house. Two extensions can be seen from the back on either side of the building made of stone and mortar. The roof on the left (when facing the rear of the building) had been lifted in the 20th century.

8 ARTEFACTS

Hannah Russ, with a contribution from Natasha Powers

8.1 Introduction

- 8.1.1 All finds recovered (n=774) during excavations of five test pits forming part of the Living Levels 'Recapturing the Historic Landscape' Project are assessed here, with additional information for smalls finds. The test pits were located in Redwick and Whitson, on the Gwent Levels, Monmouthshire, and excavated in 2019 (LVL19, test pits 1, 2, 3 and 4) and 2021 (LVL21, test pit 9), under the direction of DigVentures Ltd. They contained a range of finds including pottery, ceramic building material, metal objects, human bone, animal bone and shell.
- 8.1.2 This assessment includes quantification of the assemblage, identification at species level where possible. In total, 774 items were recovered from the five test pits excavated as part of the Living Levels project (LVL19 and LVL21). The results are

presented in two sections: Finds, comprising a catalogue of the two small finds and 669 bulk artefacts weighing 5.25kg (Appendix B).

8.2 Methods

- 8.2.1 The artefacts were quantified by count and weight (g) and identified as far as possible to object type, function, and date of production, with reference to published standards and guidelines (Barclay *et al.* 2016; ClfA 2014). Clay pipes were quantified by count and weight and identified and dated according to Atkinson and Oswald (1969), Harward (2014), and Anon. (1994), and with reference to the National Pipe Archive website.
- 8.2.2 The human bone was visually examined and elements that conjoined, or that could be directly associated on the basis of morphology and preservation, were grouped. The author (Powers) visually examined the bone to provide a summary catalogue, establish the minimum number of individuals (MNI) and make recommendations on further requirements. An assessment was made of the state of preservation of fragment or associated group of fragments as 'good', 'moderate' or 'poor'. Age at death was estimated where possible from epiphyseal fusion and dental eruption data (Gustafson and Koch 1974;). Due to the absence of suitable morphological landmarks, estimation of sex was not possible. Similarly, no non-metric landmarks were present. Pathological changes in the dentition were recorded with reference to Hillson (1996).
- 8.2.3 The animal remains were identified to element, side and to as low a taxonomic level as possible using the author's reference collection and published and online identification guides (Hillson 2003; 2005), undertaken in line with published standards and guidelines (Baker and Worley 2019; ClfA 2014). Quantification for mammal remains used the diagnostic zone method as presented by Dobney and Rielly (1988). A taphonomic assessment of each fragment was undertaken, recording the presence and absence of cut and chop marks, burning and calcination, any evidence for animal activity (canid or rodent gnawing), and surface preservation; any other surface modifications of note were also recorded. At this stage, no attempt was made to sex any of the remains, or to measure any elements. Sheep (*Ovis aries*) and goat (*Capra hircus*) distinctions were also not considered. Fragments of bones that could be identified to element but not any specific species were grouped as far as possible using size and class or order categories. Results were recorded in an electronic proforma in Microsoft Excel.
- 8.2.4 This assessment has been completed with reference to a post-excavation assessment report for the site (Jago *et al.* 2021) and the current archaeological research frameworks for southeast Wales (Hughes 2003; Kisson 2003).

8.3 Results - Small Finds

Small Find 1, Test Pit 2, Context 2003 Count: 1 Weight: 107.3g

- 8.3.1 Small Find 1 (SF1) is a fragment of a triangular floor tile bearing the mark of the maker: GODWIN HEREFORD. The tile was produced by William Godwin and Son during the Victorian period, from the mid-19th century until the early 20th. The tile is half of a 4" (10.2cm) square in the form of a right-angles triangle, it is 0.5" (1.3cm) thick. The fabric is deep red in colour. These types of tiles were commonly used in the Victorian period

to create tiled entrance ways in churches, town halls, railway stations and homes. The design of these floors was often highly decorative, using a combination of patterned and plain, square and triangular tiles.

Small Find 2, Test Pit 1, Context 1003 Count: 1 Weight: 3.5g

- 8.3.2 Small Find 2 (SF2) is a bone handle from a dip pen, used for writing with ink from an ink well. The handle has been decorated using the turning method to create decorative elements as well as a textured surface for grip where the handle would have been held. The handle is complete, but the metal nib is missing; the point of nib attachment is intact and without any evidence for metal corrosion, suggesting the handle was discarded without a nib. This type of handle was made during the Edwardian and earlier part of the Victorian periods, from the beginning of the 19th century. Dip pens were largely replaced by fountain pens by the later 19th century.

8.4 Results – Human bone

Natasha Powers

- 8.4.1 A small collection of bone was recovered from test pits excavated in two locations in Redwick, Gwent investigated as part of the Living Levels project. Test Pits 1 and 2 were located in the area of a former Poorhouse, adjacent to the burial ground of the Church of St Thomas, and Test Pit 3 from an area immediately outside a former Pound. Fragments definite and possible human bone was identified by the zooarchaeologist during analysis: Test Pit 2 and Test Pit 3 produced human bone from subsoil contexts, 2002 and 3002 respectively.
- 8.4.2 The human bone consists of the incomplete and fragmentary remains of a minimum of one adult and one subadult. The preservation and relative robusticity of the bone suggests that it probably originates from two adults and a subadult, with the cranial elements much less robust than the fragments of darkly stained femoral shaft. There is little wear on the third molar tooth which may suggest that this adult was young when they died, however this age estimate should be treated with caution given the incomplete nature of the remains (Appendix E).

8.5 Results - Animal bone and shell

- 8.5.1 In total, 103 fragments of animal bone and mollusc shell were recovered from the five test pits, Appendix C. Identifiable bone included remains of cattle (*Bos taurus*), pig (*Sus domesticus*), sheep/goat (*Ovis aries/Capra hircus*) and frog/toad (*Anura*). Mollusc remains included a small fragment of an edible osier valve (*Ostrea edulis*), a near complete brown or white-lipped snail (*Cepaea* sp.) and the fragmentary remains of two garden snails (*Cornu aspersum*).

8.6 Discussion

- 8.6.1 The pottery in the assemblage, Appendix B provides evidence for possibly continued activity for over 500 years. The presence of many medieval green and green/yellow glazed pottery, and possibly some unglazed coarse wares, likely dating from approximately the 11th to 15/16th centuries, provides evidence for the earliest human activity at or close to Redwick and Whitson. It was not possible to identify vessel form for the majority of sherds due to their fragmentary condition; however, there were a

few base and rim sherds from large vessels. In addition, a range of post-medieval pottery was present including brown and yellow glazed wares, other red earthenwares with brown and brown-orange glazes; these vessels were mostly utilitarian in function (e.g. used for storage and food preparation in the kitchen); there was also a few sherds of possibly early imported salt-glazed stoneware, and highly decorated Slipware (17th to 18th century), with glossy yellow and brown glazes, for use at the dinner table. Finally, a large quantity of Victorian period pottery was present, including Mocha wares (19th to early 20th century) and white wares for used at the dining table (e.g. plates, sauces, cups etc.); these white wares were often highly decorated using transfer printing techniques, often with elaborate patterns in blue, but also other colours (e.g. brown).

