

SCARBOROUGH ARCHAEOLOGICAL AND
HISTORICAL SOCIETY



ARCHAEOLOGICAL INVESTIGATIONS
INTO A LINEAR EARTHWORK
AT SEAMER MOOR, SCARBOROUGH
MARCH-APRIL 2012

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AND
CHRISTOPHER HALL

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Note on nomenclature

The GCHQ facility is known as GCHQ Irton Moor, however the area is more generally known as Seamer Moor. Until boundary changes in 1934, the area occupied by the current GCHQ buildings lay in Irton Civil Parish but the wider area around the buildings, including the earthwork, lay in Seamer Civil Parish and this is reflected in some maps by reference to Irton Moor and Seamer Moor respectively. However antiquarians and local usage have normally referred to the large block of land bounded by Forge Valley on the west, the scarp slope on the north and east and Racecourse Road (or Seamer Moor Road) on the south as Seamer Moor. The area is now within the unparished area of Scarborough. We have therefore followed the local convention of referring to this area as Seamer Moor

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INTRODUCTION

Over the period 24 March to 5 April 2012 the Scarborough Archaeological and Historical Society undertook an archaeological excavation and a 1:500 scale analytical earthwork survey of a section of prehistoric linear boundary within the grounds of Irton Moor GCHQ establishment situated five kilometres to the west of Scarborough.

The survey was undertaken as part of the archaeological mitigation strategy agreed by the MoD archaeologist, Phil Abramson, and the GCHQ authorities during building works to create a new perimeter fence. Previous desk top study and geophysical survey had identified the possibility of archaeological remains lying across the intended course of the new perimeter fence including a linear boundary presumed to be prehistoric in date which partially survives as an earthwork within the boundary of the GCHQ site. The survey and excavation made a record of this feature in the area where it is crossed by the new perimeter fence.

1.0 GEOLOGY TOPOGRAPHY AND LAND-USE

Seamer Moor is situated on rising ground to the north of the villages of Seamer, Irton and East Ayton, on the north side of the Vale of Pickering. Geologically it is part of a chain of hills known as the Tabular Hills which stretch along the northern edge of the Vale for around 50 kilometres and divide this lowland area from the extensive uplands of the North York Moors to the north. The underlying geology consists of calcareous sandstone of the Middle Oolite, and the soil cover is Rivington 1, well drained coarse loamy soils. The particular hill of which Seamer Moor forms part rises gently from the Vale for a distance of about three kilometres ending on the north at a steep, wooded escarpment which swings round to the east to overlook the coastal plain. To the west, a deep, steep-sided ravine called Forge Valley separates the Moor from the continuation of the Tabular Hills further to the west. The GCHQ establishment lies about half-way up the gentle slope from the Vale of Pickering at a height of around 150m OD. Though the 'moor' name indicates this area was historically open, uncultivated ground, the area has supported a mixture of arable and pasture fields since the middle of the last century.

2.0 ARCHAEOLOGICAL BACKGROUND

The light, free-draining soils of the Tabular Hills have attracted occupation since the New Stone Age (Neolithic) period as indicated by the several burial mounds of the period that survive along the hills including an example 1.5 kilometres to the south-west called the East Ayton Long Barrow. Dating to around 3000bc, the mound was excavated in the middle of the 19th century and found to contain two distinct deposits of disarticulated human bones along with flint arrowheads and axes (Elgee 1931, 40-1). This burial site along with the others further west along the Tabular Hills indicate the presence of farming communities in the area some five thousand years ago. There are also Bronze Age burial mounds dating to around 2,000-1400 BC in proximity to the GCHQ site and a number of linear boundaries believed to date to the Bronze or Iron Ages which survive as earthworks or as cropmarks where the earthworks have been ploughed flat. These boundary features were described by the local historian Thomas Hinderwell at the end of the 18th century (Hinderwell 1798)

