AEA nc087: BROAD TOWN WHITE HORSE

Geoarchaeology of the infills
Auger Record 1 (21 August 2025)

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for:-
Broad Town White Horse Restoration Group

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ver 1.4

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The Broad Town white horse lies about 900m due east of Christ Church and the village of Broad Town itself (Fig. 2), which lies 7 miles south-west of Swindon in the county of Wiltshire (Fig. 1). Broad Town's chalk horse (Figs 3 and 11) was cut into a scarp overlooking the village, is centred on SU098782, and stands *c.*190m above OD. The Broad Town white horse is located just inside the north-west boundary of the North Wessex Downs National Landscape (NWDNL). Neither the hill-figure, nor the site on which the hill-figure is constructed, are currently designated.

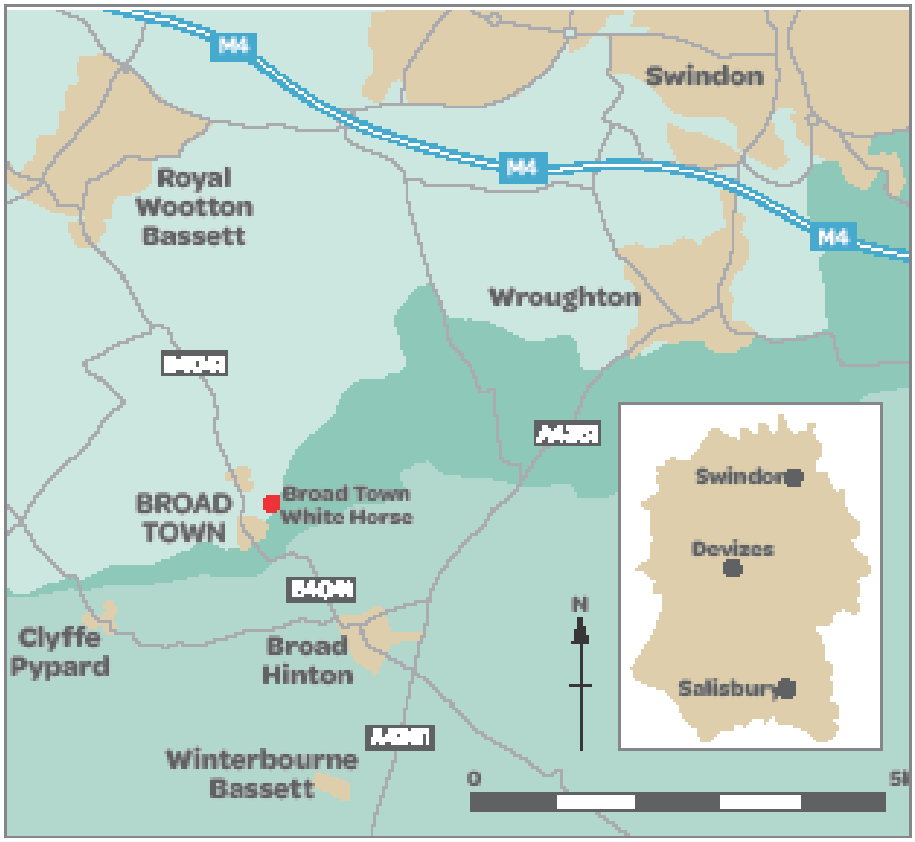

Figure 1. Location map (image Steven Cheshire, from Gibbons 2025, fig. 1)

The chalk horse is cut into the 45° scarp mapped as being formed of Zig Zag Chalk Formation (formerly Lower Chalk). This scarp slope rises *c.*100m from the lower lying Open Clay Vale. The horse itself is located just above Little Town Farmhouse and is 24m × 18m

(60 × 60ft) in size and composed of fine compacted chalk with well-defined edges. The auger survey intends, in part, to characterise that compacted chalk fill.

The scarp slope has numerous springs at its base, generally formerly at the junction of the West Melbury Chalk Formation (formerly Lower Chalk) and Upper Greensand or Gault Clay; spring sapping has led many to cutting back towards the scarpfoot itself. The section of scarp near Broad Town is historically prone to episodes of landslip.

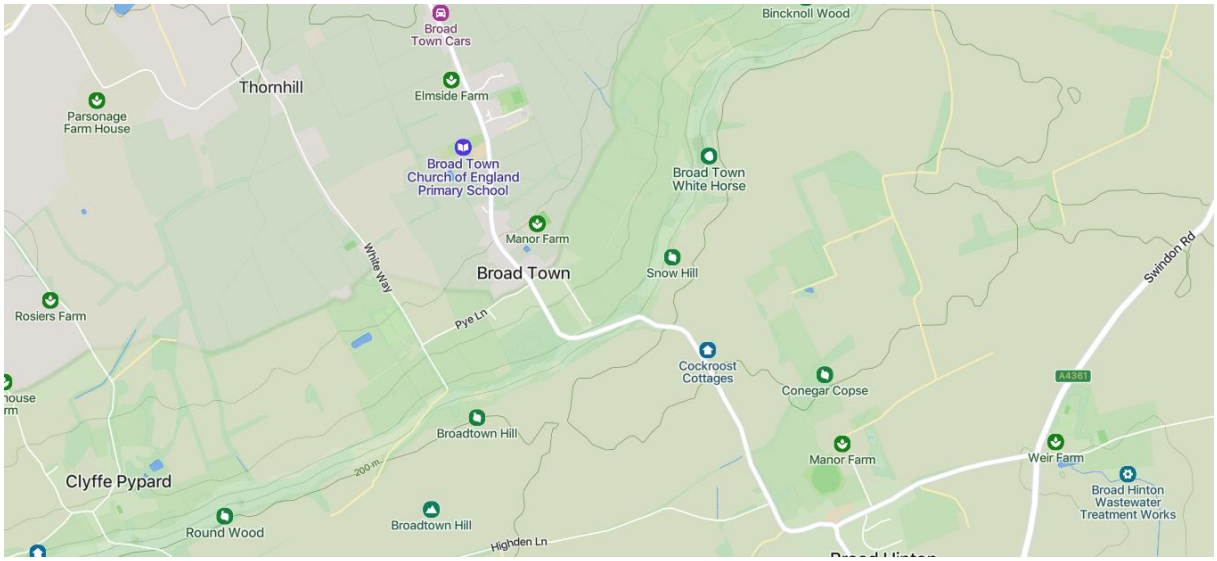

Figure 2. Map showing the location of Broad Town white horse the Broad Town itself

Aims

An archaeological auger survey of the Broad Town white horse, Broad Town, Wiltshire, is intended to:

a) identify and record the chalk infill of the horse

b) record the depth of the infill (ie, identify the chalk infill/bedrock interface across the horse)

c) record variations in the depth of chalk/lime infill, and identify stratigraphic variation in the chalk/lime infill.

d) identify consistent layers of chalking across the horse, and created an infill stratigraphy history

e) identify the presence of areas of a former figure in now grassed over areas

f) and thus characterise the chalk infill / the white horse figure

Recording the depth and nature (differing layers) of the chalk / liming infill will provide an indication of the depth of excavations that defined the hill-figure at the time of its construction, and determine how may infill episodes can be currently identified (many may have been totally removed or be indistinguishable from each other).