- 8.6.2 The clay tobacco pipe represented activity between the late 16th and early 20th centuries, Appendix B. One bowl fragment with heel dated from 1680 to 1720. The heel bore a relief stamp that contained some visible letters, but the full stamp was not visible, and no comparable stamps could be located in published records (Anon. 1994; Atkinson and Oswald 1969; National Pipe Archive).
- 8.6.3 The small assemblage of human bone is most likely associated with the burial ground, representing material disturbed during the demolition and levelling of the Poor house. Whilst some breaks appeared relatively recent, the broken edges of the femur in particular were darkly stained, indicating that they had been exposed to the burial environment for some time. The differential preservation (specifically colour) may also indicate that the remains were originally deposited within different burial environments. The polishing of the cortex (outer surface) seen on some fragments may indicate past handling or movement of the fragments.
- 8.6.4 Test pit 3 was located at a distance of approximately 80m to the north of the Church of St Thomas. Redwick was subject to a serious flood in 1605 when an extreme tide devastated the Severn villages, and the height of the flood water is marked on the wall of the church (Townley 2004). Whilst it is theoretically possible that this could have caused disturbance to burials within the churchyard, the distance between that and Test Pit 3 means that this would seem an unlikely origin for the bone and its source therefore remains unknown.
- 8.6.5 The animal bone, Appendix C, is typical for archaeological sites in Britain dating between the Neolithic and modern periods, comprising three of the main domestic livestock species associated with meat production: cattle, pig and sheep/goat. The presence of chop-, cut- and saw-marks on some of the bones confirms them as the remains of food refuse. The saw marks indicate a mid-18th century or later date as the butcher's saw was not introduced until this time (e.g. Albarella 2003, 74; Cameron *et al.* 2019).

9 CONCLUSIONS AND RECOMMENDATIONS

- 9.1.1 The overall aim of the 2019 fieldwork at Redwick was to define and characterise the nature and preservation of the Poorhouse and the Pound through a programme of excavation. The earthwork and building survey aimed to characterise the sites and provide training in field recording. Aims and objectives refined from Living Levels: Recapturing the Historic Landscape; Tender for a Community Archaeology Project (Forster 2019) are referenced, where appropriate, in the following discussion.



9.2 Grangefield Farm earthwork survey

- 9.2.1 Eight participants were trained to conduct an earthwork survey and produce both digital and paper plans of the site. They successfully recorded the nature of Grangefield identifying the double moat. By the end of this training most of the participants were able to understand and record the archaeology independently (Aim 4). In doing so the participants recorded a site largely unchanged since the 1994 survey (Rippon 1996). There were little to no signs of erosion which appeared to be mainly the result of a very conscientious landowner. The site appeared to have not been ploughed since the survey and only been used to pasture. The only signs of erosion were at the access point to the site where cattle had left the concrete track into the field, though this was minimal.
- 9.2.2 A test pitting activity would enhance the overall interpretation of the site. Further archaeological investigation may be able to address the deficits in understanding the site helping fulfil any outstanding research objectives (Q11).

9.3 Test Pitting in Redwick Village

- 9.3.1 The excavations within Redwick village uncovered a large amount of medieval to modern archaeology within the small areas investigated. Test Pits 1 and 2 targeted the Poorhouse and identified a floor surface and debris from the building's demolition (Q2). Test Pit 3 targeted a small area outside the Pound and revealed that the medieval land surface was only 0.3m below the current land surface (Q1, Q3). Test Pit 4 successfully cleared a 3m x 3m area from within the Pound and a 3D model was produced that can be viewed on the project microsite (Q2).

9.4 Building survey

- 9.4.1 Nine participants partook in the building survey training. They successfully identified the key features in both Redwick bus shelter and at Brick House. All participants were confident in describing buildings by the end of the exercise, and were able to do this independently (Aim 4).

9.5 Test pitting in Whitson Village

- 9.5.1 The test pit at Whitson village was excavated to a depth of 0.3m and uncovered a large amount of material including 115 sherds of pottery. The pottery predominately dated to the post-medieval with some potential later medieval green glazed sherds (Q1, Q4, Q5). There is good potential of surviving material and further excavation could recover further good dating evidence.
- 9.5.2 Wessex (2011) identified a number of ditched enclosures along the eastern edge of the common through LiDAR, a geophysical survey could provide additional granularity and identify further features not visible on LiDAR. A wide area could be surveyed including the common to the east and west of Whitson Common Rd, the unoccupied plots towards the northern end of the village along the eastern edge of the common and in the fields behind the buildings along the eastern edge of the common (Q11).

10 BIBLIOGRAPHY

A Research Framework for the Archaeology of Wales, 2017. Published by ClfA Wales/Cymru. Accessed October 2019. <https://www.archaeoleg.org.uk/>

Barr, K. and Bell, M. 2017. Neolithic and Bronze Age ungulate footprint-tracks of the Severn Estuary: species, age, identification and interpretation of husbandry practices.

Bell, Martin. 2013 The Bronze Age in the Severn Estuary. Council for British Archaeology. British Geological Survey. Accessed October 2019. <http://www.bgs.ac.uk/GeolIndex/>

British Geological Survey Geology of Britain viewer: <http://mapapps.bgs.ac.uk>

Cadw, 1998. Landscapes of Historic Interest in Wales Part 2.1: Landscapes of Historic Interest. Cadw: Welsh Historic Monuments.

Chartered Institute for Archaeologists (CifA), 2014. Standard and guidance for an archaeological watching brief.

Chartered Institute for Archaeologists (CifA), 2014. Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives.

Foster, M. 2019. Living Levels: Recapturing the Historic Landscape: Tender for a Community Archaeology Project.

National Panel for Archaeological Archives in Wales. 2017. The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales.

Newport City Council. 2002. Redwick Conservation Area Appraisal. Planning Services, Newport City Council.

Rippon, S. 1996. The Gwent Levels: The Evolution of a Wetland Landscape. Council for British Archaeology.

The Welsh Archaeological Trusts. July 2018. Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs).

Welsh Government. 2017. Technical Advice note (TAN) 24: The Historic Environment.