who also created a sketch map of the earthworks now in the care of Scarborough Library (Hinderwell 1824)(Figure 1). The earthworks were surveyed by Robert Knox in 1821 and his published map (Knox 1821) together with the first edition of the Ordnance Survey six inch to the mile map published in 1854 (Figure 2) show broadly the same pattern of linear earthworks crossing the moor in particular a linear feature described as 'Trench' on the OS map crossing the area, now occupied by the GCHQ site. This particular linear earthwork was described in some detail by Spratt in 1989 who named it the Rowbrow Dyke and traced its course from the edge of the escarpment on the north-west of the moor, where it survives as an earthwork, southwards to a point around 2.5 kilometres to the south where it ends abutting a separate linear earthwork which he called the Seamer Moor Dyke and which is probably an earlier feature. For much of its course the Rowbrow Dyke has been infilled or ploughed flat and this is reflected on the later OS 6" maps (see Appendix 1) where it is shown as a less robust feature. However, the section within and adjacent to the GCHQ site survives as an earthwork and two lengths starting 500 metres to the north of the GCHQ site have been scheduled as an ancient monument (EH List Entry Number 1021236). Spratt noted that its position in the landscape was somewhat unusual compared to the other prehistoric land boundaries elsewhere along the Tabular Hills as it does not clearly define a territory but rather a long and narrow block of land adjacent to the eastern escarpment of the moor facing over the coastal plain. Spratt was confident, however, that the earthwork is prehistoric and not a medieval boundary.

