Elwick Village Green Excavations

The Elwick Village Atlas Project

Hartlepool

2013

TEES ARCHAEOLOGY

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Tees Archaeology 2014

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Acknowledgements

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The project was based in the Women's Institute Hall and we would like to thank them for their hospitality.

Brian Footitt and Minna Ireland of Elwick Village Atlas provided excellent support throughout.

We would also like to thank all of those volunteers who took part and created such a positive and enthusiastic atmosphere. These were Margaret Ashton, Anthony Bonner, Graham Brown, David Dance, Lesley Dunlop, Brian Footitt, Victoria Harrison, Penny Heslop, Barbara Irving, Lisa and Mark Jobson, Chris McLoughlin, Jo and Ron Norman, Rachel Orange, Helen and Peter Taylor, Robert Warriner, Lorraine Watkinson, Minna West, Bob Williams, Rob Wilson.

David Errickssson wrote the excavation descriptions and produced the illustrations and Jenny Hillier kindly commented on the text. The Geophysical Surveys were provided by Archaeological Services, University of Durham

Introduction

The excavation at Elwick Village was funded by the Heritage Lottery through the Limestone Landscapes project. The event was part of the Council for British Archaeology's Festival of Archaeology 2013 (www.archaeologyfestival.org.uk). Tees Archaeology worked with local people and volunteers to investigate the history of Elwick.

Elwick Village, Hartlepool (NZ 46199 32279) has a current population of around 700. The village has two rows of properties either side of a village green that appears to be the result of deliberate planning (Fig 1). This was probably formed after the Norman Conquest where scattered settlements have been brought together to form an area of settlement. In the village, the Church of St Peter dates from about 1200 AD and has a tower that was added about 1350 AD. On the outskirts of the village are medieval fishponds built for the lord of the manor.

Geophysical Survey

As part of the project a Geophysical Survey was carried out on the village green. The geophysical survey consisted of two exploratory techniques: magnetic (Fig 2) and resistivity (Fig 3). Subsequently, the archaeological investigation was directly influenced by the results obtained.

Purpose and Methodology of the Project

The purpose of the present project was to work with local people and volunteers to explore the wildlife, archaeology and history of the village of Elwick. The Elwick Village Atlas Project was aimed at exploring the medieval history of the village through fieldnames, study of earthworks and targeted excavation. Specifically, the excavation investigated the village green to gather information to enhance our understanding of the medieval village and any other possible settlements.

The investigation took the form of a number of trenches opened across the village green.

All finds have been catalogued on a spreadsheet and this has been placed in the archive for the project. Tees Archaeology at Sir William Gray House, Clarence Road, Hartlepool, holds the finds and the archive. The site code for the archive is EVG 13.

Excavation Descriptions

The excavations took place over three days from 18th July to 20th July 2013. Five trenches; A, B, C, D, and E were opened by hand (Fig 4). The excavations were directed by Robin Daniels and supervised by David Errickson with 21 volunteers providing 33.5 days of work. The excavation was achieved in hot, dry weather.

Numbers in round brackets are context numbers of layers or fills, numbers in square brackets are cut features such as ditches or postholes.

Trench A (Figs 4 - 9)

Trench A was sited on the northwest part of the green and was 5.5m from north to south and 1m wide. The geophysical surveys in this area showed two solid lines and the purpose of the trench was to explore these anomalies (Figs 2 & 3).

The Air Raid Shelter

The air raid shelter was set into the east-west slope of the village green with an open trench dug out and the shelter built into this. Local people remember entering the shelter from the road (western side).

Although only partially excavated, both the south (A05) and north walls (A06) were uncovered. The walls were made of poured concrete with a width of approximately 0.30m. Timber shuttering had been constructed for the concrete to be poured into and the ghosts of this were visible in the soil and as marks on the concrete. A piece of corrugated iron (A07) was recovered from the internal side

of the north wall (A06). The corrugated iron (A07) had a nail attaching it to the internal north wall and this was probably part of a corrugated iron roof.

Following the construction of the air raid shelter, a large bank of light brown sandy clay with large stone inclusions (A03) was placed against the exterior. This bank would have improved protection against shrapnel and bomb blasts as well as strengthening the structure.

A visual inspection of the turf showed parching of the grass that indicated the continuation of the walls of the shelter (Fig 9). Using this information it was possible to determine the length of the air raid shelter at around 13m (12.7m internally) with an approximate width of 2.50m (2.2m internally).

Demolition of the Air Raid Shelter

Once the air raid shelter went out of use, the roof was removed and the shelter was backfilled with light brown sandy clay with some large stone inclusions (A04). The site is now covered with a layer of turf (A01).

Finds

		A01	**A02**
Glass Fragments	Brown	10	
	Clear	2	
Ceramic	Brick		7
Ferrous			7 (assortment of nails and window fasteners)
Wood			2 pieces of shuttering
Miscellaneous		Coal, foil and modern plastic materials	1 bottle stopper ball

The finds were generally associated with construction of the air raid shelter and recent activities upon the village green.

Discussion

The Geophysical Survey clearly indicated the presence of a substantial structure in this area and local people remembered an air raid shelter in this approximate location. Once the position of the walls had been confirmed by excavation it was very clear that they were showing as parch marks in the grass. Once understood this structure is still very visible on the village green.

Trench B (Figs 4, 10, 11)

Trench B was sited to the southeast of trench A. The magnetic survey showed several anomalies on this part of the village green (Fig 2). Therefore, a 2m x 2m trench was opened to explore these.

First Phase of Activity: Hollow Way

The layer at the limit of excavation comprised a hard, light grey - brown stony surface with irregular shaped stones that varied in size (B03). This surface was cut through by a long hollow [B05] running east – west. This has been interpreted as one edge of a hollow way - a routeway - running the length of the green.

Second Phase of Activity: Infill of the Hollow Way

The hollow way was backfilled with a friable grey - brown soil (B04). A build up of dark-medium loamy brown soil (B02) sits upon this layer and is directly below the present turf layer (B01).

Finds

		B01	B02	B03	Bo4
Bone		2	5		5
Ceramic Material	Clay pipe		5		19
	Brick	2	30		24
	Bone China		17		18
	Porcelain		9		22
	Field Drain				
	Red Earthenware		2		1
			2	1	5
Coin		9	3		
Slate			Pencil		
Glass	Brown	9	18		
	Clear	2			13
	Green	18	1		
Ferrous		4		2 Nails	5 fragments
Misc		Modern hair pin, Foil	Part of paraffin lantern. Coal.		5 shell fragments

The finds included a piece of a clay pipe bowl and part of an early 20th century bottle with the letters '?IDAY & SON' over 'TRADE' and a design.