Welsh Government. December 2018. Planning Policy Wales: Edition 10.

Wilkins, B. 2019a. A theory of change and evaluative framework for measuring the social impact of public participation in archaeology. *European Journal of Post-Classical Archaeologies* 9: 77-100.

Wilkins, B. 2019. The Loss of Innocence 2.0 – a ‘new New Archaeology’ of public value. *The Archaeologist* 108: 30-33.

Wilkins, B., 2020. Designing a Collaborative Peer-to-peer System for Archaeology: The DigVentures Platform. *Journal of Computer Applications in Archaeology* 3(1), 33–50.



Appendices

Appendix A: Context descriptions

Trench 1	Dimensions:	1 x 1m						
	Orientation:	N/A						
	Reason for trench:	Test pit targeting rubble mound						
Context	Description	Type	Interpretation	Length (m)	Width (m)	Depth (m)	Feature	Link
1001	Friable mid brown sandy silt with frequent small to medium angular cobbles	Layer	Topsoil	1.00	1.00	0.10	-	https://digventures.com/living-levels/ddt/cxt/LVL_1001
1002	Medium mid brown sandy silt with very frequent small to medium angular cobbles and significant amount of mortar	Layer	Edge of rubble/demolition layer possibly from poorhouse	0.56	0.46	0.10	-	https://digventures.com/living-levels/ddt/cxt/LVL_1002
1003	Medium mid brown sandy silt with occasional small angular pebbles and charcoal flecks	Layer	Subsoil	1.00	1.00	0.07	-	https://digventures.com/living-levels/ddt/cxt/LVL_1003
1004	Firm mid brown clayey sand with occasional small angular pebbles. Moderately rooted and occasional charcoal. Split into two spits (10-35cm and 35-40cm)	Layer	Debris discarded possibly poorhouse into backyard	1.00	1.00	0.27	-	https://digventures.com/living-levels/ddt/cxt/LVL_1004

Trench 2	Dimensions:	1 x 1m						
	Orientation:	N/A						
	Reason for trench:	Test pit targeting area behind poor house						
Context	Description	Type	Interpretation	Length (m)	Width (m)	Depth (m)	Feature	Link
2001	Friable mid greyish brown silty sand with sub angular poorly sorted stones	Layer	Topsoil	1.00	1.00	0.07	-	https://digventures.com/living-levels/ddt/cxt/LVL_2001
2002	Firm mid greyish brown sandy clay with frequent inclusions of rubble, medium sub angular stone and rare angular slate	Layer	Subsoil	1.00	1.00	0.08	-	https://digventures.com/living-levels/ddt/cxt/LVL_2002
-2003	Very firm mid greyish brown silty clay with occasional charcoal and moderate mortar	Layer	Alluvium deposits from flooding events	1.00	1.00	0.16	-	https://digventures.com/living-levels/ddt/cxt/LVL_2003
2004	Firm mid greyish brown sandy silt, rare stones but largely clean	Layer	Debris left on possible floor surface	1.00	1.00	0.03	-	https://digventures.com/living-levels/ddt/cxt/LVL_2004
2005	Very hard mid greyish brown silty clay, not excavated but looked very clean	Layer	Possible floor surface	1.00	1.00	-	-	https://digventures.com/living-levels/ddt/cxt/LVL_2005

Trench 3	Dimensions:	1 x 1m						
	Orientation:	N/A						
	Reason for trench:	Test pit targeting are outside the Pound						
Context	Description	Type	Interpretation	Length (m)	Width (m)	Depth (m)	Feature	Link
3001	Friable dark greyish brown humified silt with 5% charcoal flecks and 1% angular limestone pebbles	Layer	Topsoil	1.00	1.00	0.14	-	https://digventures.com/living-levels/ddt/cxt/LVL_3001
3002	Firm dark greyish brown clayey silt with 5% angular limestone cobbles. Heavily rooted at interface with 3001	Layer	Subsoil	1.00	1.00	0.16	-	https://digventures.com/living-levels/ddt/cxt/LVL_3002
3003	Firm light yellowish grey clayey silt with 5% charcoal flecks and 5% mortar flecks. Not excavated	Layer	Medieval land surface	1.00	1.00	-	-	https://digventures.com/living-levels/ddt/cxt/LVL_3003



Trench 4	Dimensions:	3 x 3m						
	Orientation:	N/A						
	Reason for trench:	Test pit investigating the Pound						
Context	Description	Type	Interpretation	Length (m)	Width (m)	Depth (m)	Feature	Link
4001	Friable dark greyish brown humified silt with 5% CBM frags	Layer	Topsoil/post abandonment accumulation	1.00	1.00	0.05	-	https://digventures.com/living-levels/ddt/cxt/LVL_4001
4002	Rough limestone stones ranging in size from 0.10m x 0.10-0.30m. Irregular/unbonded	Layer	Floor surface inside the Pound, likely used for storing livestock	3.00	3.00	-	-	https://digventures.com/living-levels/ddt/cxt/LVL_4002



Appendix B: Finds catalogue

Trench	Context	Material Type	Quantity	Weight (g)	Notes
1	1001	Shell	4	2	
1	1001	Pot	9	50	
1	1001	Metal	4	16	Objects, materials not specified
1	1001	Bone	5	2	?avian
1	1001	Bone	1	1	?tooth
1	1001	Ceramic Building Material	10	278	
1	1001	Clay Tobacco Pipe	1	2	
1	1002	Pot	5	12	
1	1002	Animal Bone	1	11	
1	1002	Ceramic Building Material	4	135	
1	1003	Clay Tobacco Pipe	5	80	
1	1003	Ceramic Building Material	4	99	
1	1003	Glass	1	2	
1	1003	Pot	28	51	Glazed
1	1003	Bone	1	5	SF2 – decorated bone bobbin C19th
1	1004	Glass	2	4	
1	1004	Clay Tobacco Pipe	1	3	
1	1004	Animal Bone	5	36	
1	1004	Ceramic Building Material	5	35	
1	1004	Pot	7	26	Glazed
1	1004	Bone	1	2	Burnt
1	1004	Metal	1	2	Object, material not specified
1	1004	Clay Tobacco Pipe	3	5	Stems