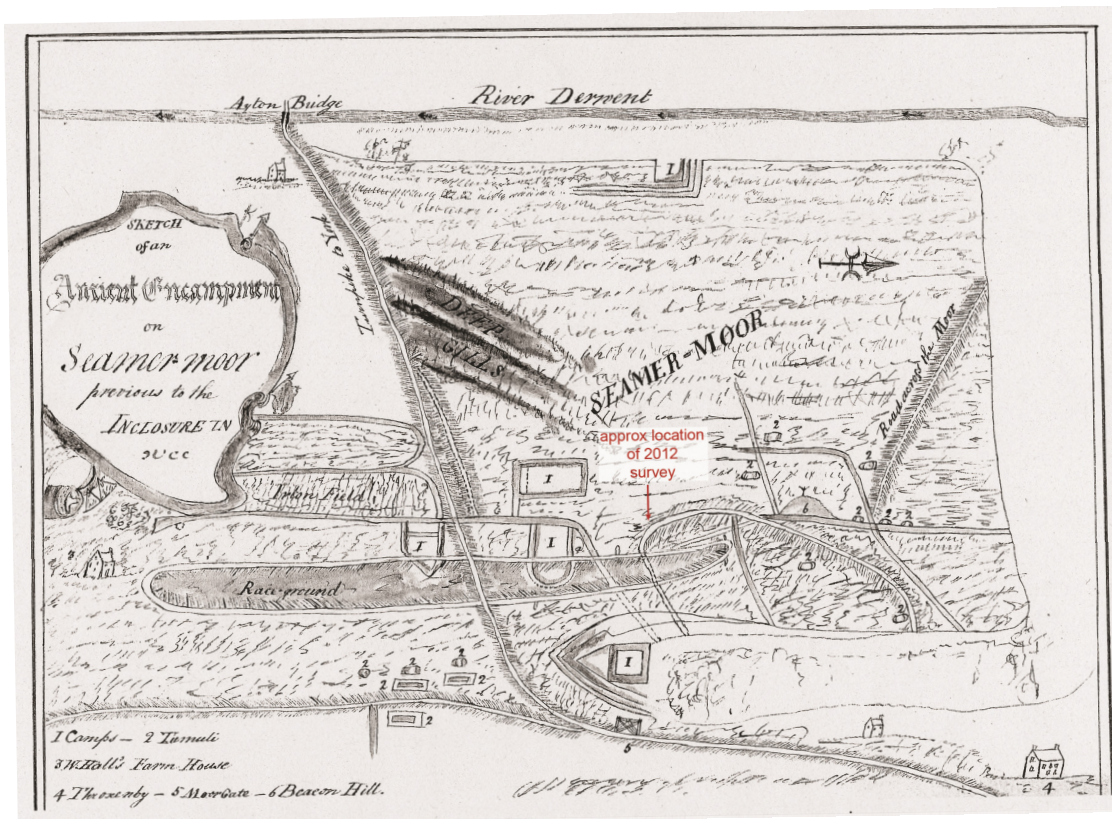


Figure 1. Hinderwell 1824 - "Sketch of the Ancient Encampments on Seamer Moor Previous to the Inclosure" showing the approximate location of the survey
Note, contrary to convention, west is at the top of this sketch map

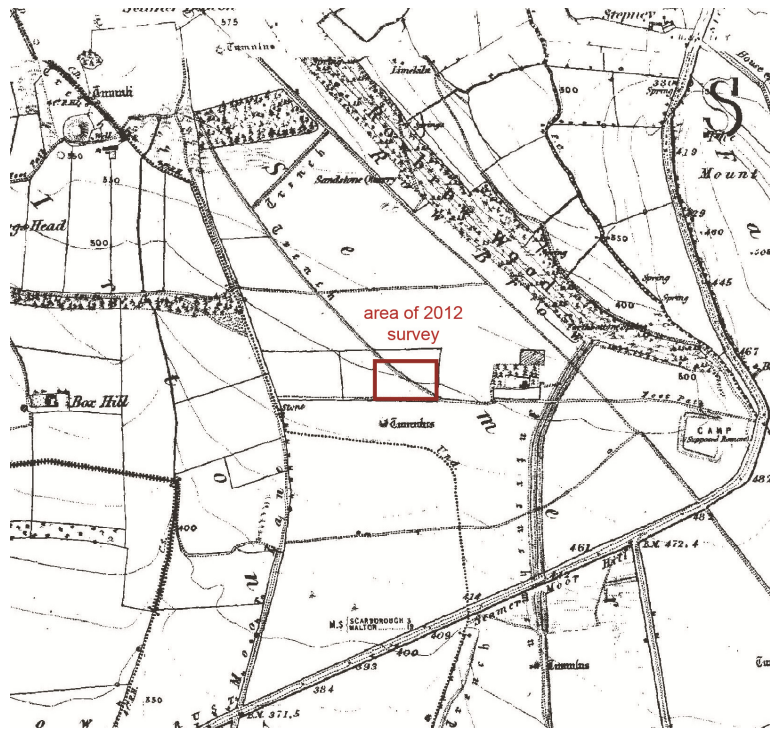


Figure 2. Extract from Ordnance Survey 1:10,560 Scale published 1854 with the area of the survey shown in red

The Rowbrow Dyke is recorded in the National Monuments Record as a 'dyke of Bronze Age or Iron Age date comprising two parallel banks and a central ditch' (NMR ref no TA 08 NW 60). Examination of the feature using aerial photographs as part of the National Mapping Programme have confirmed it no longer survives as a feature where it crosses cultivated land.

4.0 EARTHWORK DESCRIPTION

The survey and excavation conducted in 2012 was the first time the form and construction of the Rowbrow Dyke had been investigated in any great detail. The earthwork survey was confined to a 90m length of the feature where it survived as an earthwork within the new perimeter of the GCHQ establishment. This length follows a straight alignment from south-east to north-west and is fairly clear as an earthwork for the first 30-35m on the south-east up to the point where it is obscured by a recent spread of spoil as part of the access for the construction works (Figure 3). Beyond the spread of spoil the boundary is barely visible as an earthwork for a further 40m before fading out all together as a surface feature. No attempt was made to try and trace the earthwork further to the north-west due to the constraints of time and the limitations imposed by the construction work.