Coins

The coins from this site comprised:-

	B01	B02
Halfpenny	1929, 1944, 1945,	1957

	B01	B02
Penny	1928, 1932, 1938	1913, 1914
Threepenny piece	1957	
One new Penny	1980	
Two new pence piece	1971	

The concentration of dates into a seventeen year period between 1928 and 1945 is interesting and suggests activity on the green up to the end of the 1950s that ceased afterwards.

The number of coins from Trench B is notable - only one other coin was found during the excavations (3d piece of 1943 in Trench C). Local tradition associates this area with village fairs and this would be a good explanation for the coins.

Discussion

The quantity of artefacts recovered from this area, particularly coins, is surprising. The amount of household waste - broken pottery and butchered bone from the kitchen - of the nineteenth century suggests that rubbish was just being thrown onto the green. The reason for the quantity of coins is probably the use of the area as a fairground, but probably over a fairly limited period in the middle of the 20th century.

Trench C (Figs 4, 12 – 14)

Trench C was located to the east of trench B and to the west of trench D in the southern area of the village green. It was 5.9m long x 0.9m wide and ran from west to east on a gentle slope.

First Phase of Activity: A Building on the Green

A limestone wall (C05) was located in the eastern end of trench C. It showed signs of heavy burning and was heavily degraded but did have a very clear horizon. It was cut into (C02) by [C06] and ran in a northwest – southeast alignment.

Around the same time, a posthole [C08] was dug. This was located in the western end of the trench. The posthole was circular in plan and the sides were angled so that the post would have sloped to the north. This post may relate to the wall (C05) and both may represent part of a structure with a solid wall to the east and an open side to the west. The posthole was filled by (C07) a light brown – grey friable sandy soil with no natural inclusions or finds. The fill and cut underlies [C09].

Second Phase of Activity: Demolition of Building

The wall (C05) was demolished leaving a dump layer (C04) of hard rubble with lumps of cream lime plaster. Some of the demolition contained roof tiles.

Third Phase of Activity: Ditch / Hollow Way

A possible ditch or hollow way [C11] was cut through (C02) and ran in from north to south. This was only partially excavated and the full width is unclear. C11 was filled by dark - brown sandy clay that contained charcoal, brick and stone inclusions (C10).

Fourth Phase of Activity: Another Building?

Posthole (C07) was overlain by a yellowy brown clay (C03) that ran from east to west and contained small stones and charcoal. This clay may have been a foundation for a timber or light stone wall and contained a square cut [C09], which may have contained a timber. This appears to run parallel to Wall 05 and reinforces the impression of a structure in this area.

Fifth Phase of Activity: Present Day

A build up of dark-medium loamy brown soil with natural inclusions (C02) sits upon the preceding layers and is directly below a mid-dark brown friable soil (C01) with turf.

Finds

		C01	C02	C03
Bone		2	16	1
Ceramic Material	Clay pipe	1	8	4
	Brick		20	
	Bone China	2	14	5
	Porcelain		13	6
	Stoneware		2	
	Red Earthenware		5	4
			5	
Coin			2	
Slate		2	2	
Glass	Brown		1	
	Clear	1	16	1
	Green	1	4	5
Ferrous		1	33	
Miscellaneous		Shell fragments and modern plastic material	2 bottle stoppers modern plastic material Coal	

The clay pipes included two bowls both of 19th century date, one of which is fairly complete and had the stamped initials of IW and the other is highly decorated but fragmentary. The pieces of stem include a mouthpiece in two parts with 'TENNANT' stamped on one side and 'NEWCASTLE' on the other. While the moulded bottle glass included a fragment with the letters 'AME'. There was also a large brass button in the unstratified material.

The finds associated with this trench indicate quite extensive activity over the last two or three centuries. However there was nothing of medieval date. The earliest definite date is from a piece of pottery that dates to the early 18th century. The amount of ferrous material is particularly notable and while the amount of pottery in trench B suggested the throwing away of rubbish, the quantities in C are closer to what one might expect from a living or working space.

Discussion:

It is clear that there was at least one structure in the area of Trench C and the evidence of heat and ferrous material suggests that it relates to blacksmithing activity. This site is immediately adjacent to that of the known village forge. It seems probable that the blacksmith also had a building, which might have been open fronted, on the village green.

Trench D (Figs 4, 15, 16)

Trench D was to the east of trench C, situated in the northeast area of the village green. The trench was placed on a flat area immediately before a large break of slope. The Geophysical Surveys hinted at possible previous activity.

Trench D measured 2m x 2m. The turf, (D01), was dark brown in colour containing large tree roots and a range of finds of 20th century date. Underlying this was a clear horizon made up of (D02) a dark-light brown loose – loamy soil. Within this layer a collection of ceramic fragments from the late 19th century – 20th century were found.

Underlying (D02) in the southeast area of trench D was a scattering of stone, brick and tile rubble with lime mortar (D03). Presumably this material has been dumped with the proceeding layers (D02) (D01) eventually overlying it.

Underlying (D03) was (D04) - the limit of excavation. This comprised hard brown clay. It is likely that was an original ground surface.

Finds

		D01	D02	D03
Bone		5	9	
Ceramic Material	Clay pipe	3	16	
	Brick	8	23	
	Bone China	7	26	
	Porcelain	16	84	
	Drain	2		
	Red Earthenware	2	23	
			29	
Coin				
Slate			3	
Glass	Brown	1	22	
	Clear	1		
	Green			
Ferrous		5	21 fragments	1
Miscellaneous		Modern plastic material	Coal, 2 buttons and shell fragments	2 wood fragments

The finds include a fragment of a bowl of a clay pipe with indecipherable traces of a name. In general the finds from trench D are similar to those found across the rest of the site. Ceramic and glass materials both indicate activity within the past several centuries, however no finds point to medieval activity.

Discussion

The even spread of material in trench D suggests that it may have been laid down as a base for something, but there was insufficient information (and time) to investigate this further. The amount of material is again notable and it was clearly normal practice to throw rubbish on the green in this area.

Trench E

Trench E was sited in the playing field of St Peters Elwick Primary School. The turf was removed by hand and the trench was used as an educational trench for school parties and others. It was not otherwise recorded or excavated.

General Discussion

The excavations on the village green provided a surprising amount of information. The Second World War air raid shelter stands out being of particular

interest but in many ways more significant is the general picture that we have built up of the usage of the green in the 19th century and earlier.

It is clear from the sheer amount of domestic rubbish - broken pottery, glass and butchered bone – that the green was seen as somewhere it was permissible to throw rubbish. The material included kitchen earthenwares, dinner service, bones of cow, sheep and pig as well as a liberal scattering of clay pipe stems and pieces of bowl not to mention the concentration of coins noted in Trench B.

