LAND AT PINHOE QUARRY, PINHOE, DEVON

NGR SX 95572 94733

Results of an archaeological trench evaluation

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On behalf of: Pinhoe Quarry LLP

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Summary

An archaeological trench evaluation, carried out in advance of residential development on land at Pinhoe Quarry, Pinhoe, Devon (NGR SX 95572 94733), was undertaken by AC archaeology during January 2013. The site occupies two plots of pasture (Areas 1 and 2) of approximately 1.2 hectares and is situated along the northern extent of the proposed quarry re-development area. A desk-based assessment of the site identified limited potential for prehistoric and Romano-British remains, but a possibility that medieval and post-medieval deposits might be present. A geophysical survey carried out across the site identified numerous linear and discrete pit-like anomalies.

The evaluation comprised the machine-excavation of eight trenches totalling 180m in length and each trench 1.60m wide, with these positioned across the geophysical anomalies and generally throughout the site to provide a sampled coverage. Only limited evidence for archaeological activity was identified, comprising a plough scar and post-medieval drainage/boundary ditch within Area 1 and two post-medieval drainage ditches with associated land drains within Area 2. Other features recorded include a probable tree throw and natural hollow.

1. INTRODUCTION

- 1.1 An archaeological trench evaluation carried out in advance of residential development on land at Pinhoe Quarry, Pinhoe, Devon (NGR SX 95572 94733), was undertaken by AC archaeology during January 2013. The work was commissioned by GK Heritage Ltd on behalf of Pinhoe Quarry LLP. The location of the site is shown on Fig. 1.
- Pinhoe quarry occupies an area of approximately 16.5 hectares, although the full extent of land ownership extends to some 22 hectares. It is bounded by Harrington Lane to the south, Church Lane and a cemetery to the north, pasture fields and Church Hill to the east and pasture fields and Cheynegate Lane to the west. The site occupies two plots (Areas 1 and 2) of pasture within the northern extent of the site approximately 1.2 hectares in size (Plate 1). The site lies on ground between 88-91m aOD to the east and west, sloping moderately down towards a prominent N-S aligned coombe lying at 78m aOD towards the boundary of the two fields.
- 1.3 The proposed development includes the infilling and remodelling of the existing quarry landform to create a development platform for up to 380 dwellings, together with associated community facilities and establishment of pedestrian and cycle routes, in addition to general landscaping works and creation of a geo-park.
- **1.4** The underlying solid geology across the site comprises Carboniferous Culm Measure shales of the Crackington Formation.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 2.1 A previous archaeological assessment of the site (GK Heritage Ltd 2011; 2012) identified limited potential for prehistoric and Roman remains, although historic landscape studies carried out identified potential for both medieval and post-medieval features. This includes a sunken lane of probable medieval origin to the west of the development area and hedgebanks of possible medieval origin.
- 2.2 A geophysical survey carried out as part of the assessment (Archaeological Surveys Ltd 2011) located a number of positive linear and discrete anomalies, in particular a NE-SW aligned anomaly located in Area 1 and interpreted as a possible drainage ditch. In addition, a N-S

aligned earthwork within the western half of Area 1 and parallel to the coombe was interpreted as a possible leat.

3. AIMS

3.1 The aim of the evaluation was to establish the presence or absence, extent, depth, character and date of any archaeological features, deposits or finds within the site. The results as set out in this report will be reviewed and used to inform any decisions about subsequent mitigation as a condition should planning permission be granted.

4. METHODOLOGY

- 4.1 The evaluation comprised the machine-excavation of eight trenches totalling 180m in length and with each trench 1.6m wide (Fig. 2). Trenches were positioned to target the geophysical anomalies and generally throughout the site to provide a sampled coverage. Machine-excavation ceased at the level at which natural subsoil or archaeological deposits were exposed.
- 4.2 All features and deposits revealed were recorded using the standard AC archaeology proforma recording system, comprising written, graphic and photographic records, and in accordance with AC archaeology's *General Site Recording Manual, Version 2 (revised August 2012)*. Detailed sections or plans were produced at a scale of 1:10, 1:20 or 1:50 as appropriate, while all site levels relate to Ordnance Datum.