From the south-east where the earthwork crosses the line of the perimeter fence as far as the modern dump of spoil the survey recorded that the ditch is in fact formed by a linear alignment of nine shallow-sided hollows around 0.15 - 0.3m deep and around 2-2.5m in diameter separated by narrow strips of intact ground. The pits are situated within a shallow-sided ditch. Immediately to the south-west of the ditch there

are traces of a flattened bank standing no more than 0.1-0.2m high. There are no visible traces of a bank on the opposite side of the ditch.

The partial remains of three more hollows visible within the recent dump of spoil continue the alignment further to the north-east and beyond are seven very slight hollows and much more widely separated indicating that in this section surface evidence of the ditch and intermediate hollows have been destroyed along with all traces of the associated bank.



Figure 3. The earthwork survey

5.0 THE EXCAVATION

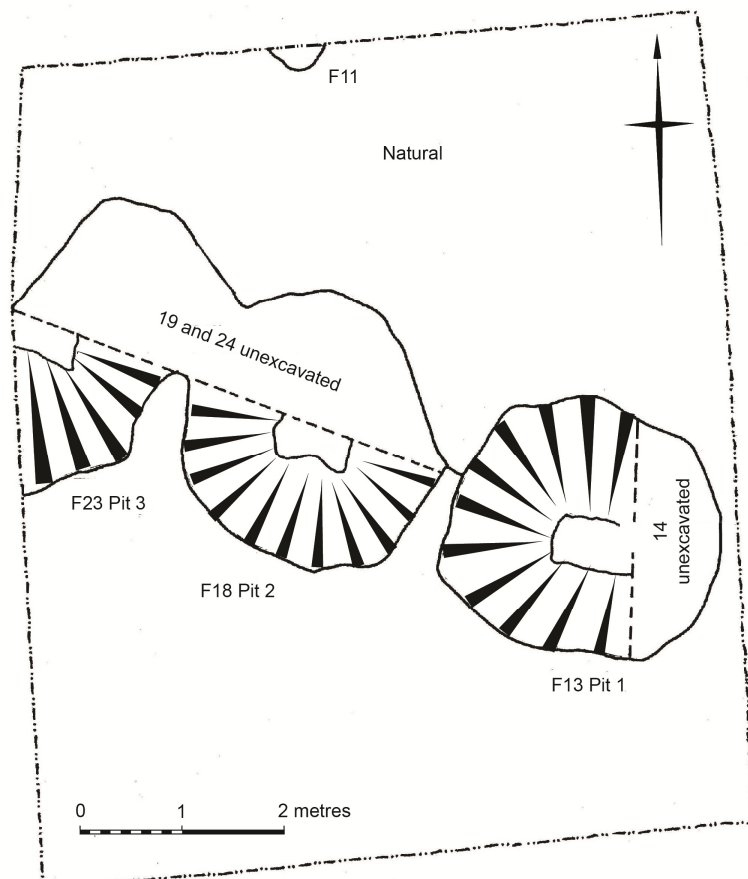
The Centre of the excavation was at National Grid reference TA 01442 86889. An area of 8.0m by 7.0m was machine stripped using a toothless bucket. Following this, cleaning back revealed that the plough soil lay over a thin layer of gritty sub-soil which immediately overlay the natural which consisted of decayed calcareous grit (Figure 4).



Figure 4. Cleaned surface looking towards the south-east

The natural which was at a height of 151.158m AOD was found to contain only two features. At the extreme north of the trench, feature F11 was a small post hole 425mm in diameter and 110mm deep and found to contain one fragment of Iron Age pottery. No other features were immediately associated with this post hole.

Figure 5
Plan of excavated
features



Crossing the trench diagonally in a north-west to south-east direction was an area of darker brown loamy soil which was found to be the plough spread of the upper fill of three pits F13 (pit 1), F18 (pit 2) and F23 (pit 3) cut into the natural (Figures 5 & 6). These pits were irregular ovals on average 2.4m long by 2.25m wide. The pits were sectioned, pit 1 in a north-south direction and pits 2 and 3 in a north-west to south-east direction. They were found to have an average depth of 810mm below natural (ie 150.348m AOD) with sides sloping at angles of between 41° to 47° from the horizontal. The bottoms were relatively flat (Figures 7 & 8).