Trench	Context	Material Type	Quantity	Weight (g)	Notes
1	1004	Glass	1	8	
1	1004	Pot	27	52	Glazed
1	1004	Pot	13	17	Unglazed
1	1004	Ceramic Building Material	6	63	
1	1004	Clay Tobacco Pipe	7	14	
1	1004	Animal Bone	2	15	Teeth
1	1004	Glass	2	12	
1	1004	Pot	1	5	Unglazed
1	1004	Slag	2	41	
1	1004	Pot	58	117	Glazed
2	2001	Animal Bone	3	16	
2	2001	Metal	1	12	Object, material not specified
2	2001	Pot	3	18	Glazed
2	2002	Other	6	1	Industrial waste
2	2002	Ceramic Building Material	14	108	SF1 – decorated floor tile
2	2002	Pot	4	33	Unglazed
2	2002	Pot	22	53	Glazed
2	2002	Clay Tobacco Pipe	3	7	
2	2002	Ferrous Object	8	50	
2	2002	Metal	2	2	Objects, materials not specified
2	2002	Animal Bone	30	150	Includes 4 teeth
2	2003	Glass	4	4	
2	2003	Animal Bone	11	34	
2	2003	Ferrous Object	3	18	
2	2003	Glass	12	21	Glass bead

Trench	Context	Material Type	Quantity	Weight (g)	Notes
2	2003	Other	1	6	Charcoal
2	2003	Shell	1	<0	
2	2003	Clay Tobacco Pipe	20	19	
2	2003	Ceramic Building Material	14	56	
2	2003	Pot	10	11	Unglazed
2	2003	Pot	72	151	Glazed
2	2004	Pot	3	12	Glazed
2	2004	Ceramic Building Material	2	7	
3	3001	Metal	70	278	Objects, materials not specified
3	3001	Animal Bone	1	7	
3	3001	Pot	2	68	Glazed
3	3001	Slag	3	4	
3	3001	Other	15	5	Charcoal
3	3001	Metal	13	10	Objects, materials not specified
3	3001	Ceramic Building Material	26	626	
3	3002	Animal Bone	6	101	
3	3002	Metal	13	24	Objects, materials not specified
3	3002	Other	3	3	Charcoal
3	3002	Clay Tobacco Pipe	1	2	
3	3002	Pot	10	61	Glazed
3	3002	Ceramic Building Material	19	590	
4	4001	Metal	2	54	Objects, materials not specified
4	4001	Animal Bone	6	23	
4	4001	Stone	2	3	
4	4001	Pot	13	52	Glazed

Trench	Context	Material Type	Quantity	Weight (g)	Notes
4	4001	Ceramic Building Material	20	122	
4	4001	Ferrous Object	5	166	
4	4001	Ceramic Building Material	6	1070	



Appendix C: Summary of bulk finds

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
1	1001	Ceramic Building Material	10	278	1X large concrete fragment; 1X modern roof tile; 1X stone; 7X brick/tile fragments	
		Pot	9	50	Blue and white transfer print ware (19-20C); plain white and cream wares (19-20C); Mocha ware (yellow and white, 19-20C); Medieval green/yellow glazed pottery (11-15/16C)	Medieval, green/yellow mottled glaze (11-15/16C)
		Stone	1	1.5	Stone 'slate' pencil fragment. Victorian	
	1002	Ceramic Building Material	4	135	1X modern brick fragment (19-20C); 3 small brick/tile fragments	
		Pot	5	12	White ware with pink/purple and gold decoration (19-20C); White ware chips (19-20C); Yellow glazed coarse ware (17-19C)	Decorated sherds
	1003	Ceramic Building Material	4	99	1X large modern tile fragment; 3 brick/tile chips	
		Clay Tobacco Pipe	6	8	Plain stem fragments - 17th - 19th centuries	
		Glass	1	2	Aqua/clear window? Glass - some iridescence	
		Pot	28	51	White wares (19-20C); Blue and white transfer print wares (19-20C); Mocha ware (19-20C); Brown glaze (17-19/20C); Red earthenware with brown-orange glaze (18-19/20C)	
	1004	Ceramic Building Material	5	35	2X stone; tile fragments	

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
1	1004	Ceramic Building Material	6	63	3X brick/tile fragments; 3X pot sherds, including 1X Medieval green glazed (11-15/16C); others could be Medieval	Medieval pottery present
		Clay Tobacco Pipe	1	3	Plain stem fragment - likely 19th century	
		Clay Tobacco Pipe	3	5	Plain stem fragments - likely 19th century	
		Clay Tobacco Pipe	7	14	6 plain stem fragments - 17th - 19th centuries Bowl fragment with partial heel with relief stamp - 1680-1720	
		Glass	2	4	1X Green/brown vessel; 1X clear window? Both iridescent	
		Glass	1	8	Mid-Green bottle	
		Glass	2	12	2X Dark green bottle (wine bottle?)	
		Metal	1	2	Modern nail head	
		Pot	7	26	White wares (19-20C); Yellow glazed coarse ware (17-19C); 1X base Medieval green/brown glazed ware (11-15/16C); 1X base Medieval brown/green glazed ware (11-15/16C); Brown glazed ware (17-19/20C)	At least two Medieval vessels
		Pot	27	52	White wares: blue and brown transfer print wares (19-20C) and sponge wares (19-20C); Mocha ware (19-20C); Brown glazed wares (17-19/20C); Red earthenware with brown-orange glaze (18-20C); 3X Slip wares (17-18C); ?Medieval brown/green glazed ware? (11-15/16C)	Possible Medieval sherd; highly decorated Slip ware sherds (17-18C)
		Pot	13	17	Chips' of brick/tile and/or pottery	

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
1	1004	Pot	1	5	Medieval or Post-Medieval? Unglazed body sherd	
		Pot	58	117	White wares: blue transfer print, painted and sponge decorated sherds (19-20C); Mocha ware (19-20C); Red earthenware with brown-orange glaze (18-19/20C); Brown/yellow glazed ware (17-19/20C, looks early); 8X sherds of Slipware (17-18C)	Post-medieval glazed wares; highly decorated Slipware (17-18C)
		Slag	2	41	2X heavily corroded iron objects rather than slag	
2	2001	Metal	1	12	1X Iron nail	
		Pot	3	18	Plain and blue painted White ware sherds (19-20C)	
	2002	Ceramic Building Material	14	108	Fragments of modern tile and brick; 1x small stone; 2x pottery, poss Medieval/post-Medieval?	
		Clay Tobacco Pipe	3	7	2 plain stem fragments - 17th - 19th centuries Stem fragment with yellow/brown glaze and partial heel - late 16th to 17th century	
		Ferrous Object	8	50	Stem fragment with yellow/brown glaze and partial heel - late 16th to 17th century	
		Metal	2	2	1X modern steel nail; 1X aluminium ring-pull from soft drink can	
		Pot	4	33	Horticultural wares (plant pots) (19-20C)	
		Pot	22	53	White wares: plain and blue transfer print and one sherd with black glaze (19-20C); Mocha ware (19-20C); Brown glazed ware (17-18C); Yellow glazed ware (17-19C); Medieval green glazed ware (11-15/16C); Salt-glazed handle (could be early, 16-17C?). Plastic fragment	Medieval and post-medieval sherds present