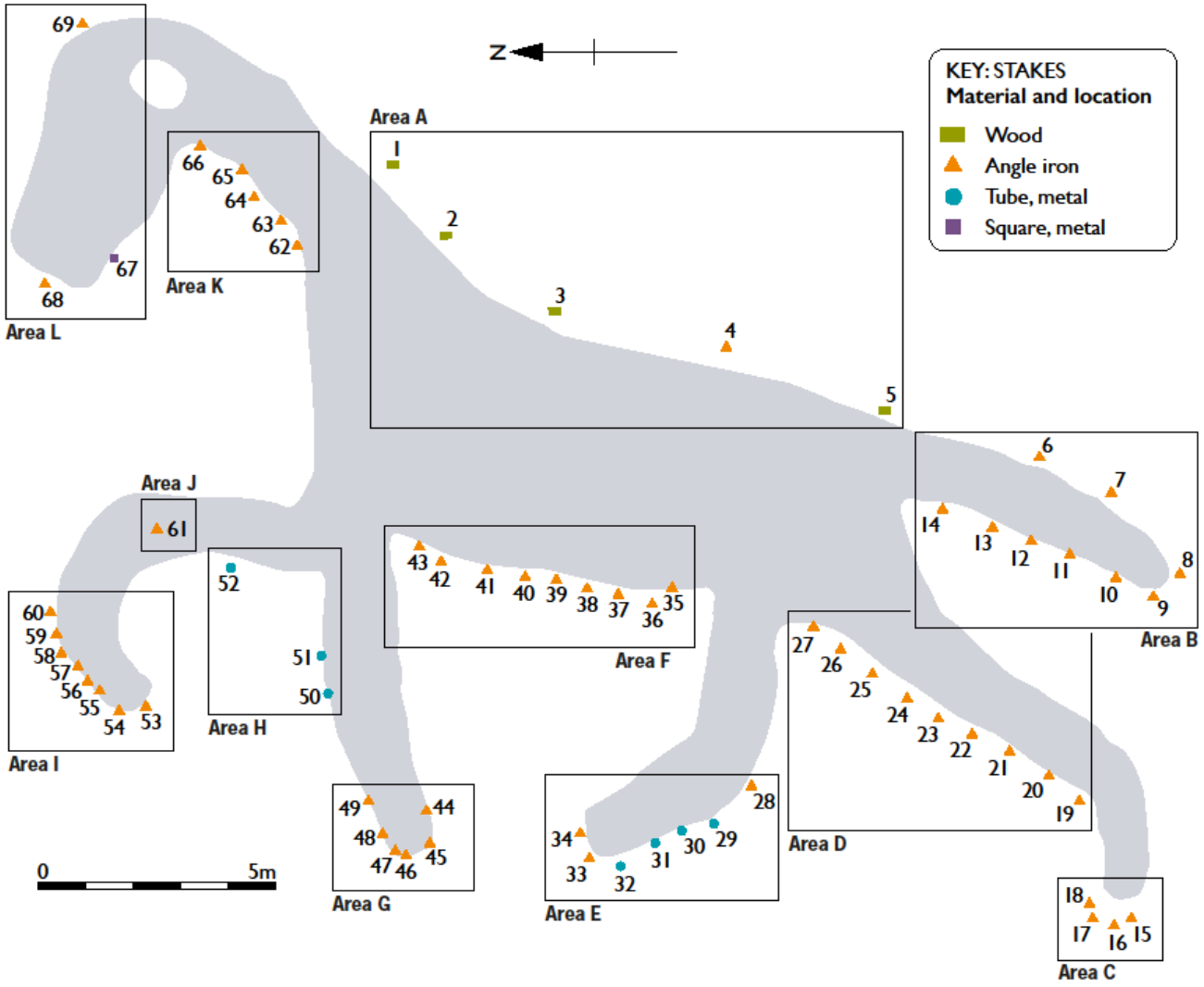

Figure 3. Plan of the horse in 2025 showing the location and material type of each stake (image Steven Cheshire, from Gibbons 2025, fig. 4)

Plotting the auger results alongside the topographic survey will provide the opportunity to overlay estimates of the original land surface, expressed as average slope profiles, in relation to the chalk infill/bedrock interface data.

It is expected that recorded variations in nature, character, layers and depth of infill, due to both infill history and subsequent erosion and the effect of the slope and processes of erosion, across the site. This will characterise the deposits and allow comparison with

a) other recorded results such as the Osmington hill-figure where such variations were thought to have been the outcome of construction techniques designed to mitigate the worse effects of the natural slope and erosion, and

b) other Wiltshire white horses that may be surveyed.

It is expected that these aims can be achieved with as few as a 14 – 24 auger points located across the horse (Appendix 4), however, a more detailed and complex array was proffered by Garry Gibbons with 11 further points, indicated in red on Figure 3. Over and above defining the depth of the chalk fill and characterising chalk infill, in order to make the auger results more valuable (than just data collecting) a series of specific questions were posed of each auger location.

Questions	***Auger points***
Characterising figure chalk depth	2-17, 18-24, & 25-35
Is there evidence of the former ears	1
Is there evidence of a longer nose	5
Is there evidence of a forefoot/hoof	24
Is here evidence that the neck was wider	7 vs 6.2
What is depth of the accumulation at the hooves	16, 19, 20, 23-, 24
Is the lower belly thicker than the back?	10 & 1 & 30 vs 8 & 12 & 28 & 29
Is the depth at centre the same as the back?	9 vs 8 & 12& 28 & 2
Is there evidence of a rear running hoof	17
Is the head a consistent thickness	2, 3, 4 & 5
Do the legs thicken downslope	22 35, 23, 24 10, 21, 34, 20 11, 18, 33, 19 15, 32, 16
Is the tail constant thickness	12, 13, 14

Auger point Questions

ALL What is the depth of the horse - Characterising figure chalk depth?

Auger	***Question***
1	Is there evidence of the former ears?
2-24	What is the depth of the horse - Characterising figure chalk depth?
5	Is there evidence of a longer nose?
6.2 & 7	Is here evidence that the neck was wider?
8	Is the lower belly thicker than the back? Is the depth at centre the same as the back?
9 - 11	Is the tail constant thickness?
9	Is the depth at centre the same as the back? (see auger 12)

Auger	*Question*
10 & 11	Do the legs thicken downslope? Is the lower belly thicker than the back?
15 - 24	Do the legs thicken downslope?
16	What is depth of the accumulation at the hooves? Do the legs thicken downslope?
17	Is there evidence of a rear running hoof?
19-20	What is depth of the accumulation at the hooves? Do the legs thicken downslope?
23-24	What is depth of the accumulation at the hooves? Do the legs thicken downslope?
25-31	What is the depth of the horse - Characterising figure chalk depth?
32-35	Do the legs thicken downslope?

Method

The series of 36 auger points (Fig. 4) were surveyed by Garry Gibbons and marked on site with numbered flags for augering. Augering was be undertaken with 3 or 4cm diameter dutch (Eldeman) auger and/or 3cm diameter gouge augers (or similar), enabling depth and stratigraphy to be recorded. The depth of deposit and stratigraphy will be recorded, and the location of each auger point recorded in relation to the figure. Recording attempted to follow standard archaeological practice with notation following characteristics and terminology outlined by Hodgson (1997).

On 21st August 2025, a team of Mike Allen, Garry Gibbons, Derek Greer and Andrew Law recorded 8 auger points (indicated on Figure 5), plus two control points on the natural downland off the horse (Fig. 11).

Preliminary comments on the results

The 8 auger points recorded across the site were 1, 2, 3, 4, 5, 6.1, 9, and 12 and two control points C1 and C2 (Figure 4). A series of at least 4 clear layers below the present surface chalk lime could be detected. The fills tentatively include:

i) present day chalk lime, ii) chalk rubble, iii) a second chalk lime infill, and iv) an greenish or olive chalk fill.

Depths of up to 1.25m+ were recorded and most were in excess of 0.6m. The preservation of the stratigraphy was remarkable and surprisingly deep.

Records

This was the first time all but Mike Allen had undertaken and recorded auger holes. Despite being briefed on what to record, and to record ‘what you see’ and not what you think is there, to use the *proforma* auger sheets and keep records consistent, the records (Appendix 2) were inconsistent and incomplete. Omissions were prompted (in red) and are given in blue on the auger records (Appendix 1) as these are remembered or inferred information not field facts. The longer the response time the weaker our confidence is in the record (Garry Gibbons 24 hrs, Derek Greer 48 hrs, Andrew Law 78 hrs). Some omissions could not be remembered (auger 9), so wisely and sensibly rather than guessing and providing inaccurate information, none were not proffered. Photographs of some cores are given in Appendix 3.