It is also clear from the finds in Trench C that buildings could be and were built on the green as an extension of the activities carried out in a nearby plot. A local parallel for the latter are the horse gins built in front of farms, on the green, at Cowpen Bewley and Dalton Piercy.

The general picture is that the green was viewed as part of the working space of the agricultural village rather than as a picturesque element of the village as it is seen today.

APPENDIX 1: Nail Analysis from Trench C, Anthony A. Bonner

Introduction

Archaeological excavation of the village green in Elwick, Hartlepool took place between July 18 – 20 2013.

Trench C was located on the green near to a property known as ‘Forge Cottage’. In the course of backfilling an encrusted item was found.

Fig 1: Item as found

As can be seen in Fig 1 the item was 70mm x 10mm and heavily encrusted with iron oxidisation and soil particles.

The item was removed to Teesside University for examination using metallographic methods to determine its composition and possible method of manufacture.

Method

In the first instance the surface accretions were removed by mechanical means and the exposed surface was cleaned using a fine grain shot blast.

The item was then photographed using the Video Spectrum Comparator.

Fig 2: Nail

After cleaning the item was revealed as a nail with a fibrous surface texture. (See Figs 3 & 4)

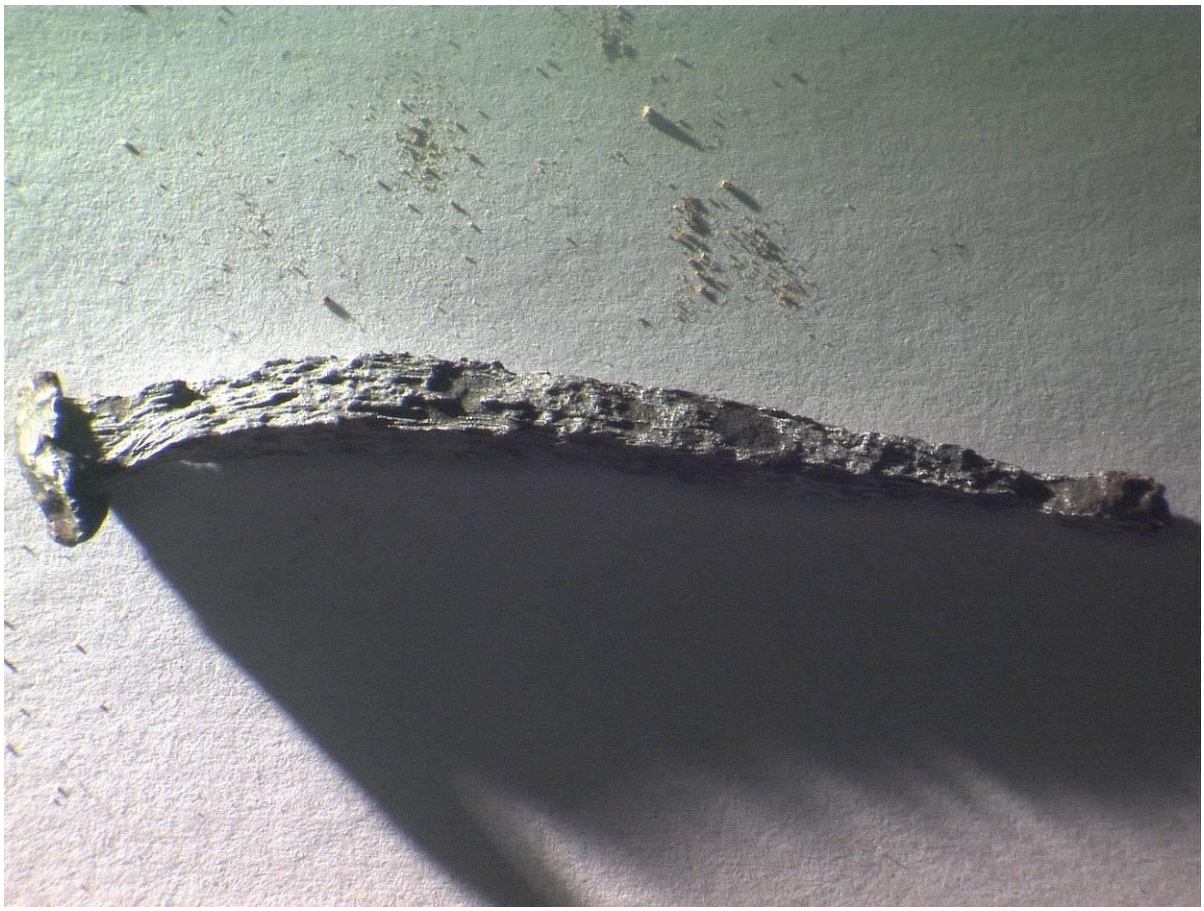


Fig 3 Nail showing fibrous surface features.

Fig 4: Nail Shank

Fig 5 Nail Head

Fig 5a Nail Head

A section was cut from the shank, mounted in Bakelite and prepared for metallographic examination.

The specimen was polished to 1µ and images captured using a Scanning Electron Microscope. It was then etched in 2% Nital. X-ray analysis was also obtained.