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
2	2003	Ceramic Building Material	14	56	12X brick/tile fragments; 2x stone	
		Clay Tobacco Pipe	20	19	16 plain stem fragments - 17th - 19th centuries 2 plain bowl fragments - 17th - 19th centuries Plain stem fragment with partial heel - 17th century Plain stem fragment with partial heel - 17th - 19th centuries	
		Ferrous Object	3	18	3X iron fragments, 2 look like nails	
		Glass	4	4	4X aqua/clear glass - very fine and thin with some iridescence	
		Glass	12	21	Vessel glass: clear, aqua and pale green; poss 2x clear window (very thin?); mid-green bottle. Fragment of amber coloured glass bead? Twisted	
		Pot	10	11	Small fragments of coarse pottery and CBM	
		Pot	72	151	White wares: blue transfer print, painted and sponge decorated sherds (19-20C); Brown and pink glazed (19-20C); Mocha ware (19-20C); Cream stoneware (18-20C); Mocha ware (19-20C); Brown and brown/yellow glazed ware (17-19/20C, but looks early, 17-18C); 2X Medieval green glazed ware (11-15/16C)	Medieval and post-medieval sherds present
	2004	Ceramic Building Material	2	7	Pottery or CBM fragments?	
		Pot	3	12	Glazed	

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
3	3001	Ceramic Building Material	26	626	Mostly modern roof tiles; 2X brick fragments; 14X brick/tile fragments	
		Metal	70	278	1X ?bicycle wheel hub, heavily corroded; the remainder look like mostly small iron tacks and nails	
		Metal	13	10	Mostly iron nail fragments	
		Pot	2	68	Stone ware waste pipe (19-20C); White ware with blue decoration (19-20C)	
		Slag	3	4	Heavily corroded iron objects rather than slag	
	3002	Ceramic Building Material	19	590	Mostly roof tiles/pan tiles (17-20C?); brick fragments	Medieval and Slipware present
		Clay Tobacco Pipe	1	2	Plain stem fragment - likely 19th century	
		Metal	13	24	Mostly fragments of iron nails, 1X rectangular-shaft, others are modern machine made; 1X uncertain iron fragment	
		Pot	10	61	White wares: blue transfer print, painted and sponge decorated sherds (19-20C); Red earthenware with brown/orange glaze (18-19/20C); Slip ware 17-18C; 1X Medieval green glazed ware (11-15/16C)	
	3003	Pot	1	2	Medieval green glaze (11-15/16C)	
4	4001	Ceramic Building Material	20	122	5X pan tiles (17C onwards); 15X small fragments brick/tile	
4	4001	Ceramic Building Material	6	1070	6X large fragments of pan tiles (17C onwards)	

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
		Ferrous Object	5	166	2X iron rod? Fragments; 1X flat iron? Object; 1X iron object; 1X iron/copper coated nail	
		Metal	2	54	1X Two-pence coin, 1975; 1X modern steel wing-nut	
		Pot	13	52	White wares: mostly plain, one decorated (19-20C); Brown salt-glazed stoneware (16/17-18/19C); Green glazed medieval (11-15/16C); Yellow glazed medieval/post-med?	
9	9001	Ceramic Building Material	1	9	Brick/tile	
		Clay Tobacco Pipe	1	1	Plain bowl fragment - 17th - 19th centuries	
		Pot	1	29	Medieval green glazed (11-15/16C)	
		Pot	9	14	Mostly White wares including: plain, blue and brown transfer print. 1X fragment of shale/coal?? And 1X fragment of clay tobacco pipe bowl?	
		Stone	2	28	Natural? Burnt stone?	
	9002	Clay Tobacco Pipe	1	1	Plain stem fragment - likely 19th - early 20th century	
		Ferrous Object	1	3	Iron object, possibly a nail shaft?	
9	9002	Glass	3	5	Green bottle glass	
9	9003	Ceramic Building Material	3	12	2X brick/tile fragments. 1X pot sherd	s

Test Pit	Context	Material Type	QTY	Weight (g)	Description	Highlights
		Ferrous Object	1	3		
		Pot	6	22	1X White ware (19-20C); 2X coarse wares, Medieval/post-Med?; 2X Medieval green glazed ware (11-15/16C). 1X burnt bone	
	9004	Ceramic Building Material	6	37	2X brick/tile fragments. Pottery present: 1X Medieval green glazed ware (11-15/16C); 1X Brown glazed ware 17-19/20C, but looks early)	
		Daub	1	8	Fragment of daub with plant impressions	
		Ferrous Object	1	6	Iron nail	
		Glass	10	48	Aqua/clear window? Glass - some iridescence	
		Other	2	14	2X fragments of white plaster	
		Pot	9	115	6X Medieval green glazed ware, multiple vessels (1x large base) (11-15/16C); Yellow/black glazed ware?; 1X stoneware (18-20C); 2X White ware, one plain one blue transfer print (19-20C)	Predominately post medieval and some potential later medieval green glazed sherds
	Unstrat	Glass	6	148	5X dark green (wine) bottle neck and shoulder fragments (19-20C); 1X aqua bottle kick-up base (19C?)	
Totals			669	5254.5		

Appendix D: Summary of animal remains

Test Pit	Vertebrates							Molluscs			Total
	Cattle	Pig	Sheep/goat	Large mammal	Large/medium mammal	Medium mammal	Frog/toad	European oyster	White/brown lipped snail	Garden snail	
1	2		6			4				5	17
2	3	6	1	4	8	3		1			26
3	2				4						6
4				2		3	1				6
9	6	8		11	12	10			1		48
Total	13	14	7	17	24	20	1	1	1	5	103

Appendix E: Summary of human remains

Trench	Context	Description	Preservation	Pathology	Age/sex estimation	MNI
3	3002	Fragment of unsided parietal bone (skull) 30mm x 23 mm	Moderate	None	Undetermined	1
2	2002	Right maxillary central incisor	Good	Slight supra-gingival calculus deposits (mineralised plaque)	>10 years	2
		Right mandibular fragment (M1-M3) with third permanent molar	Good – some polishing to mandibular ramus	Slight supra-gingival calculus deposits (mineralised plaque)	Adult (>20 years)	
		Mid hand phalanx	Good	None	Adult or older juvenile (fusion complete)	
		4x fragments of unsided femoral shaft. Each fragment c 25–30mm long. Two conjoining	Moderate – some polishing of one shaft fragment, exterior cortex. Dark staining indicates breaks are not recent	None	Adult – robust linea aspera	