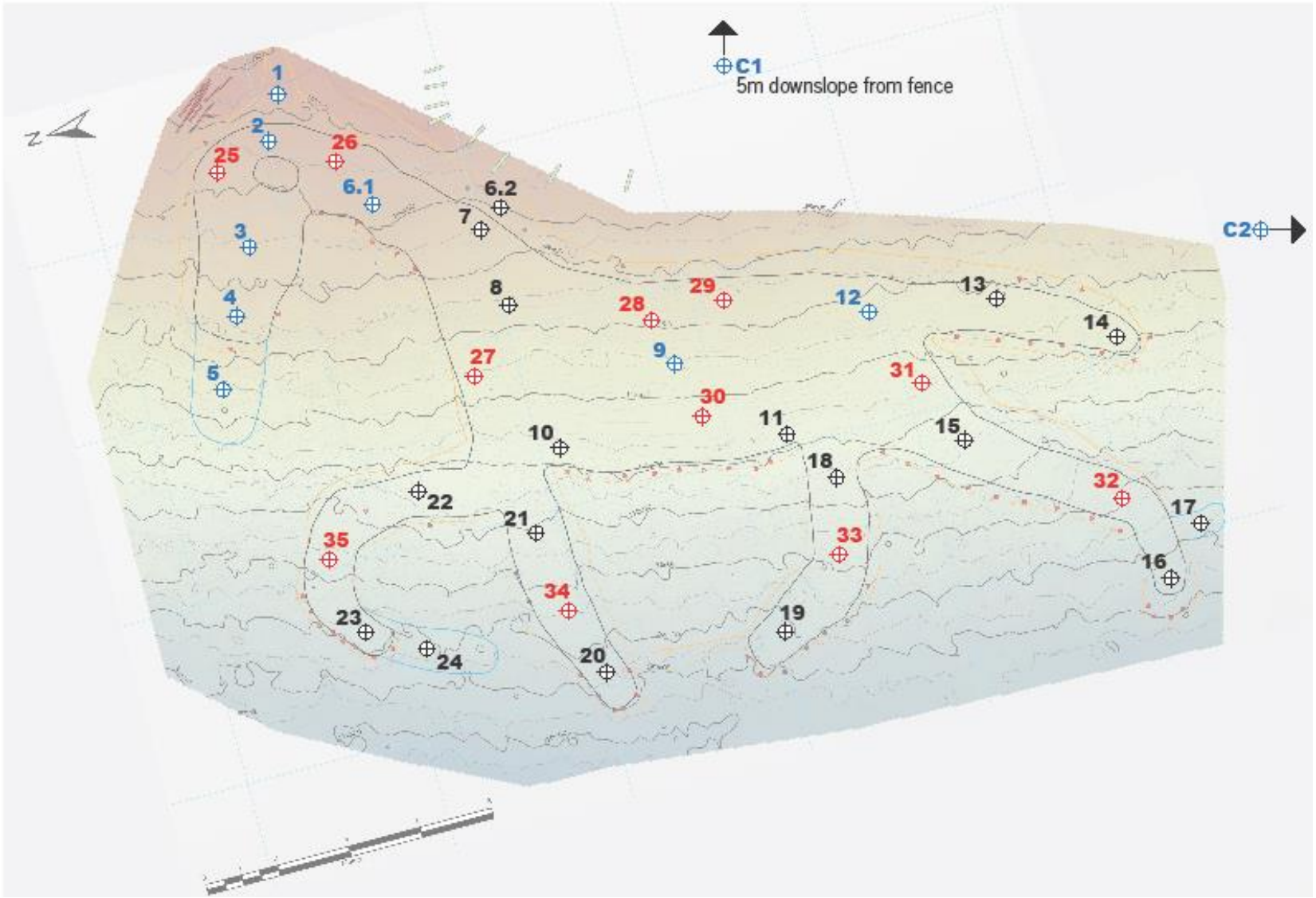

Figure 4. Proposed auger locations (re-numbered) with additional auger points in red, and those augered in blue. Image Garry Gibbons

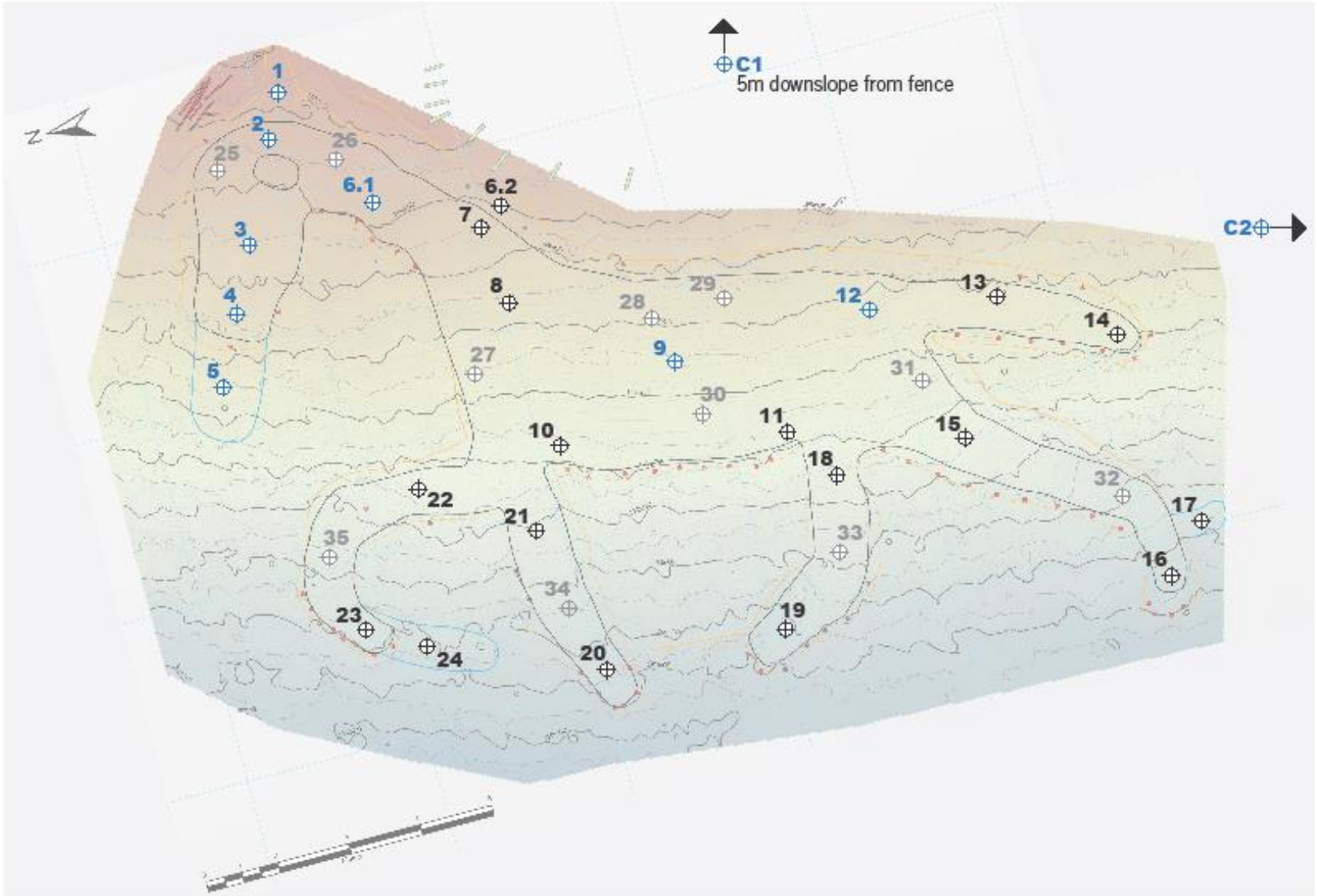

Figure 5. The surveyed auger points showing those recorded (21/8/25) in blue. Image G. Gibbons

Stratigraphy
From the field records (auger sheets and notebook records by Allen), we can divide these into four main categories; topsoil/hillwash, modern liming, chalk rubble, and chalk lime/silt layers comprised of up to 6 clear layers, which are present variably across the figure. In two cases (3 and 4) field descriptions were not consist with other records and left some ambiguity over layer ascription (Appendix 1). The correlation of these is presented in Table 1.

Topsoil (1) and hillwash (2, colluvium)
Greyish brown dusty and loose silt, stone-free (topsoil to 17cm thick) to few small stones (colluvium, 90cm thick), abrupt boundary.

Modern liming (3)
Pale white, pale yellow, light grey to light brown compacted but friable and dusty loose calcareous silt (lime), generally stone-free, with occasional small red/brown stained flint (river gravel flint). A layer of cemented chalk lime was present (auger 2) due to subsurface, post depositional cementation. In one case a 20cm zone of small chalk stones was present (auger 12), and in another a remembered 3cm thick layer of abundant small/medium chalk stones (auger 4). Whether these zones of chalk represent different phases of chalking with this 'modern//present day' chalk lime or is just variation within the lime is not clear, but comparing all 6 records and deposits below, suggest this is minor variations with the modern liming. This layer was surprising consistent across the 6 augers holes (2, 3, 4, 6, 9 and 12) being 20cm to 25cm think, and possible being up to 47cm thick depending in the ascription within auger 4.

Chalk rubble (4)
A chalk rubble layer between 5 and 20cm thick was present four locations (augers 2, 3, 6.1 and 9) It comprised a layer up to 20cm thick of variably loose to densely abundant medium and large chalk stones, including rare (occasional) small and medium flits, rare (occasional) medium brown/grey ?sandstone, black grey road metalling, and red/brown iron-stained (river gravel) flint, with an abrupt boundary. In one instance (auger 3) it was remembered to have contained 'bands of stones', though possibly to indicating re-chalking episodes, but here are probably just variations in the chalk rubble which seems to have been a base layer which was top dressed.

Older Chalking (brownish 5a, 5b and olive greenish 6.1)
Perhaps to most significant records were of two layers of chalk silt (lime) that predate the modern chalking (3) and the chalk rubble (4).

The upper layer under the chalk rubble, where it occurs, was mid brown to grey brown fine homogeneous silt, stone-free (5a) sometimes over a mid brown fine compacted silt (5b) it total varying between 3cm and 42cm thick. Below this was layer (6) an olive, greenish olive, greenish grey, light brown/green and brown calcareous silt (described as dust and powder) firm but friable becoming compacted and dense to very dense with depth, essentially stone-free but some small chalk stones and very rare small flints. This was a deep layer at least 33cm thick and more than 60cm deep (not bottomed) in places.

Chalk bedrock
Chalk bedrock was encountered with certainty in 3 locations beneath 52cm to 60cm of soil and chalking.