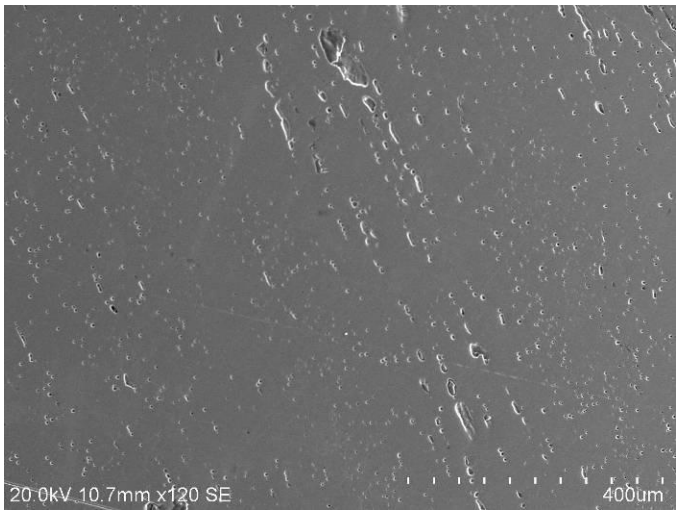
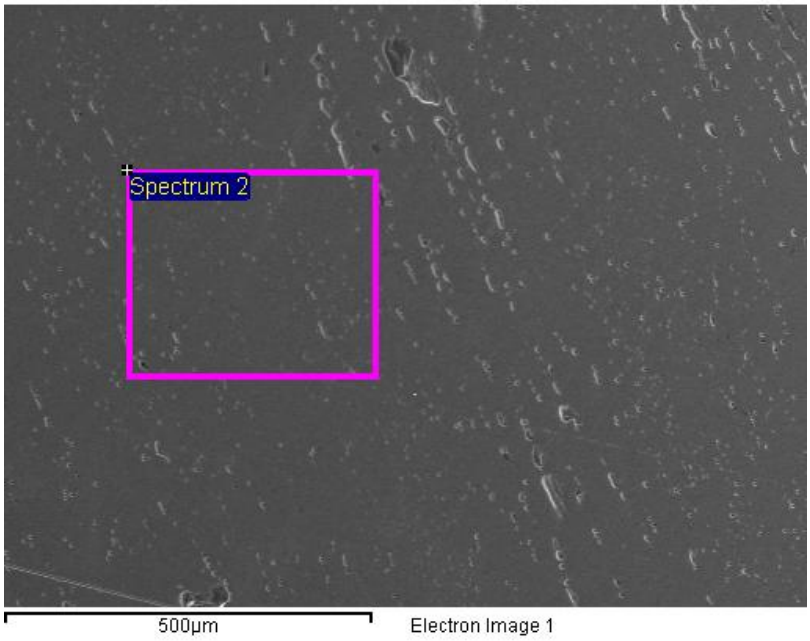
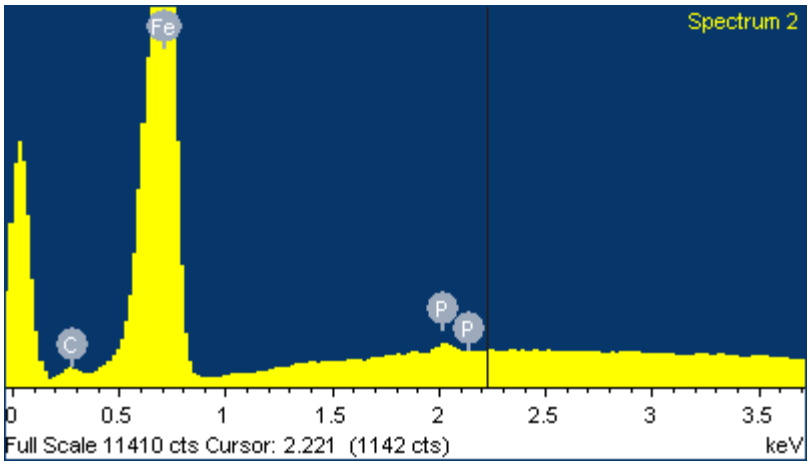


Fig 6 SEM image of surface

Fig 7 SEM image Wrought Iron etched in 2% Nital

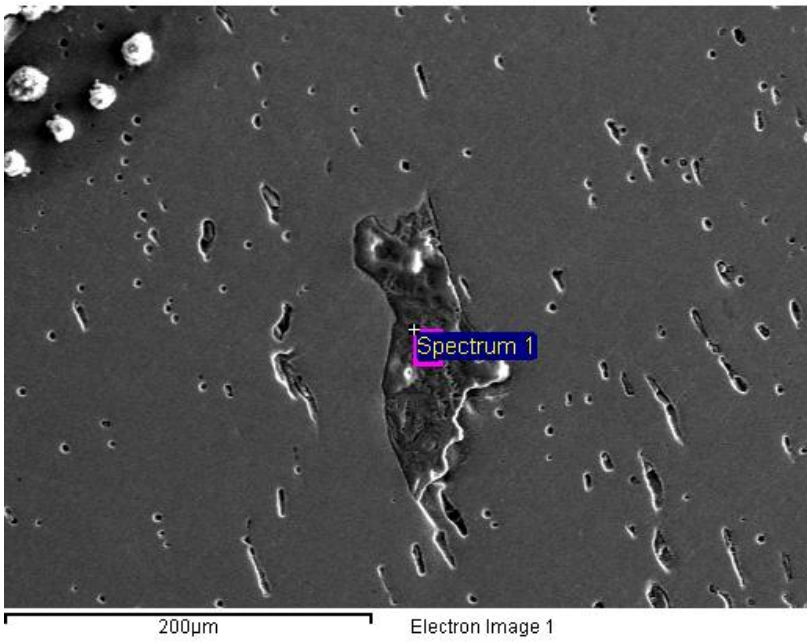
Fig 7 is an example of Wrought Iron microstructure that closely resembles that observed in the specimen.

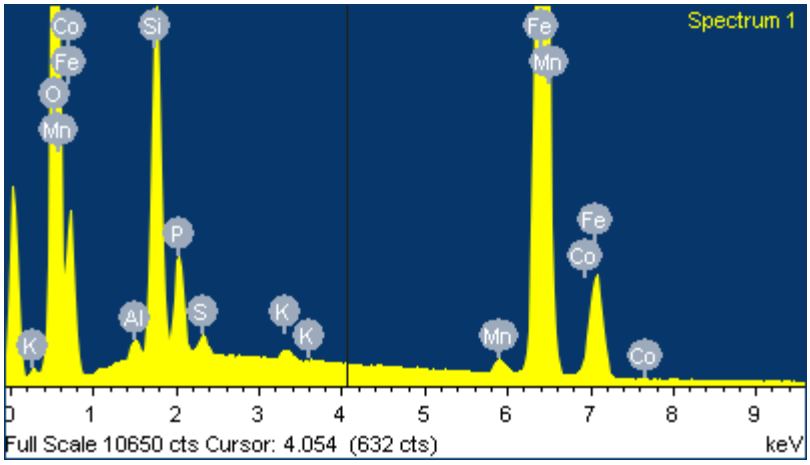




Element	Weight %	Weight Atomic
C k	2.50	10.63
P k	0.28	0.46
Fe k	97.22	88.91

Fig 8 X-ray analysis of specimen matrix





Element	Weight %	Weight Atomic
O k	31.71	58.06
Si k	0.50	0.54
P k	8.68	9.05
S k	0.45	0.41
K k	0.24	0.18
Mn k	0.88	0.47
Fe k	54.37	28.52
Co k	0.54	0.27

Fig 9 X-ray analysis of Slag Inclusion

Conclusion

A study of the surface topography together with metallographic images and X-ray analysis leads to the conclusion that the nail material is wrought iron (WI). The amount and size of slag inclusions would indicate that the WI was commercially produced. Smaller slag inclusions are indicative of a better class of WI.