The bottom layer of fill in each case consisted of a wet, fine grey-brown silt (contexts 17, 22 and 27) with few stones. This was interpreted as the result of the initial weathering down of the pit sides fairly soon after their construction. Context 17 contained one small fragment of charcoal which was radio-carbon dated giving a ¹⁴C date of 2973 BP (before 1950) plus or minus 28; ie late Bronze Age.(SUERC, 2013)

Above this were two fairly similar layers. Contexts 16, 21 and 26 were a yellowish brown silty clay, sticky and damp with a large number of stone inclusions. Above this, contexts 15, 20 and 25 consisted of a pale brown and sandy material with fewer stone inclusions and iron panning. Context 15 contained a single potsherd thought to be Bronze age. These two layers were interpreted as further natural slumping and weathering of the pit sides so that they were filled to within about 300mm of their tops. Above these layers was a dark brown to black loam, dry and containing fragments of 19th pottery and pipe stems which was interpreted as the pits being levelled with imported material, probably domestic refuse in the 19th. This import of material and the final stages of the infilling are consistent with the progressive disappearance of the feature from the relatively robust shown on the first Ordnance Survey to the present situation. This is similar to the finding during the investigation of the ditch forming an Iron Age square enclosure nearby (Hall & Hinchliffe 2013)

Figure 6.
Pits 1 (foreground), 2 and 3
during excavation



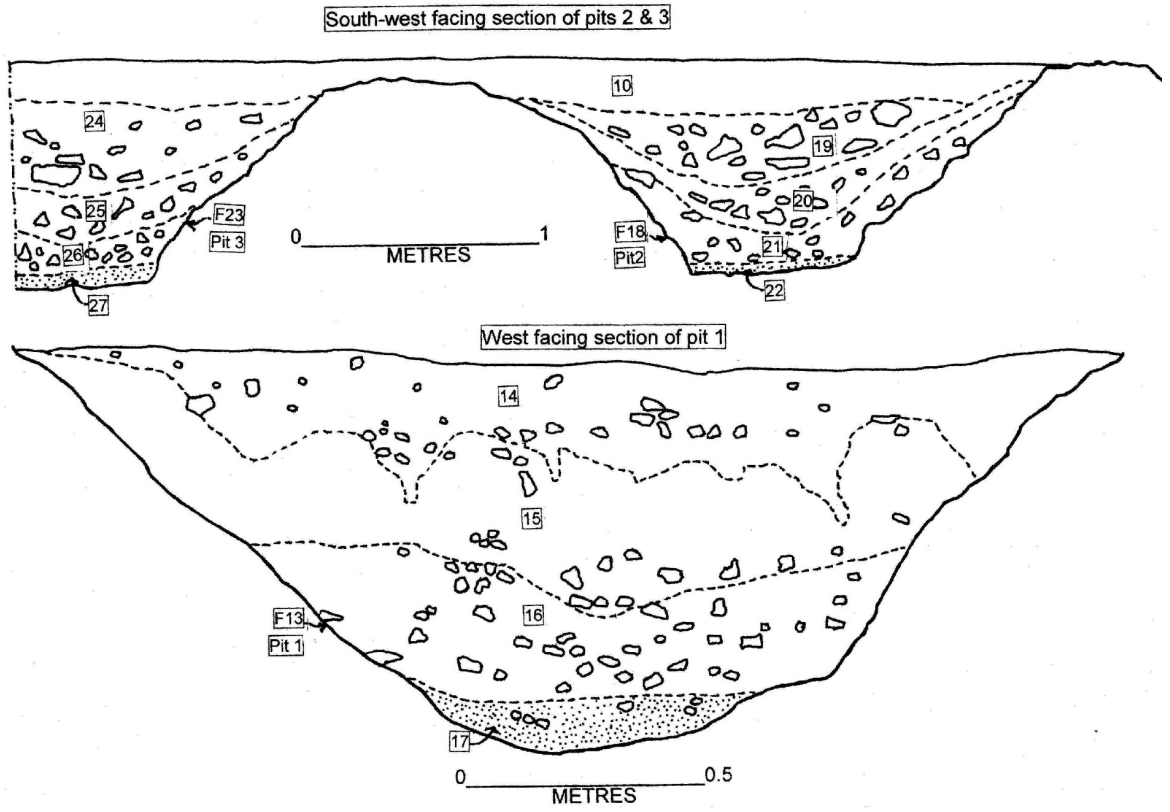


Figure 7. Sections across the pits – 2 & 3 top and 1 bottom



Figure 8. Pit 1

6.0 CONCLUSION

The 2012 survey and excavation established that the ditch recorded by earlier authorities is formed by an alignment of pits within a shallow ditch. From the surface evidence it is arguable whether the ditch is actually a man-made feature contemporary with the pits or has formed through the action of rainwater over many centuries washing material into the line of hollows. The bank which only partially survives to one side of the 'ditch' is probably contemporary with the hollows and formed from upcast from digging the pits. On this basis the bank may have started as a line of discrete mounds with one mound adjacent to each pit, but the earthwork is now too denuded for this level of evidence to have survived. No trace was recorded of a bank on the opposite side of the ditch though a second bank has been recorded from aerial photography and appears to still survive further to the north in one of the two lengths that have been scheduled.