Layer	*1*	*2*	*3*	*4*	*5*	*6*	*9*	*12*
1 Topsoil	Greyish brown silty stone-free dusty loose massive, abrupt boundary	-	-	-	VOID	-	-	-
	Zone of small subangular stones (worm worked)	-	-	-	-	-	-	-
2 Soil / hillwash					Grey brown crumbly fine (silt), few small stones, consistent through depth, abrupt boundary			
3 modern lime	-	Light brown, dusty fine silt, stone-free chalk lime	Pale yellow powder, dusty loose (silt) chalk lime, stone-free At 25cm occasional small red/brown stained flint (river gravel flint)	Pale yellow powder fine (silt) chalk lime, stone-free	-	Pale white powdery dry dusty calcareous silt, stone-free, abrupt boundary	Pale yellow powdery chalk lime, distinct (abrupt to sharp) boundary	Light grey (grey-white): fine-grained dry calcareous silt, stone-free, at 20cm zone of small (2-4cm) stones (possibly chalk)
3a		Pale white, hard cemented (concreted) chalk marl layer						

Table 1. Correlation of deposit record and layers

Layer	*1*	*2*	*3*	*4*	*5*	*6*	*9*	*12*
4 Chalk rubble		Layer of loose abundant medium and large chalk stones, including possible brown/grey ?sandstone, and medium black grey road metalling	Medium and large chalk stones, densely packed, with occasional red/brown iron-stained (river gravel) flint, in pale yellowish green calcareous silt. *Contains bands of stones possibly indicating re-chalking episodes*	-	-	Stony layer; medium subangular chalk pieces, rare small and medium flints, with no matrix, clear to abrupt boundary	Medium to large (chalk) stones ?matrix (colour and texture silt/ sty loam?) qty, size and geology of stones	-
5a Brownish silt CALC SILT 1a	NOT RECOVERED soil and small stones [dry calcareous silt]]	Mid brown fine silt, stone-free (not natural)						Grey brown fine-grained homogeneous sill, stone-free
5b CALC SILT 1b		Mid brown fine compacted silt						

Table 1. Correlation of deposit record and layers (cont.)

Layer	*1*	*2*	*3*	*4*	*5*	*6*	*9*	*12*
6.1 Olive silt CALC SILT 2	Greenish grey calcareous silt, dusty, stone-free. Dense but loose, at 32cm some small chalk stones		Olive silt, friable, with occasional / rare small flints, with a compacted bed of silt/stones at 54-65cm 65-80cm darker olive green densely compacted silt, with occasional small chalk stones, *containing bands of stones possibly indicating re-chalking episodes,* becoming increasingly difficult to auger	Pale yellow to light green compacted friable silt, chalk lime At 40-47cm a zone of abundant small/medium chalk stones, possibly evidence of re-chalking episode Light brown/green powder silt, compacted, firm but friable (not natural chalk – part of the horse make-up) Light brown/green powder silt, compacted, firm but friable (not natural chalk – part of the horse make-up)	Greenish olive, dense silt, compacted, but friable, stone-free	Grey / olive green powdery calcareous silt, stone-free – silt will compact into lumps	Olive compressed firm but friable silt, stone-free	Brown, fine-grained, and at times compacted calcareous silt, especially compact at 69-90cm+
CHALK	Chalk	Chalk	-	-	-	Chalk	-	-
Depth (cm)	52	54	90+	95+	125+	60	60+	90+

Table 1. Correlation of deposit record and layers (cont.)

Nature and depth of the figure chalking

The modern chalk lime (3) was generally a consistent 20 to 25cm thick. The chalk infill beneath the modern dressing contained a chalk rubble (4), the bed/foundation for the recent lime dressing, but beneath that between 2 and 4 layers of a brownish chalk lime (5) and greenish olive chalk lime (6). In total these were at least 0.50m thick, but most were greater than 0.6m, two were greater than 0.9m one was greater than 1.25m (Fig. 6). This constitutes a massive volume of chalk infill (75m^3 as a minimum). It represents a minimum of 3, and up to 5 different chalking mediums/episodes.

Distribution across site

The layers identified and described above were not found at all points augered and their distribution across (and beyond) the horse is signified in the history of chalking and re-chalking, but also hints at other elements no longer present in the current horse. The distribution of these layers is given in Figures 7 to 10 below, and is summarised in the chart below.

Auger point	*1*	*2*	*3*	*4*	*5*	*6.1*	*9*	*12*
Layer								
1 Topsoil					VOID			
2 Soil / hillwash								
3 Modern lime								
4 Chalk rubble								
? Chalk silt				?				
5a Grey/brown chalk lime								
5b Olive chalk silt								
6.1 Olive green chalk silt								
CHALK			-	-				
Depth (cm)	52	54	90+	95+	125+	60	60+	90+

Chart indicating the presence of recording layers and their stratigraphic relationship

The present chalk lime layer (3) is, not surprisingly, present in all points augered through the body of the horse (Fig. 7). Beneath this was a bed of loose vacuous chalk rubble (Fig. 8) recorded in the head neck and body, but absent from the nose (4) and rump (12). This was thought to be a bed for the present / upper chalk lime layer (3). Below the chalk rubble was at least two different layers of calcareous (lime) silt, the first being a brownish colour (5a and 5b) and seen in the upper head (2) and rump (12; Fig. 9) whilst beneath this was a greenish olive calcareous (lime) silt (6) seen more widely across the figure (Fig. 10) in the head (3) nose (4) neck 6.1, body (9) and rump (12).

The lack of total consistency of deposit across the site representing different episodes of chalking and different materials shows an uneven spread (Figs 7-10). This may relate to disturbance and movement of former layers during re-chalking events that are now indistinguishable, or due to the distribution of erosion and the necessity for variable thicknesses of infill.

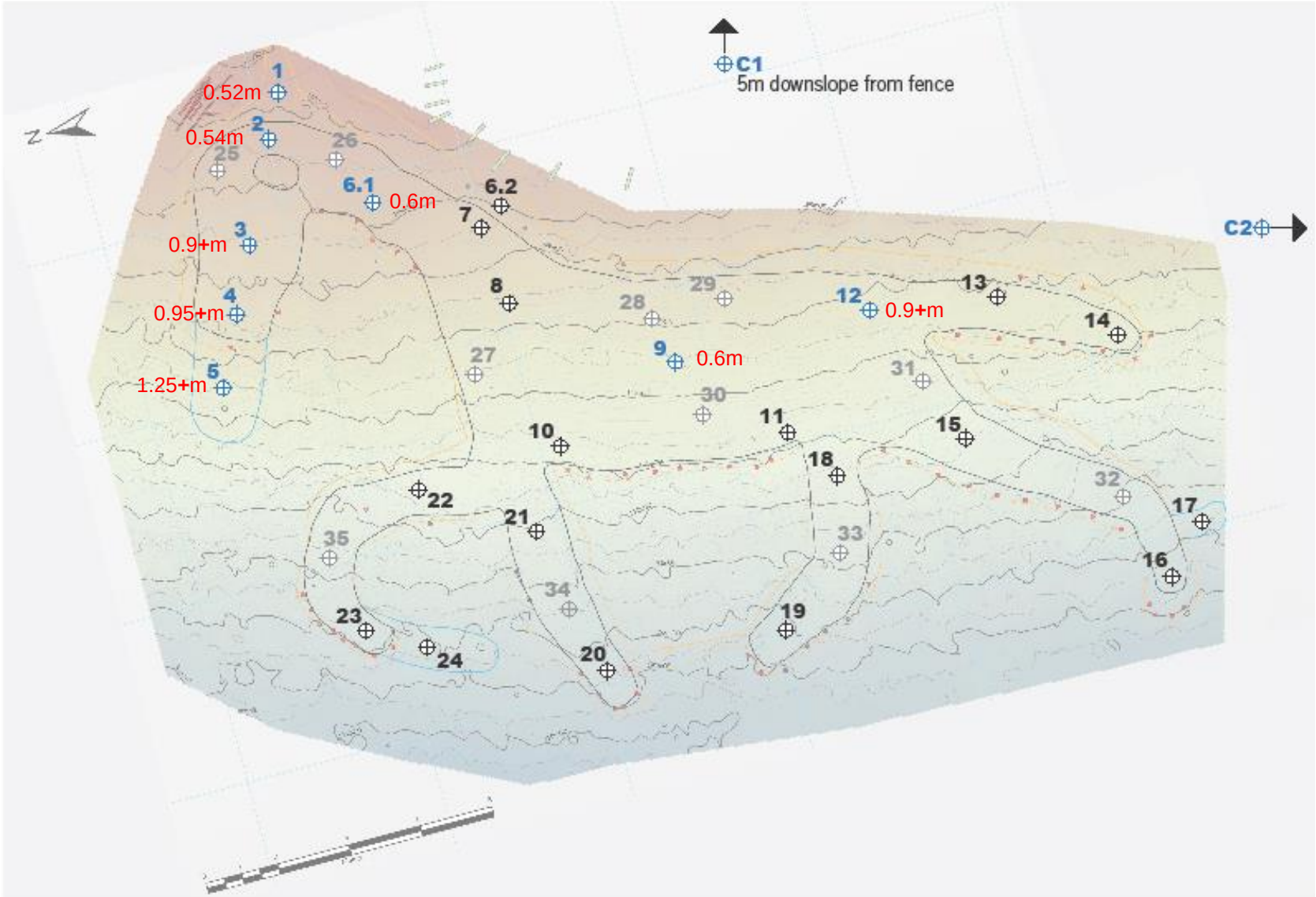

Figure 6. Recorded depths of the chalk fill; note points 3, 4, 5 and 12 did not reach chalk bedrock