It should be noted that accurate measurement of Carbon is not possible with X-ray analysis; the actual Weight % would be > 0.1%. Wrought iron was a popular material for the manufacture of many items before the Bessemer process made steel cheap and plentiful. The nail in question would have been manufactured between 1800 – 1910. Before this time nails were handmade and afterwards they were made from steel.

The shape and relative dimensions of the nail would indicate that it is a “cut nail” rather than being handmade. Handmade nails tend to be of roughly square section with a “rose” or six sided head. Cut nails were a semi mass - produced item in that a plate of wrought iron with the thickness of the finished nail was presented to a mechanical guillotine and cut at an angle. The plate would then be turned over for the second cut. The result was a nail that was tapered in one aspect, but with a regular thickness in the other. A tapered nail has a greater contact area and higher coefficient of friction.

Fig 10 shows, from top to bottom, handmade, cut and wire nails. The nail head shape is consistent with that of a Farrier’s Nail, used for attaching horse shoes. The rectangular head would fit into the recess of a horseshoe.

Deformation of the nail head as shown in Fig 5 is probably caused by the “claw” used to withdraw the nail.

Fig 10 Nail Types: From top to bottom, Handmade, Cut and Wire or French Nail.

Further Information

Wrought iron

This is an iron alloy with very low carbon (0.1 to 0.25) content in contrast to cast iron, and has fibrous inclusions, known as slag. This is what gives it a "grain" resembling wood, which is visible when it is etched or bent to the point of failure. Wrought iron is tough, malleable, ductile and easily welded. Historically, it was known as "commercially pure iron"; however, it no longer qualifies because current standards for commercially pure iron require a carbon content of less than 0.008 wt%.

Before the development of effective methods of steelmaking and the availability of large quantities of steel, wrought iron was the most common form of malleable iron. A modest amount of wrought iron was used as a raw material for manufacturing of steel, which was mainly used to produce swords, cutlery, chisels, axes and other edged tools as well as springs and files. Demand for wrought iron reached its peak in the 1860s with the adaptation of ironclad warships and railways, but then declined as mild steel became more available.

Many items, before they came to be made of mild steel, were produced from wrought iron, including rivets, nails, wire, chains, rails, railway couplings, water and steam pipes, nuts, bolts, horseshoes, handrails, straps for timber roof trusses, and ornamental ironwork.

Wrought iron is no longer produced on a commercial scale. Many products described as wrought iron, such as guard rails, garden furniture and gates, are made of mild steel. They retain that description because in the past they were wrought (worked) by hand.

Cut nails

From the very beginning, nails were handmade; the nail-making process was slow, and nails were relatively few and expensive. This naturally produced a desire to create machines to speed up and automate the nail-making process. The slitting-mill, introduced to England in 1590, had simplified the production of nail rods, but the real first efforts to mechanise the nail-making process itself occurred between 1790 and 1820, initially in the United States and England, when various machines were invented to automate and speed up the process of making nails from bars of wrought iron. These nails were known as *cut nails* or *square nails* because of their roughly rectangular cross-section. Though still used for historical renovations, and for heavy-duty applications, such as attaching boards to masonry walls, *cut nails* are much less common today than *wire nails*.

The cut-nail process was patented in America by Jacob Perkins in 1795 and in England by Joseph Dyer, who set up machinery in Birmingham, cutting nails from sheets of iron, making sure that the fibres of the iron ran down the nails. The Birmingham industry expanded in the following decades, but reached its greatest extent in the 1860s, after which it declined due to competition from wire nails, but the Birmingham industry survived until the outbreak of World War I.