The discovery that the boundary is formed by an alignment of pits rather than a continuous ditch is not unexpected as there are a number of examples recorded in the area of which some of the best preserved are around seven miles further to the west along the Tabular Hills on Ebberston Moor (English Heritage 2011, 4). A survey in 1999 of the pit alignments on Ebberston Moor found evidence that they could date back to the Neolithic since one section of earthwork is overlain by a Bronze Age burial mound (RCHME 1999, 33). Pit alignments in this area are more usually thought to date to the Bronze Age or Iron Age. The earliest weathering stratum in the pit alignment investigated on Irton Moor has been given a late Bronze Age date which is consistent with the findings above.

As was mentioned above, however, further to the south-east the Rowbrow Dyke is believed to abut another prehistoric boundary called the Seamer Moor Dyke suggesting it post-dates the construction of the Seamer Moor Dyke. If this relationship has been correctly observed and given that the Rowbrow Dyke has been given a late Bronze Age date, the Seamer Moor Dyke must now be considered to be Bronze Age rather than medieval (Spratt 1989, 62). The latter appears to define a block of land containing an Iron Age enclosure which was investigated by the Scarborough Archaeological and Historical Society in 2008 to 2010 (Hall 2013) and this now suggests that the relationship between the two features is more complex than first thought.

7.0 ACKNOWLEDGEMENTS

The topographical survey was carried out by the authors using a survey grade Trimble GNSS receiver operated by Trevor Pearson from English Heritage.

The excavation was directed by Christopher Hall and carried out by SAHS members Steve Bence, Chris Evans, John Hinchliffe, Siriol Hinchliffe, Emma Temlett, Simon Temlett and Jane Peutrell.

This archaeological work was generously sponsored by G4S which will allow us to carry out further investigations on Seamer Moor on the basis of a project design to be prepared.