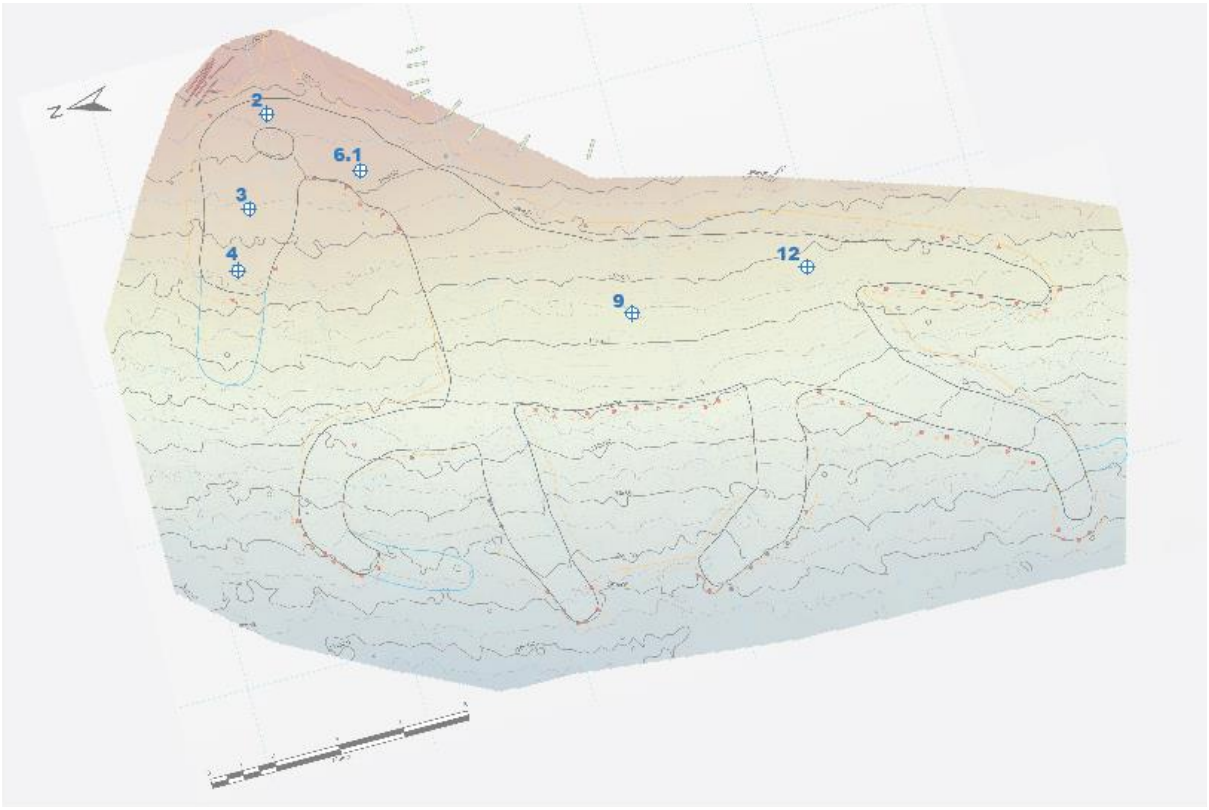

Figure 7. Record of modern liming (3)

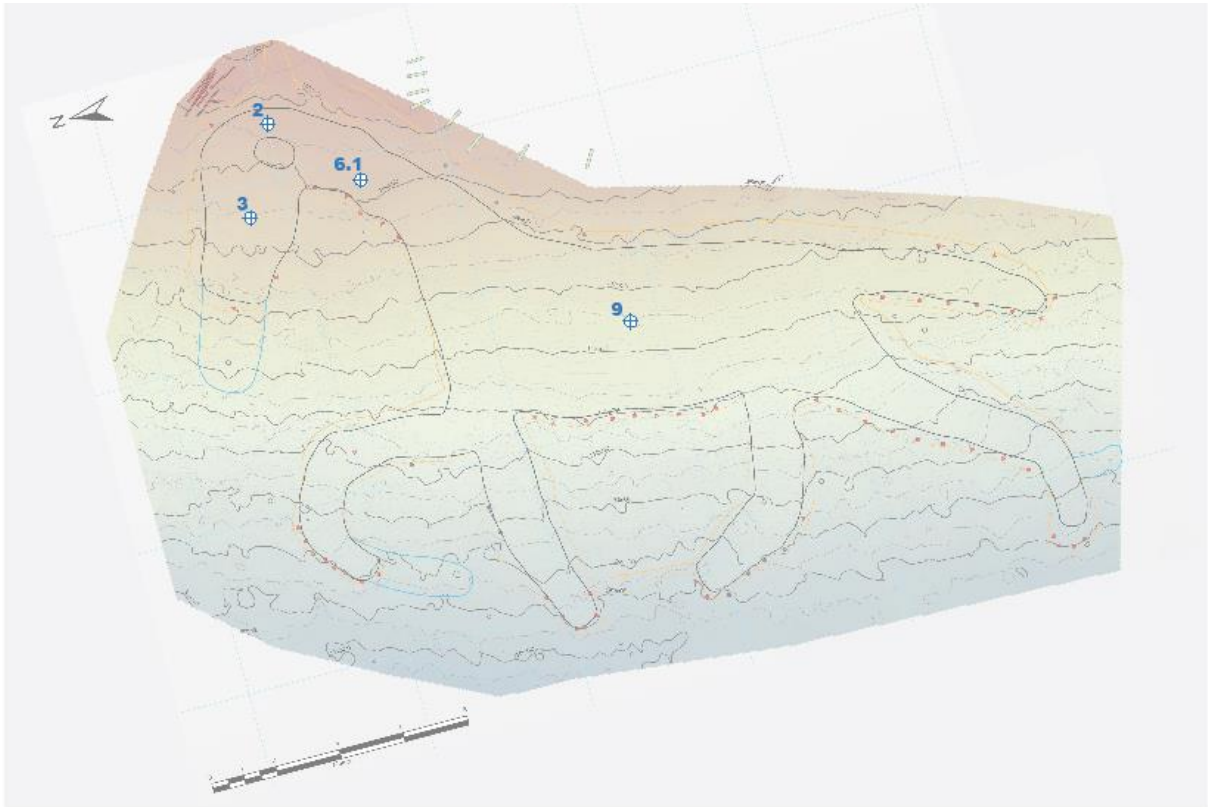

Figure 8. Distribution of chalk rubble (4)

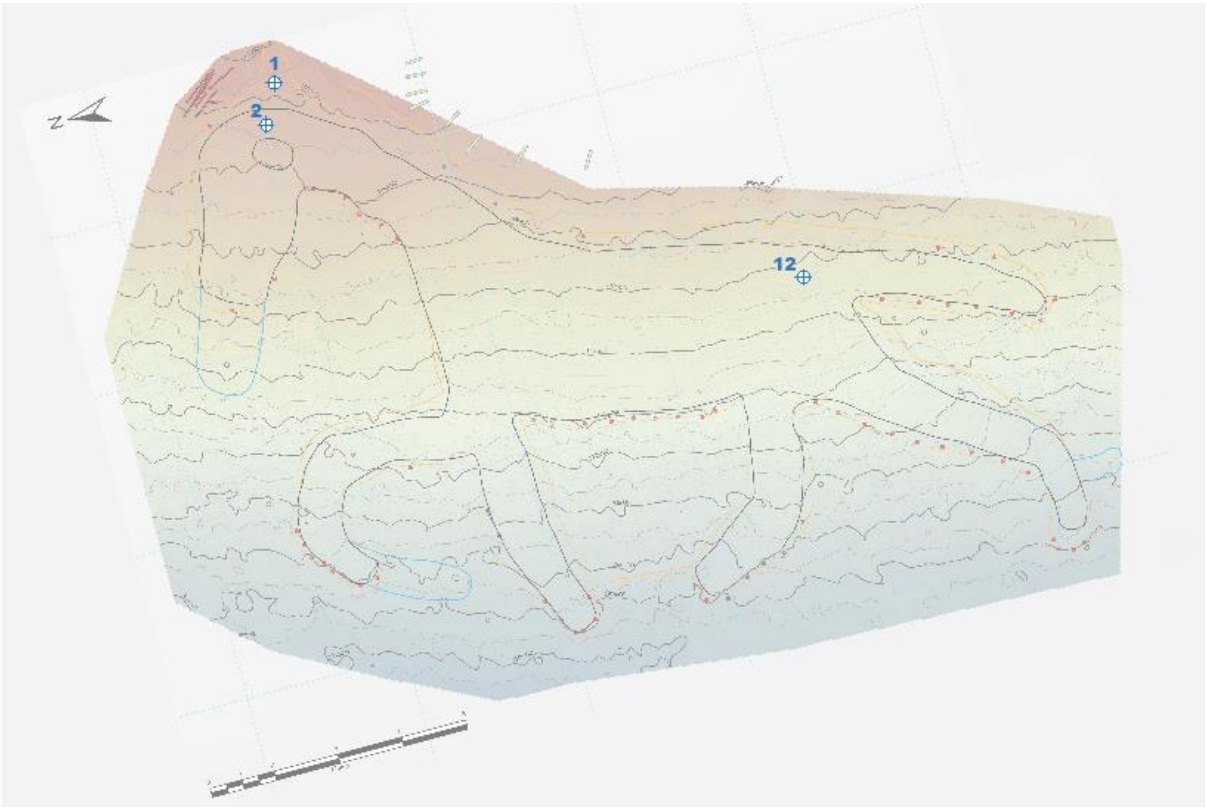

Figure 9. Distribution of brownish calcareous silt (5a and 5b)