Figures

Fig 1: Aerial Photograph of Elwick Village

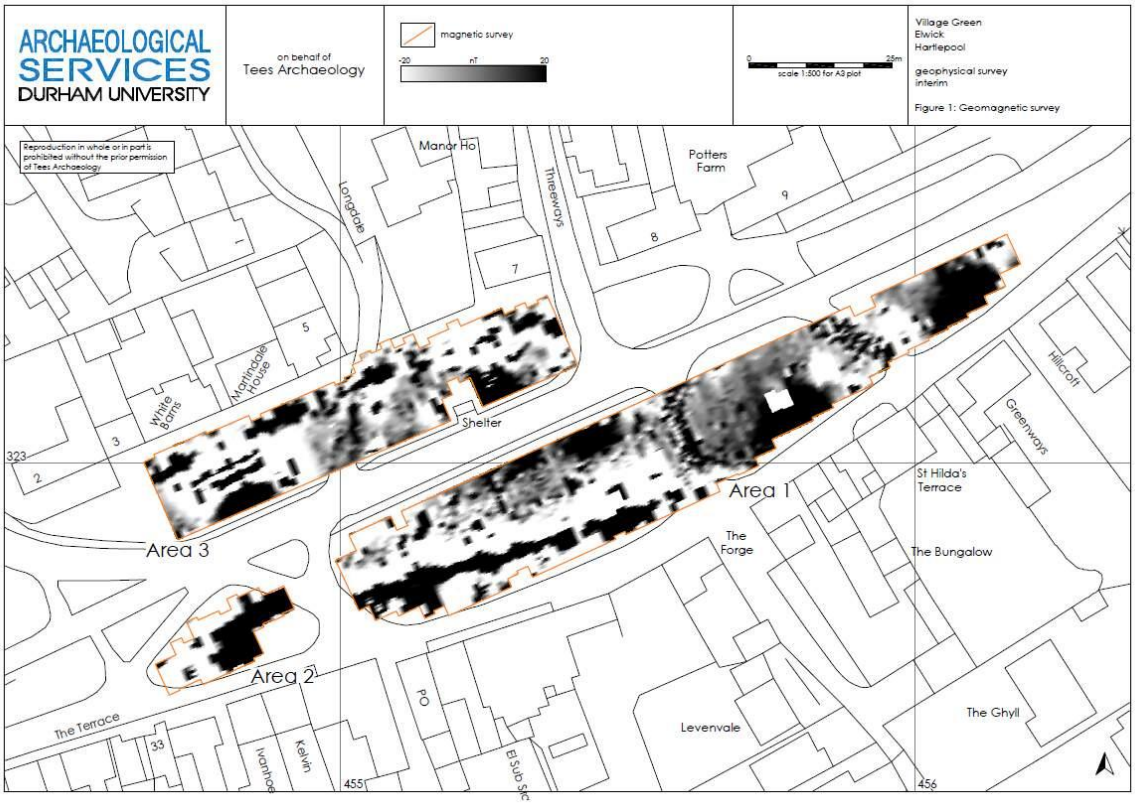


Fig 2: Geomagnetic Survey of Elwick Village Green

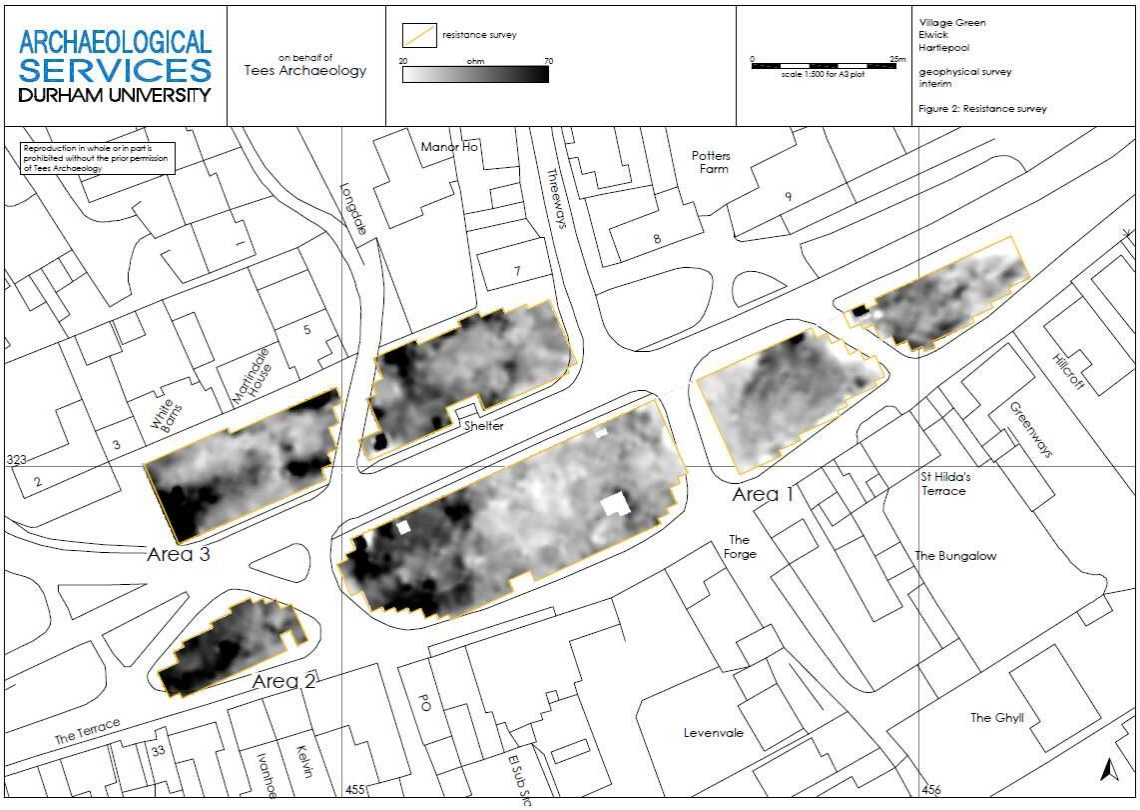


Fig 3: Resistance Survey of Elwick Village Green

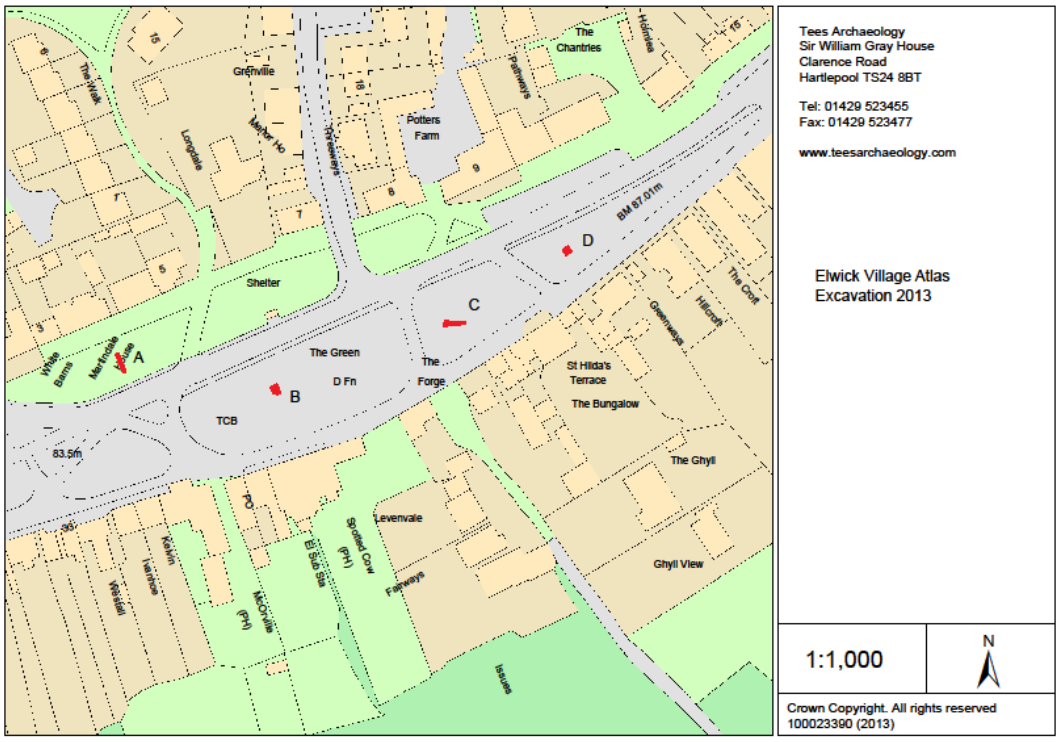


Fig 4: Location of trenches excavated on Elwick Village Green

Fig 5: General Photograph of Trench A looking north