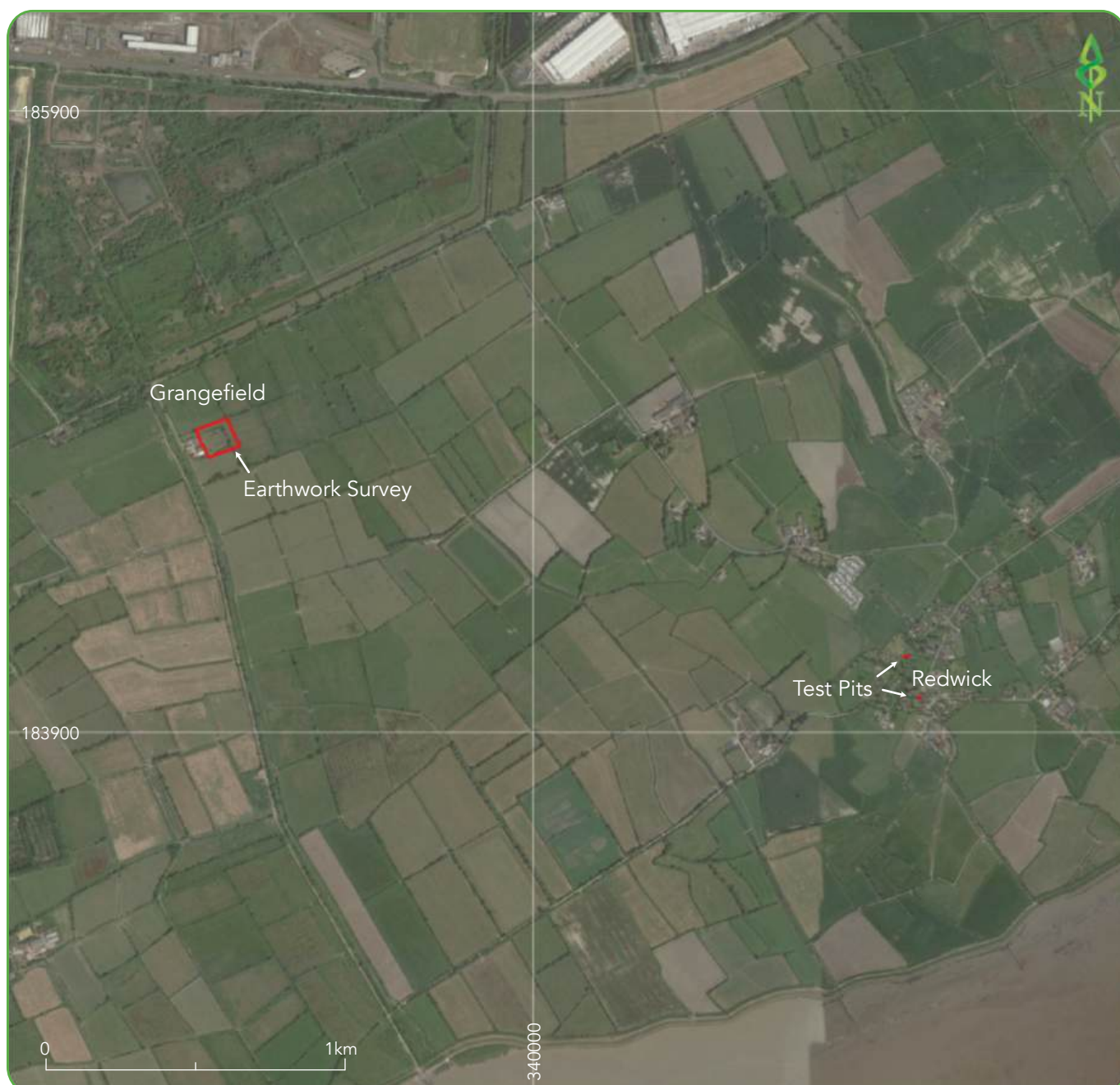
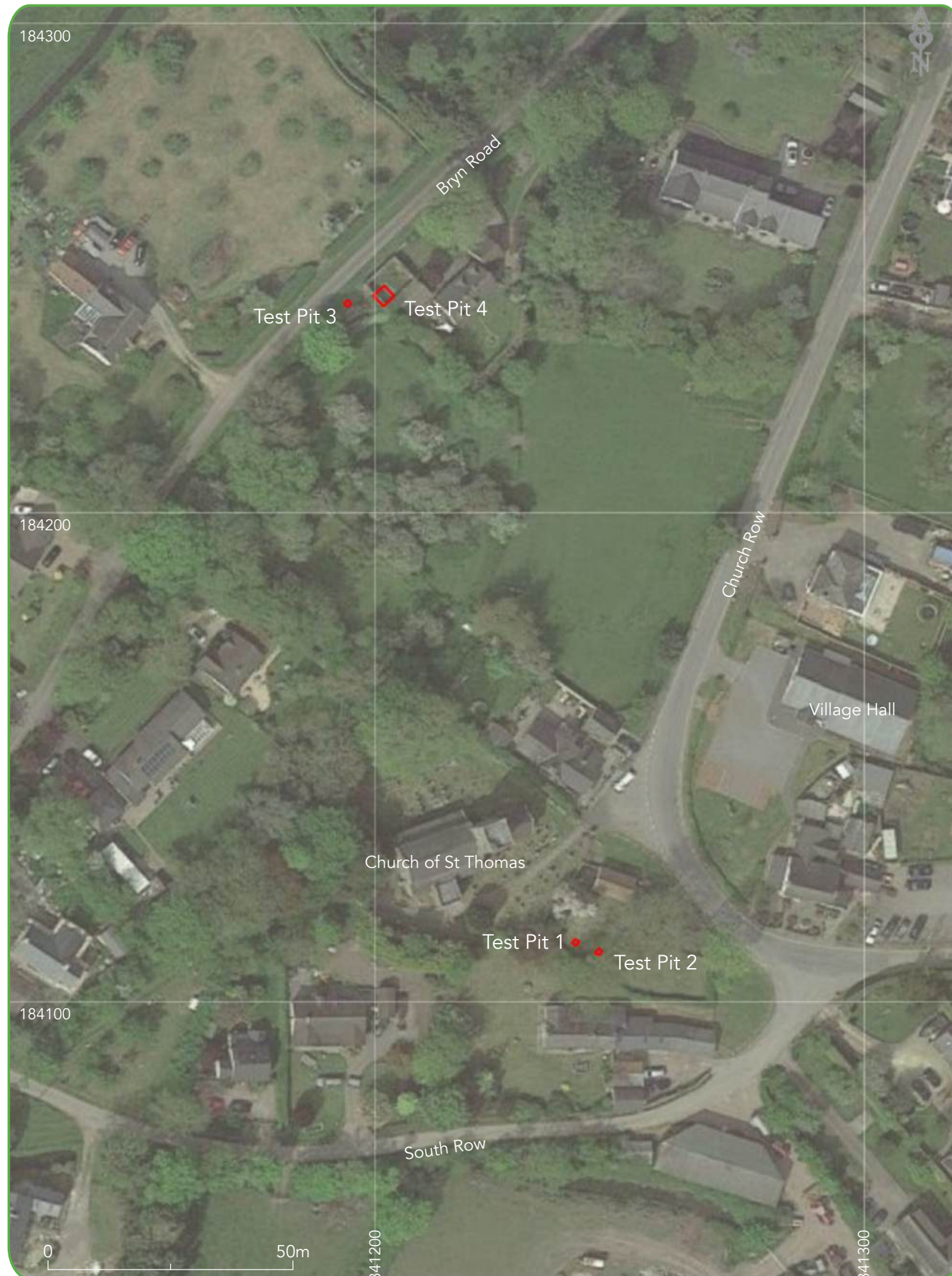
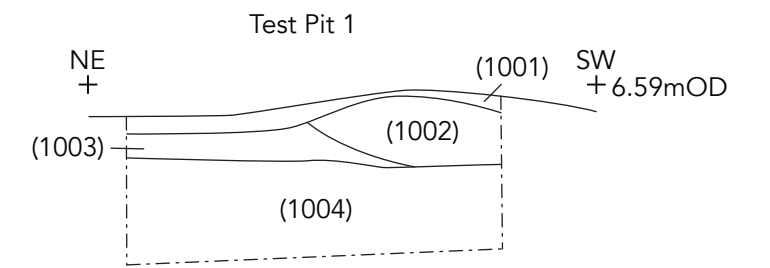
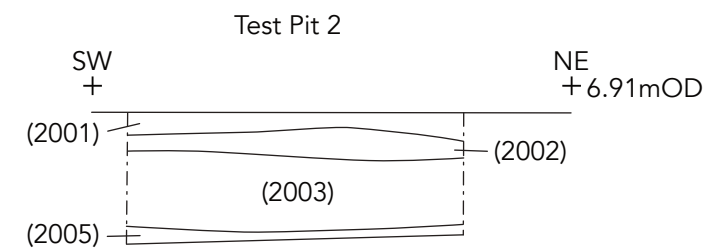