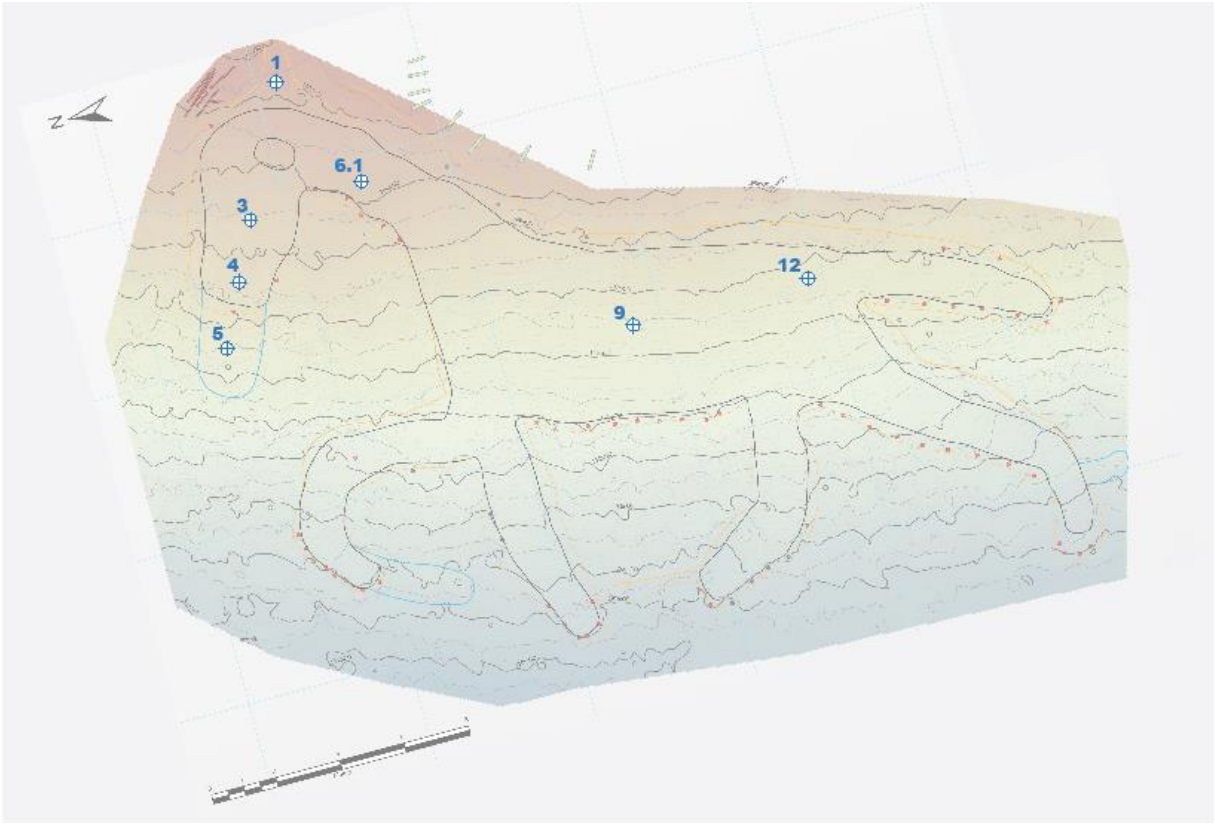

Figure 10. Distribution of greenish olive calcareous silt (6)

Figure 11. The team augering (image Andrew Law 2025)

Significance and Implications

An appreciable mass of chalking

The augering has shown an *appreciable* depth of chalking exists over large portions of the figure and survives from 0.5m to over 1.25m (bot bottomed). With the area of the horse being calculated at 149.98m^2 (Horne 2025), so this represents at least 75m3 and probably nearer 150m^3 of chalk fill. This is substantial volume of chalk cut into the down to over 1m in places, but eroding out and accumulating forming upstanding 'revetments' to 0.5m height (Gibbons 2025, 8, fig. 9). This indicates the mobility of the chalking, and its erosion downslope creating micro-features (revetments) that were not a part of the origin design or form. Nevertheless the sheer volume of stacked chalkings on the figure is both impressive, but also protective. Unless there is catastrophic slope failure, the figure itself is unlikely to be washed away unless there is series long-term dereliction of care, curation and restoration

Hidden elements

Perhaps one of the most exciting discoveries was the presence of former chalking under the grass in the head area and auger points 1 and 5. Point 1 is located above the present head and could indicate the presence of former ears, or of larger head or larger horse beneath the existing figure. Point 5 beyond the nose may indicate a former longer nose/face, or this too hints larger head or larger horse beneath the existing figure.

Are these just evidence of modification the outline (ie, ears and longer nose)?, or could they represent a former much former horse that is known to have planned to be been cut on to the Broad Town scape (Gibbons, pers. comm.)? Further auger, among other archaeological techniques, might help elucidate this.

Figure 12. The Broad Town White Horse Restoration Group, 18 May 2025 (image Andrew McNally from Gibbons 2025, fig. 21)

Viewsheds

The white horse is reported to be seen from as far as 20 miles away and its location commands a view from the scarp over the clay vale. The viewshed itself is probably not that significant except that it, like many other places on atop the scarp slope have extensive views. What may, however, be significant, is that an axial line through the nave and chancel of the Broad Town Christs Church seems to direct align with the horse.

Concluding comments

Preliminary examination of the results are good, and importantly:

- There is evidence of deep (>0.6m) stratified deposits surviving over large areas of the horse
- The stratigraphy seems generally consistent across the site where augered to date
- There is evidence of this stratigraphy (chalk infill) outside the area of the current horse (ie, ears and nose), suggesting some elements lost to present figure
- There is the potential for ears to have existed and a larger nose or different shaped head to exist, and potential of a larger and different horse on site that is now completely grown over

The augering has demonstrated the extensive depth of deposits, and that the majority are cut well into the chalk (>0.6m) and comprise a large mass of stratified distinguishable different chalking layers. Only the current surface lime is unstable and readily liable to erosion damage.

There is little likelihood of weathering and local erosion removing or significantly damaging the horse.

Only catastrophic slope failure (land slips) may damage the horse; this has been shown not be directly affected by anthropogenic activity, and these natural failures are, therefore, hard if not impossible to prevent

Implications for the figure
There is the clear potential to examine the possibility of, and possibly map the extent of, an overgrown figure beneath that which exists today

Completing the auger report
This report forms the basis to of the stratigraphic model of the chalk infills of the horse and the (likely / minimum) depths of survival, which will form part of the geoarchaeology report.

The results were suppressing, reassuring and require realigning some of the immediate key augering aims

Further work
Although some further auger work is clearly required especially of the body and rump area, as a consequence of this 1 day of hand augering the results were so conclusive that the aims of augering project need to be realigned as a consequence. In retrospect some of the original and many of the additional auger points proposed may now not be needed in this immediate stages, but auger holes perhaps between 34 and 33 and below the figure may be important.

The suggested key augers points are (Fig. 13);

Tail	Auger 13	is the tail the same as elsewhere
Legs	Auger 35, 35, 33 & 32	are the legs the same as the body and head?
Below tummy	Auger new 1 and new 2 And downslope	is there evident of much larger horse?