8.0 REFERENCES AND NOTES

- Elgee, Frank. 1930 *Early Man in North East Yorkshire* (Gloucester)
- English Heritage. 2011. *Introductions to Heritage Assets: Prehistoric linear boundary earthworks*
- Hall, Christopher & Hinchliffe, John . *The investigation of a pre-historic square enclosure at Racecourse Road, Seamer Moor, Scarborough*. SAHS Site Report 40 January 2013
- Hayes, Raymond, *East Yorkshire Studies: Archaeological Papers*, Roman Antiquities Section: Yorkshire Archaeological Society (Leeds 1988) p. 52
- Hinderwell, Thomas. 1798. *The History & Antiquities of Scarborough*. (Scarborough and York) pp.11-12
- Hinderwell, Thomas.1824 *Sketch of the Ancient Encampments on Seamer Moor Previous to the Inclosure* Unpublished mss. In Scarborough Library
- Knox, Robert. 1821. *Map of the Country round Scarborough in the North and East Ridings of Yorkshire from actual Trigonometrical Survey with Topographical, Geological and Antiquarian Descriptions by Robert Knox of Scarborough*. Published June 1 1821 by R. Knox, Scarborough
- Knox, Robert. 1855. *Descriptions Geological, Topographical and Antiquarian in Eastern Yorkshire* (London) p. 71
- Ainsworth, S and Oswald A *A Series of Embanked pit alignments on Ebberston Moor, North Yorkshire* RCHME 1999
- SUERC (Scottish Universities Environmental Research Centre) Radiocarbon Dating Certificate 28 Jan 2013
- Spratt, Don 1989. *Linear earthworks of the tabular hills, North East Yorkshire* (Sheffield) p. 62

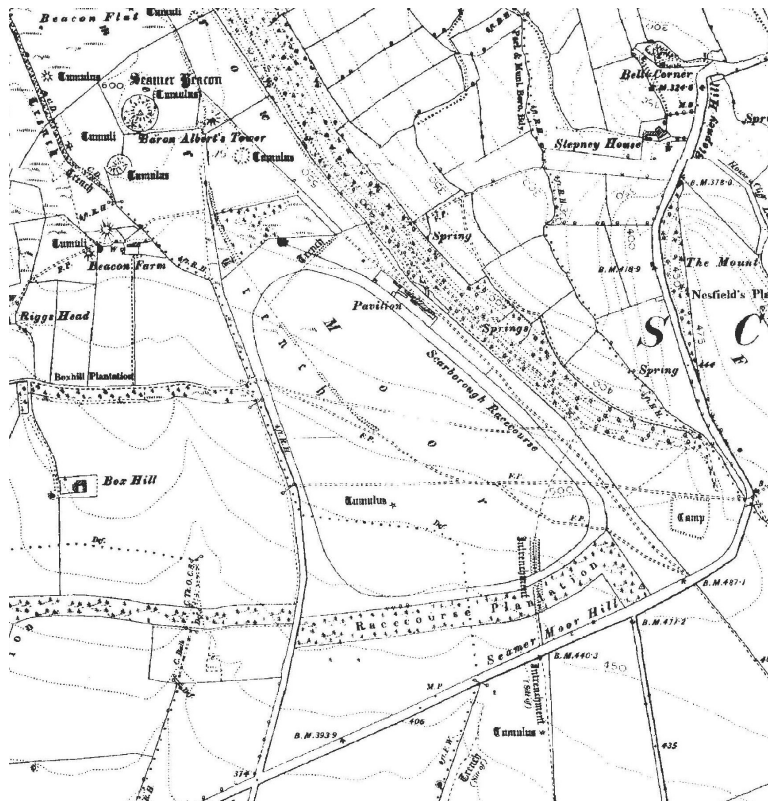
Annex 1 – List of contexts

Context number	Description	Notes	Date
10	Cleaning down following machining		24-Mar-12
F11	Cut for circular feature		25-Mar-12
12	Fill of F11	Prehist pottery	25-Mar-12
F13	Cut for pit 1		25-Mar-12
14	Dark loamy fill of pit 1		25-Mar-12
15	Sandy fill of pit 1	Prehist pottery	26-Mar-12
16	Silty clayey fill of pit 1	Prehist pottery	26-Mar-12
17	Fine grey brown silt bottom layer of pit 1		27-Mar-12
F18	Cut for pit 2		25-Mar-12
19	Brown sandy loam in pit 2		26-Mar-12
20	Light brown clayey in pit 2		26-Mar-12
21	Grey brown loam in pit 2		27-Mar-12
22	Fine grey brown silt bottom layer of pit 2		27-Mar-12
F23	Cut for pit 3		25-Mar-12
24	Brown sandy loam in pit 3		26-Mar-12
25	Light brown clayey in pit 3		26-Mar-12
26	Grey brown loam in pit 3		27-Mar-12
27	Fine grey brown silt bottom layer of pit 3		28-Mar-12