Figure 1. 2019 test pitting and earthwork survey locations



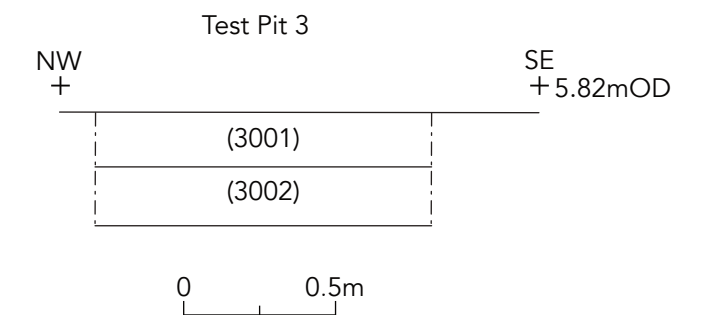
Test Pit 1 northwest-facing section, 1m scale



Test Pit 2 southeast-facing section, 1m scale



Test Pit 3, 1m scales



Test Pit 4 floor surface (4002) inside the Pound, 1m scales looking southwest

Figure 2. 2019 test pit results

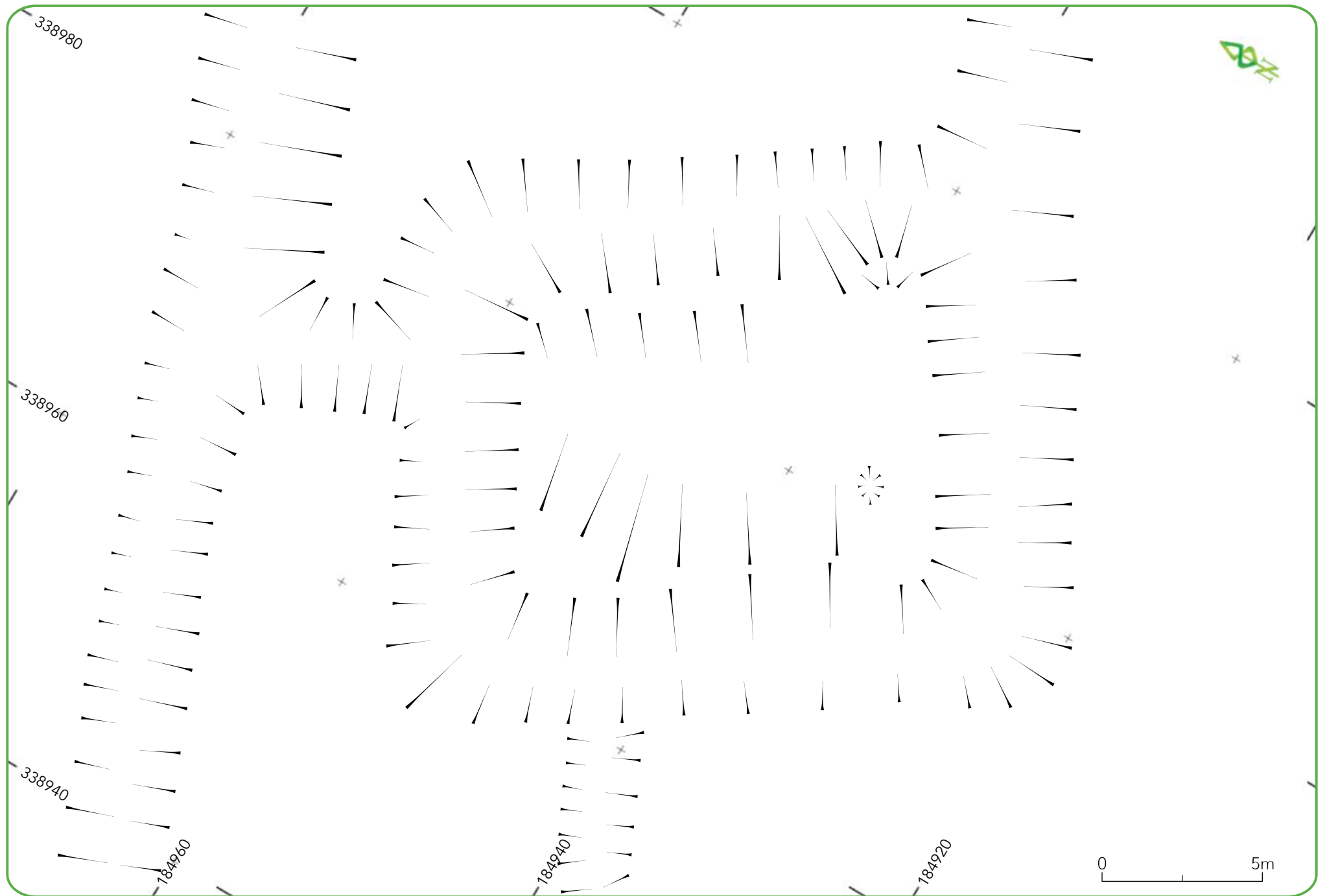
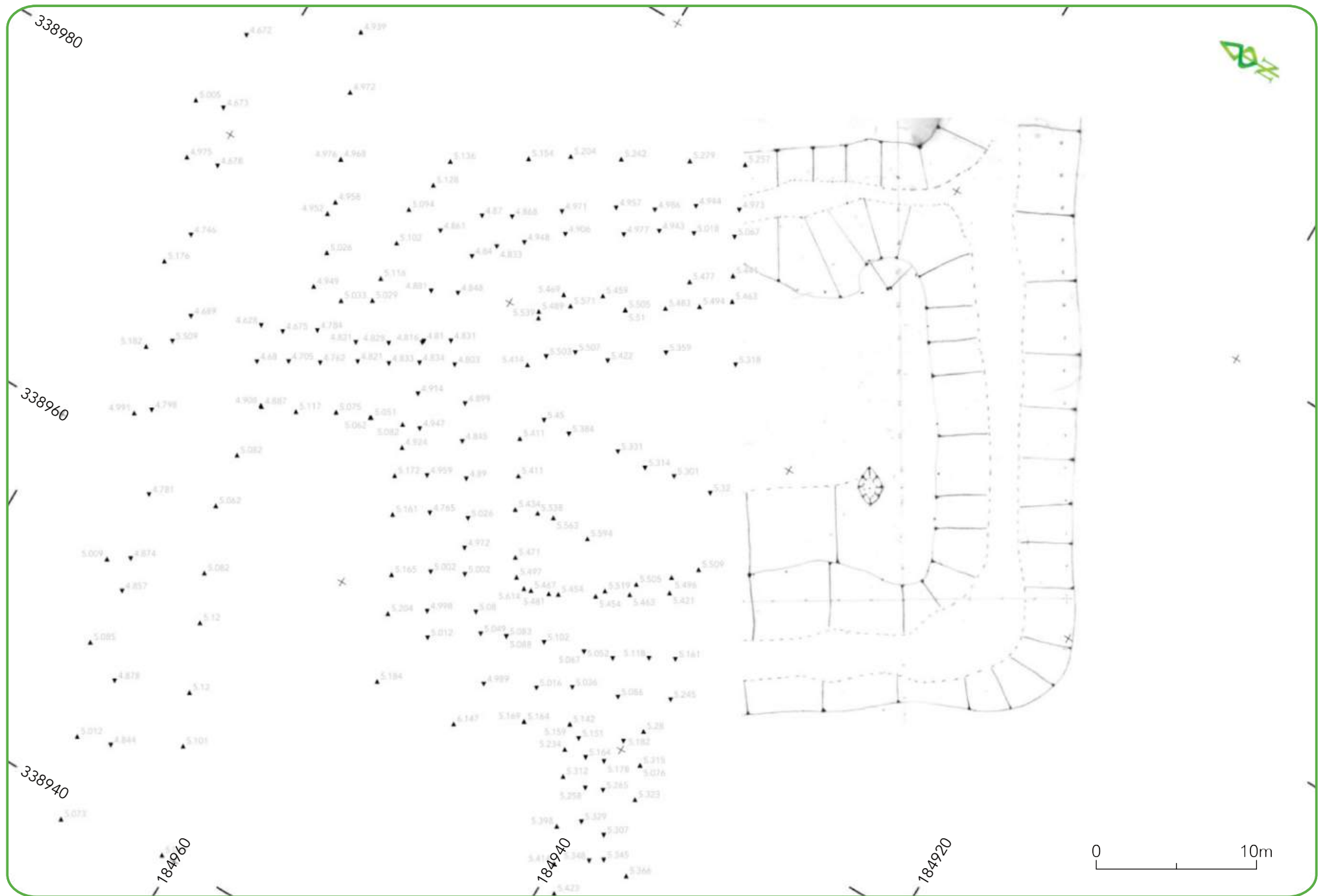