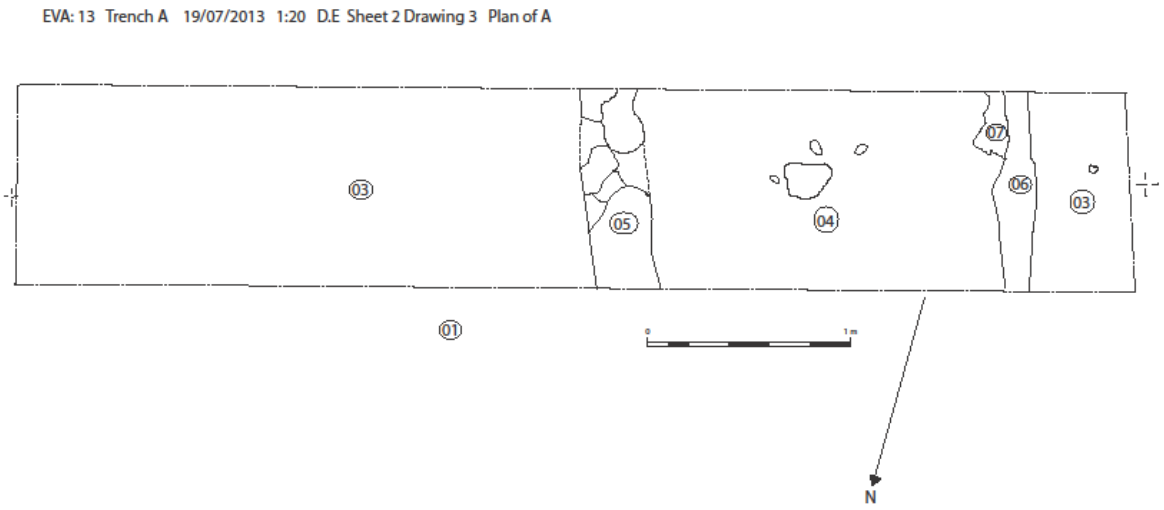


Fig 6: Plan of Trench A

Fig 7: Trench A looking south showing walls of Air Raid Shelter and protective bank beyond

Fig 8: Trench A looking west showing walls of Air Raid Shelter and corrugated iron sheeting

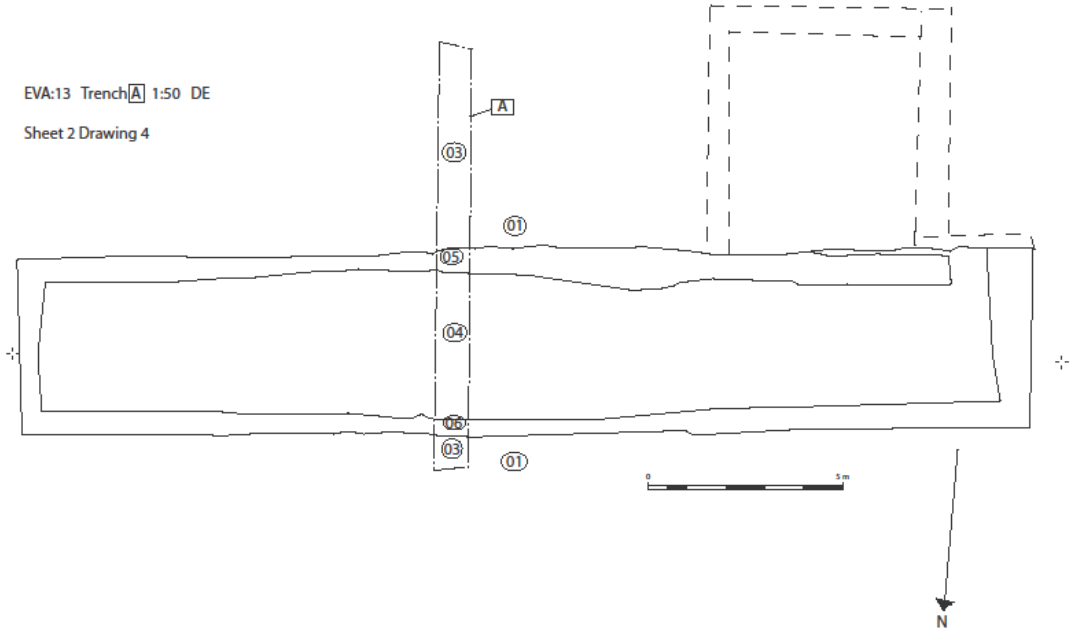


Fig 9: Plan showing outline of Air Raid Shelter in grass and location of Trench A