Secondary aims might be

Body	Auger 27 and 31	confirm the chalking character across the figure

New augering programme must provide

- clear accurate descriptive records on *proforma* sheets, following the revised guidelines,
- then provide an interpretation and comments on each identified layer
- and then attempt to link that layer with those recorded here and temporarily label in the field as such

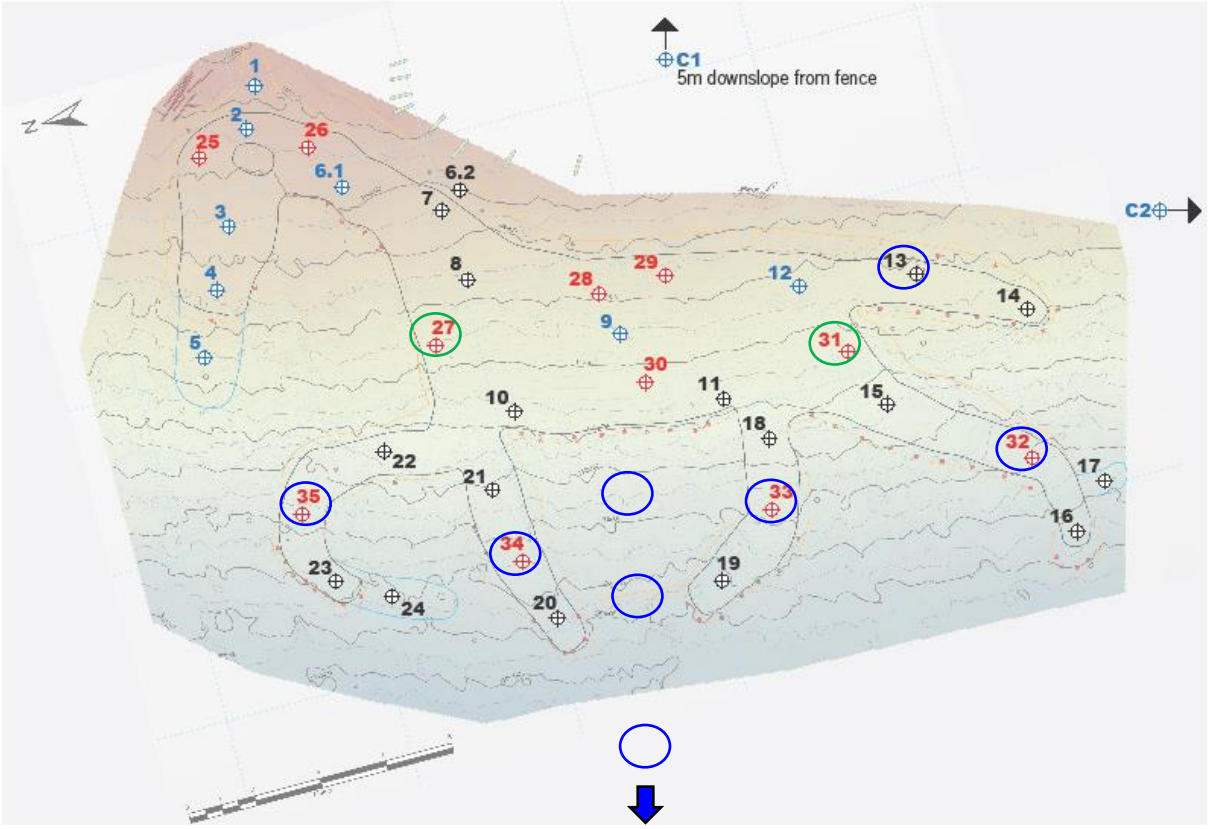

Figure 13. Key priority points for augering are ringed in blue, and possible additional points in green

Care of the monument

Although we are proposing further auguring, ideally with the Broad Town community, this should be kept to a minimum, as the Broad Town white horse is a historic monument, and the layers we are permanently damaging, and locally destroying, by augering; the layers (stratigraphy) are the historic record of its formation, existence and survival. The stratigraphy at any specific auger location is permanently destroyed, and it is the only record is what you make on the day. The layers at your auger pint are lost, but are preserved only by your record (preservation by record); so ensure they are full, accurate, completed and reported/archived.

Acknowledgments

Thanks are extended to R.D. Horton & Son for their permission to access to the site for the auger survey. This survey forms part of a wider reconnaissance project of the Broad Town white horse gratefully funded by North Wessex Downs National Landscape, North Wessex Downs Landscape Trust and the Bluefield Solar Income Fund (Broad Town Community), and supported by David Dawson, Director Wiltshire Museum. Thanks are also due to Broad Town Parish Council providing support and volunteer insurance; and this survey work was undertaken under the auspices of the of the Broad Town White Horse Restoration Group led by Andrew Law (Chair) and Derek Greer (Secretary) – the driving force behind this project. The augering was conducted by the author, Andrew Law, Derek Greer and Garry Gibbons, and thanks is extended especially to the latter for advice, information and expertise on the Broad Town, and all other Wilshire, chalk horses. Figure 1 was produced by Steven

Cheshire, the photograph (Fig. 12) is by Andrew McNally, and the plans of the augering on the horse (Figs 4-9, and base of 13) by Garry Gibbons.

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APPENDIX 1: Auger records

TEAM: Mike Allen Garry Gibbons Derek Greer Andrew Law

Note: comments in blue were added in post-excavation and are from memory or supposition, and are, therefore, are not necessarily a true accurate record (unlike that in black). Those in red are queries and omissions not able to be answered or resolved with certitude. This reflects the novelty of recording to most of the team, and highlights the importance of making a clear, consistent clinical record; without which distinguishing layers from different auger points seen in the field, cannot be recognised in the formal written record. Photographs of the auger are of little substitute but are a useful additional reference.

Auger 1 Recorder: Mike Allen Scribe: Mike Allen

Depth (cm)	*Description and interpretation*
0-13	Greyish brown silty stone-free dusty loose massive, abrupt boundary Ah/A; topsoil 1. TOPSOIL
13-14	Zone of small subangular stones Earthworm-worked horizon OR thin layer of chalk pea-grit 1. TOPSOIL
14-17	Lost/not recovered ... but soil and small stones [dry calcareous silt] 5. BROWNISH CHALK SILT 1a
17-50	Greenish grey calcareous silt, dusty, stone-free. Dense but loose, at 32cm some small chalk stones 6. GREENISH CHALK SILT 2
50/52+	Tough to auger, heard grind ?chalk Cw WEATHERED CHALK AND CHALK BEDROCK

Auger comments/answers: Evidence of chalk silt (lime) above head = ?former ear

Auger 2 Recorder: Mike Scribe: Derek

Depth (cm)	*Description and interpretation*
0-22	Light brown, dusty fine silt, stone-free chalk lime 3. MODERN CHALK LIME
22-23	Pale white, hard cemented (concreted) chalk marl layer 3. MODERN (CEMENTED) CHALK LIME (post-depositional cementation)
23-27	Layer of loose abundant medium and large chalk stones, including possible brown/grey ?sandstone, and medium black grey road metalling 4. CHALK RUBBLE
28-40	Mid brown fine silt, stone-free (not natural) 5a. BOWNISH CHALK SILT 1a
40-54	Mid brown fine compacted silt 5b. BROWNISH CHALK SILT 1b
54+	Solid (dull thud ?chalk) CHALK BEDROCK

Auger comments/answers: three layers of infill below the present chalk lime infill

Auger 3 Recorder: Garry Scribe: Garry / Andrew

Depth (cm)	*Description and interpretation*
0-25	Pale yellow powder, dusty loose (silt) chalk lime, stone-free At 25cm occasional small red/brown stained flint (river gravel flint) 3. MODERN CHALK LIME
25-35	Medium and large chalk stones, densely packed, with occasional red/brown iron-stained (river gravel) flint, in pale yellowish green calcareous silt. *Contains bands of stones possibly indicating re-chalking episodes* 4. CHALK RUBBLE
35-90+	Olive silt, friable, with occasional / rare small flints, with a compacted bed of silt/stones at 54-65cm 65-80cm darker olive green densely compacted silt, with occasional small chalk stones, *containing bands of stones possibly indicating re-chalking episodes,* becoming increasingly difficult to auger 5. BROWNISH SILT 1 OR 6. GREENISH CHALK SILT 2

Auger comments/answers: Two layers of chalk fill below modern to >0.9m

Auger 4 Recorder: Garry Scribe: Garry / Andrew

Depth (cm)	*Description and interpretation*
0-22	Pale yellow powder fine (silt) chalk lime, stone-free 3. MODERN CHALK LIME
22-47	Pale yellow to light green compacted friable silt, chalk lime At 40-47cm a zone of abundant small/medium chalk stones, possibly evidence of re-chalking episode 3. MODERN CHALK LIME ? CHALK SILT OR ?6. GREENISH CHALK SILT 2
49-95+	Light brown/green powder silt, compacted, firm but friable (not natural chalk – part of the horse make-up) 6. GREENISH CHALK SILT 2

Auger comments/answers: only the greenish chalk silt below the modern lime

Auger 5 Recorder: Andrew / Derek Scribe: Derek

Depth (cm)	*Description and interpretation*
0-15	Void / depression 1. TOPSOIL
15-90	Grey brown crumbly fine (silt), few small stones, consistent through depth, abrupt boundary Possibly colluvium (hillwash) / deposited topsoil 2. SOIL / HILLWASH
90-125+	Greenish olive, dense silt, compacted, but friable, stone-free 6. GREENISH CHALK SILT 2

Auger comments/answers: No modern liming at this location, at 90-125cm depth greenish chalk silt 2