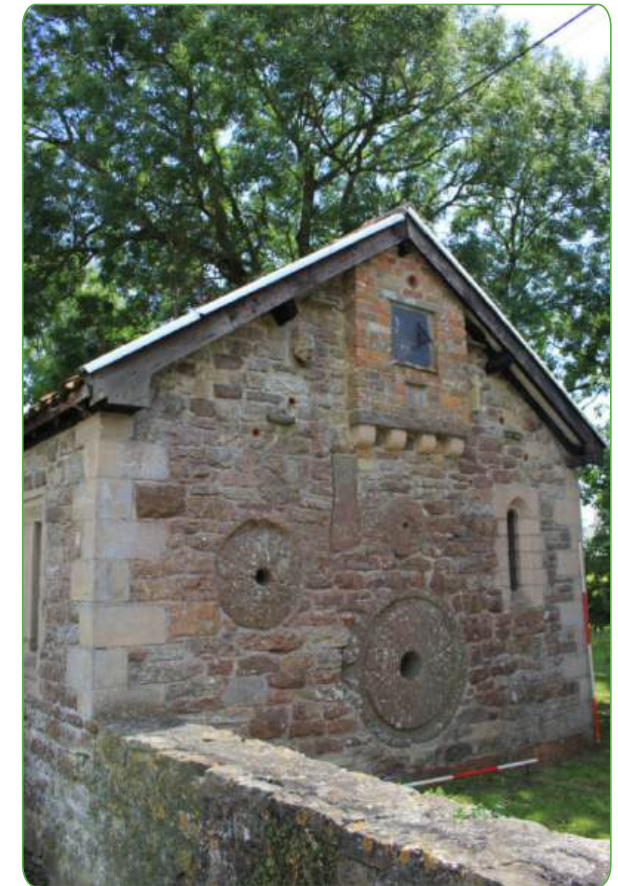


Figure 3. Grangefield Farm earthwork survey



Front elevation, looking south, 2m scales



Side elevation, looking southeast, 2m scales



Side elevation, looking west, 2m scales



Rear elevation, looking north, 2m scales

Figure 4. Bus shelter building survey



Front elevation, 2m scale



Side elevation, 2m scale

Figure 5. Brick House building survey