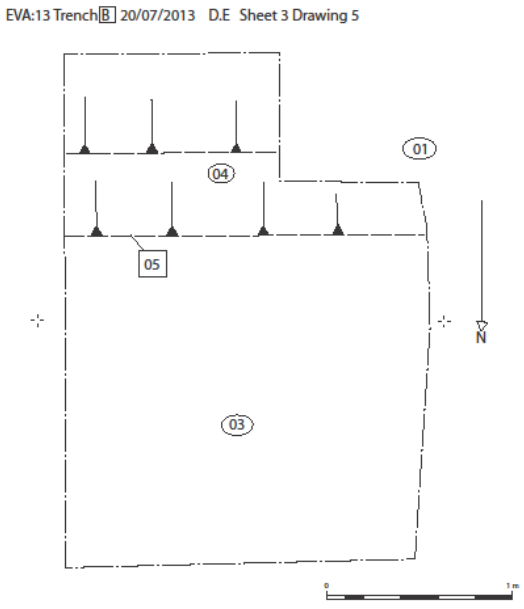


Fig 10: Plan of Trench B

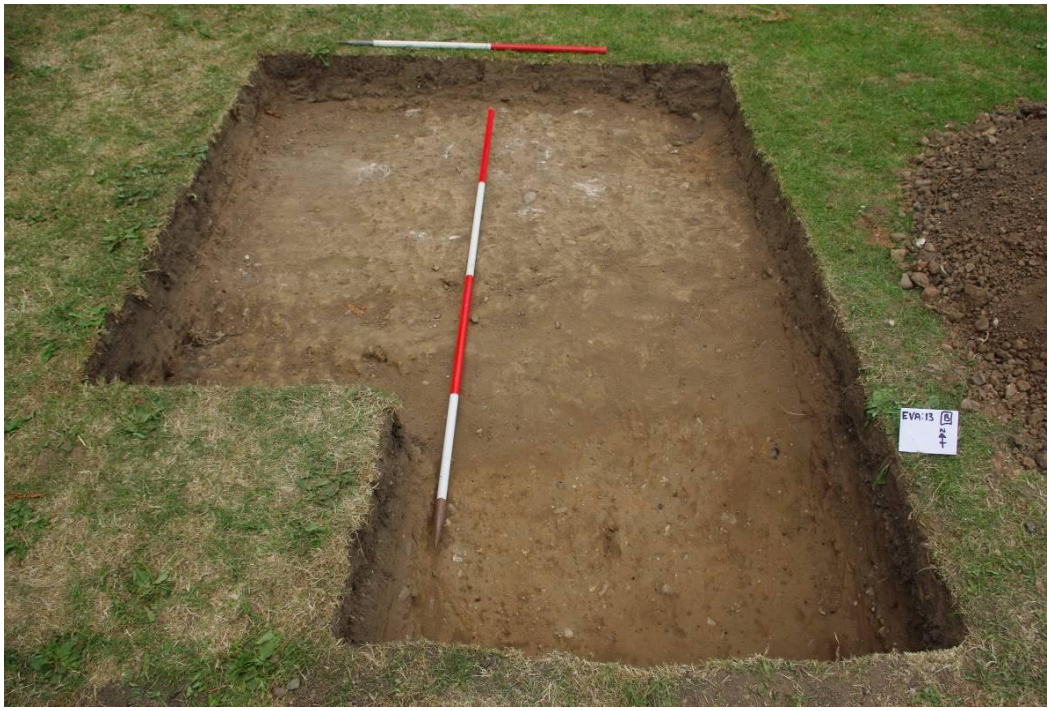


Fig 11: Trench B looking north, showing line of hollow way nearest the camera

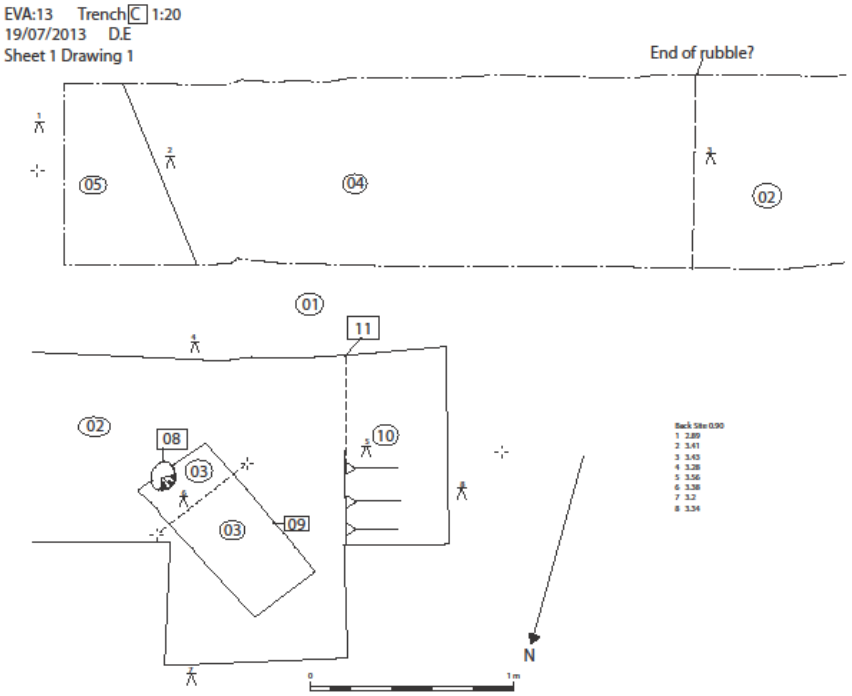


Fig 12: Plan of Trench C

Fig 13: Trench C looking east and showing posthole C08. Wall C05 is sited at the far end of the trench

Fig 14: Trench C looking south and showing clay pad C03 for possible wall

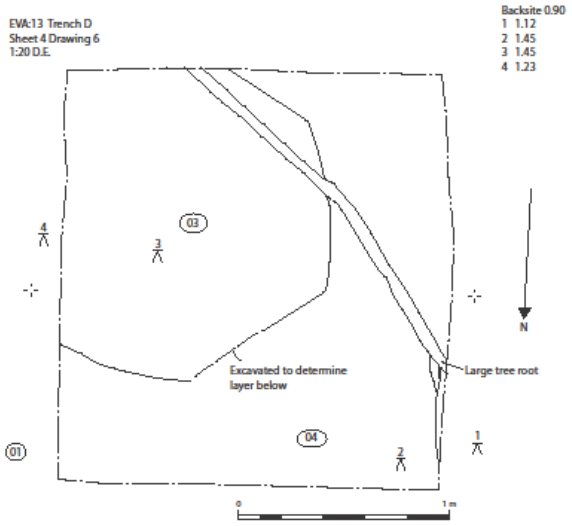


Fig 15: Plan of Trench D

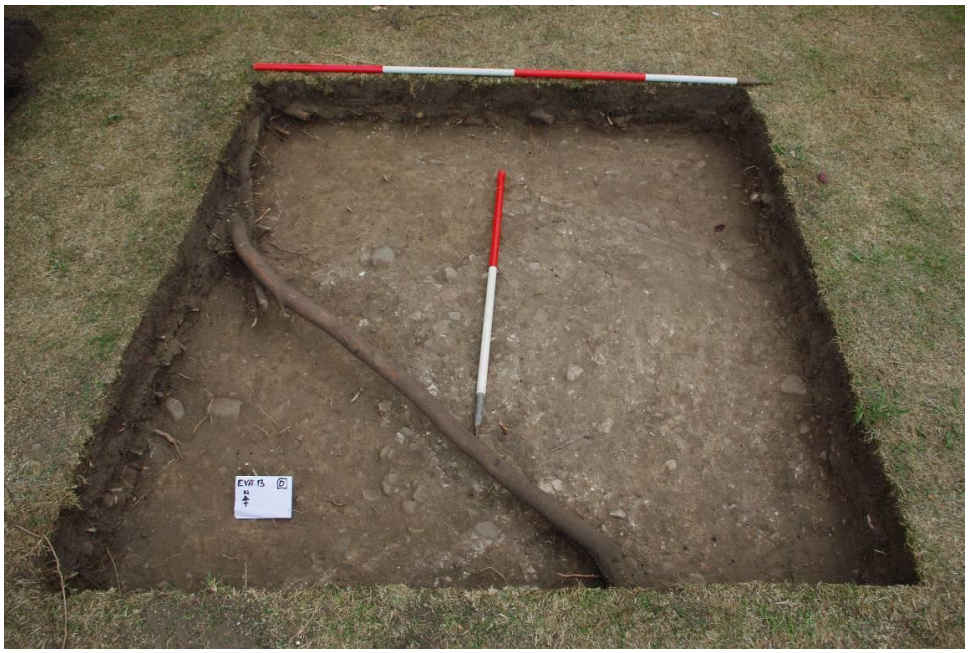
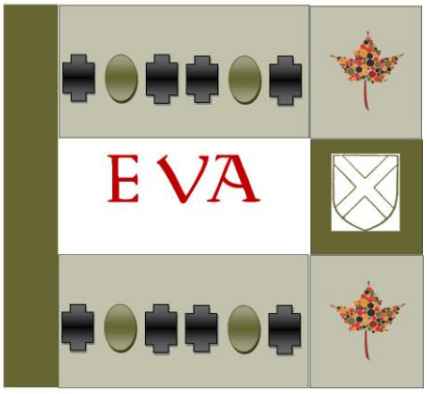


Fig 16: Trench D looking south showing rubble spread D03

TEES
ARCHAEOLOGY



Limestone Landscapes

heritage lottery fund
LOTTERY FUNDED