Auger 6.1 Recorder: Derek/Mike Scribe: Derek

Depth (cm)	*Description and interpretation*
0-24	Pale white powdery dry dusty calcareous silt, stone-free, abrupt boundary 3. MODERN CHALK LIME
24-44	Stony layer; medium subangular chalk pieces, rare small and medium flints, with no matrix, clear to abrupt boundary 4. CHALK RUBBLE
44-60	Grey / olive green powdery calcareous silt, stone-free – silt will compact into lumps 6. GREENISH CHALK SILT 2
60+	Solid, probably chalk bedrock CHALK BEDROCK

Auger comments/answers: chalk rubble and chalk silt present

Auger 9 Recorder: Andrew Scribe: Andrew

Depth (cm)	*Description and interpretation*
0-20	Pale yellow powdery chalk lime, distinct (abrupt to sharp) boundary 3. MODERN CHALK LIME
20-34	Medium to large (chalk) stones ?matrix (colour and texture silt/ sty loam?) qty, size and geology of stones 4. CHALK RUBBLE
34-60+	Olive compressed firm but friable silt, stone-free 6. GREENISH CHALK SILT 2

Auger comments/answers: chalk rubble and chalk silt present

Auger 12 Recorder: Derek Scribe: Derek

Depth (cm)	*Description and interpretation*
0-20	Light grey (grey-white): fine-grained dry calcareous silt, stone-free, at 20cm zone of small (2-4cm) stones (possibly chalk) 3. MODERN CHALK LIME
20-37	Grey brown fine-grained homogeneous silt, stone-free 5. BROWNISH CHALK SILT 1
37-90+	Brown, fine-grained, and at times compacted calcareous silt, especially compact at 69-90cm+ 5 or 6. BROWNISH or GREENISH CHALK SILT 1 or 2

Auger comments/answers: top layer seemed to be modern chalk lime, but no chalk rubble below

Auger C1 (control 1) control south of horse

Recorder: Mike Allen Scribe: Mike Allen

Very steep slope in small terracette – above/level with horse back to north

Depth (cm)	*Description and interpretation*
0-12	(Very) dark greyish brown humic silt, stone-free, under long ungrazed grass, abrupt boundary Ah horizon Turf, topsoil
12-21	Brown silt loam, common small chalk flecks, rare medium flints clear to abrupt boundary B horizon' 'topsoil' soil
21-34	Yellowish brown silt loam, stone-free, (rare (chalk) stones heard, not recovered) A/C horizon weathered chalk
24+	Chalk: can't auger further

Auger comments/answers: Shallow brown rendzina soil

Auger C2 (control 2) control above back of horse and above level of head, *c.* 5m from fence

Recorder: Mike Allen Scribe: Mike Allen

Depth (cm)	*Description and interpretation*
0-10	dark greyish brown humic silt, stone-free, under long ungrazed grass, abrupt boundary Ah horizon Turf, topsoil
12-35	Yellowish brown calcareous silt loam, few chalk flecks, otherwise stone-free, some loose chalk at base B horizon' 'topsoil' soil
35+	Chalk: can't auger further

Auger comments/answers: Shallow brown rendzina soil

APPENDIX 2: pdf scans of the auger record sheets

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code BFH 25 Location/Area .... Date 25/8/25

Transect .... Auger no. 1 Co-ords .... Surface ht. ....

Auger type:	dutch (circled)	gouge	screw	other :-

Depth	Profile	Sample	Description: colour / texture / description
0 - 13			greyish brown silty stone free clay loose abrupt boundary
13 - 14			zone of small stones e-wh chalk stones
14 - 17			lost soil + stones abrupt to chalky silt
17 - 50			calcareous silt / dusty at 33 becomes darker stonefree chalky silt dense / loose at 37 some small chalk stones
50/52			tough to auger hard ground greenish grey chalky silt ? chalk feels solid 17-50 is this chalk lime or weathered natural. A think its man made ?? ? ear too thick for cw

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA 10.2

Site Code ..BTH..... Location/Area ..... Date .....

Transect ..... Auger no. ..2..... Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description colour	texture	description
0-22					Dusty, fine, light brown, no stones, dusty/fine, silty - fine?
22-23					effervescent hard, concrete-style layer
23-27					layer of "loose" stones of various types possibly brown/grey - sandstone? black/grey - road building stone?
28 → ~~40~~					mid brown, fine silty, no stones not natural
46-54					mid brown, fine silty, compacted natural?
55+					bit solid, dull blue, likely soil chalk?

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code ..... Location/Area BTW Date 21/08/25

Transect ..... Auger no. 3 Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description: colour	texture	description
0-250mm			pale yellow	powder chalk/lime stone free	
@250mm			flint - red/brown ?		(imported from river gravel? ~~stopped, possibly hit flint due to metallic sound~~
250-350mm			med/lge stones/flint, with chalk/lime	pale yellow/green	
350-900mm			olive silt, friable	with occasional small flints	

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

Site Code .... Location/Area ...BTWH............................ Date 21/08/25

Transect .... Auger no. ...4...... Co-ords .... Surface ht. ....

Auger type:	dutch (circled)	gouge	screw	other :-

Depth	Profile	Sample	Description: colour / texture / description
0-220mm			pale yellow, powder chalk / lime no stone
220-470mm			pale yellow to green, powder chalk/lime no stone 400-470mm small/medium stone
470-950+mm			light brown / green colours, powder / silts ~~with small medium stones~~ compacted but friable not natural - part of horseco

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code BTWH Location/Area 5 Date 25/8/25

Transect ..... Auger no. ..... Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description: colour	texture	description
0 - 15			Void		
15 - 90			Grey-brown crumbly fine, few small stones. Consistent throughout depth. Possibly colluvium / deposited top soil.		
			Clear & gradual boundary		
90 - 125+			Greyish olive, dense silt compacted but friable. Stone free.		

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code BTH Location/Area ..... Date 25/8/23

Transect ..... Auger no. 6 Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description: colour / texture / description
0 - 24			Pale white powdery calcareous silt, stone free dusty
			Abrupt Boundary
24 - 44			Stoney layer – medium sub-angular chalk pieces – rare small/med flint.
			Clear to abrupt boundary (no matrix)
44 - 60			Powdery calcareous silt, stone free.
			Silt will compact into lumps.
			grey / olive green.
60 +			Probably chalk – solid.

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code ..BTWH..... Location/Area ..Body Centre..... Date 25/8/23

Transect ..... Auger no. ....9.... Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description: colour	texture	description
0–200			Pale Yellow powdered chalk/lime no stones. District boundary		
200–340			Medium – Large stones (20		
340–600+			Olive fill. Compressed silt. Friable. No stones.		

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code ...BTH..... Location/Area ..... Date .....

Transect ..... Auger no. ..12..... Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description colour	texture	description
0-20					Fine grained lime-clay no stones grey-white
20					zone of moderate 2-4cm stones possibly chalk
20-37					grey-brown fine grained homogeneous man made
37-90+					brown, grainy + compacted silt esp compacted 60-90+ man made

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

Site Code B.T.H ...... Location/Area ...... Date 21/8/25

Transect ...... Auger no. C1 (control) ...... Co-ords ...... Surface ht. ......

Auger type:	(dutch)	gouge	screw	other :-

Depth	Profile	Sample	Description (colour / texture / description)
			N. steep slope in small ~~terocette~~ terocette
0-12	Ah		v d g brown humic silt, stone-free under long-ungrazed grass Ah abrupt boundary
12-21	A		Brown silt loam common s chalk fleck, rare m. flints, clear/abrupt B
21-34	A		~~A~~ Y B silt loam, ~~silt loam~~ stone free sharp B (rare stones leave not ~~recov~~ recovered)
34	C		chalk
			Rendzina soil 34 cm thick (Brown)

MJA

AEA: Allen Environmental Archaeology — Auger Profile Record Sheet

Site Code BTH Location/Area ..... Date 21/8/25

Transect ..... Auger no. C2 Co-ords ..... Surface ht. .....

Auger type:	dutch	gouge	screw	other :-

Depth	Profile	Sample	Description: colour	texture	description
0 - 10			above bank on slope above level of hedge 5-6m from fence PB as before - see C1		
10 - 35			YB silty	yellowish brown calcareous silt loam, few chalk flecks	
35+			chalk		some loose chalk at bas
				Brown rendzina soil	

MJA

Check List: - Colour, texture, stoniness, structure, inclusions, boundary, interpretation

APPENDIX 3: photographs of auger cores

Auger 1, top is the left (image G. Gibbons 2025)

Auger 2, top is the left (image G. Gibbons 2025)

Auger 3, top is the left (image G. Gibbons 2025)

Auger 4, top is the left (image G. Gibbons 2025)

Auger 6.1, top is the left (image G. Gibbons 2025)

Auger 9, top is the left (image G. Gibbons 2025)

Auger 12, top is the left (image G. Gibbons 2025)

APPENDIX 4: original agreed auger plan and original numbering scheme