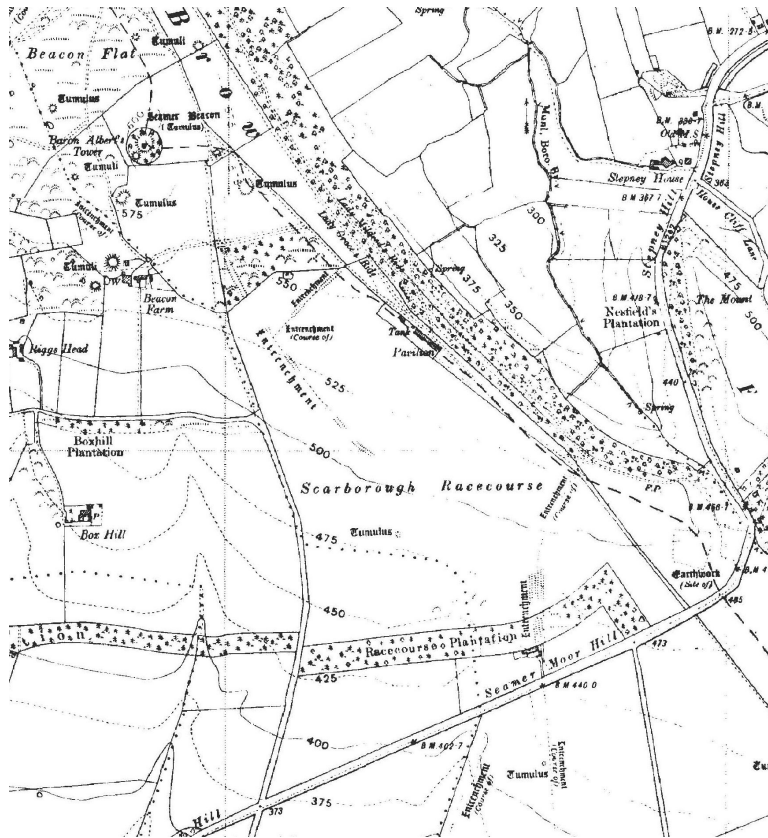
Annex 2 – Find database

Context	Pottery			Small finds			Notes	
	C19th	Post medieval	prehistoric	Pipe stem	Flint	Other		
10	6			2	2 unworked	glass bead C19	1 fragment willow pattern	Not retained
14, 19, 24 12	15		2	1	1		2 fragment willow pattern	Not retained
15			1					

APPENDIX – 1:10,560 scale OS maps



1893



1938

RECENT FIELD WORK REPORTS

Interim 32	An archaeological excavation at the Newcastle Packet, Sandside	2000
Interim 33	A watching brief at the former convent school, Queen Street	2000
Interim 34	An earthwork survey of Seamer Manor House	2002
Interim 35	An archaeological excavation and watching brief at 58 Quay Street	2003
Interim 36	An archaeological excavation at the former Pentecostal Church	Forthcoming
Interim 37	An archaeological evaluation at the lounge site, Harcourt Place	2004
Interim 38	An archaeological evaluation excavation at the site of the former 23 Quay Street, Scarborough	2006
Interim 39	An archaeological excavation at Auborough Street, Scarborough	2010
Report 40	Investigation of a pre-historic square enclosure at Racecourse Road, Seamer Moor	January 2013
Report 41	An archaeological excavation at 34 Queen St, Scarborough	January 2013
Report 42	Archaeological Investigation into a Linear Earthwork at Seamer Moor, Scarborough	January 2013