5. RESULTS

5.1 Introduction

The general recorded layer sequence comprised between 0.10-0.28m of topsoil over between 0.15-0.35m subsoil onto clay and shillet natural subsoil. Archaeological features or deposits were present in Trenches 1, 3, 6 and 7 and are discussed below. All trenches are summarised in tabulated form in Appendix 1. Relevant plans and sections are included as Figs 3-7 and photographs as Plates 1-4.

5.2 Trench 1 (Plan Fig. 3 and sections Figs 3b-d)

This trench was 40m long, aligned NW-SE and was positioned to target a discrete feature and a series of NE-SW aligned linear anomalies identified from the geophysical survey. It was excavated to a depth of 0.35m below ground level onto a firm mid red clay natural subsoil (102) with common small to large angular shale fragments. The overlying layer sequence comprised 0.20m of mid red brown clay silt topsoil (100) over 0.15m of mid brown red silt clay subsoil (101). Two features were recorded cutting through subsoil layer (101), including a probable tree throw F104 and plough scar F106.

F104 was irregular in shape, measured 1.18m wide by 0.30m deep, with moderate sloping sides and a concave base. It contained a single mid brown red silt clay naturally silted fill (103) with moderate small sub-angular shale fragments. A single sherd of 19th-20th century blue and white transfer ware pottery was recovered from the fill. The feature is likely to correspond with the discrete anomaly identified from the geophysical survey (see Fig. 2).

Linear feature F106 was aligned NE-SW and measured 0.20m wide by 0.22m deep, with moderate-steep sloping sides and a narrow, concave base. It contained a single mid brown red silt clay naturally silted fill (105) containing moderate small sub-angular stones and rare charcoal.

5.3 Trench 2 (Plan Fig. 4a and sections Figs 4b-c; Plate 2)

This trench was 20 m long, aligned NW-SE and was positioned to target a strong NE-SW aligned geophysical anomaly (see Fig. 2). It was excavated to a depth of 0.40m below ground level onto firm mid red clay and shillet natural subsoil (202) with common small-large angular shale fragments. The overlying layer sequence comprised 0.18m of mid red brown clay silt topsoil (200) over 0.22m of mid brown red silt clay subsoil (201). A single linear feature F204 forming a probable natural hollow was recorded.

Probable natural hollow F204 was NE-SW aligned and measured approximately 11m wide by 0.52m deep, with shallow-moderate sloping sides. It was filled with a sterile colluvial layer (203) comprising a firm mid red brown clay silt with moderate small-medium sub-angular shale fragments. A hand-excavated sondage through this layer exposed a seam of firm mid red clay natural subsoil (205).

5.4 Trench 3 (Plan Fig. 5a and sections Figs 5b-c; Plate 3)

This trench was 10m long and aligned NE-SW and was positioned along the edge of a sharp break of slope in the ground and targeting a linear earthwork interpreted as a possible leat. It was excavated to a depth of 0.63m below ground level onto a firm mid red brown clay and shillet natural subsoil (305). The overlying layer sequence comprised 0.28m of mid red brown clay silt topsoil (300) over 0.35m of mid brown silt clay subsoil (301). A single linear ditch F302 cutting through subsoil layer (301) and corresponding to the earthwork was recorded.

Ditch F302 was NNW-SSE aligned and measured 1.40m wide by 0.52m deep, with moderate-steep sloping sides and a concave base. It contained two fills (303) and (304). Basal fill (304) was 0.37m deep and comprised a naturally silted firm mid red brown silt clay with frequent small-medium sub-angular stones. It contained the fragmentary remains of 18th-19th century bottle glass and brick. This fill was overlain by 0.15m of mixed light yellow and light yellow brown firm clay backfill (303) containing occasional small-medium sub-angular stones.

5.5 Trench 6 (Plan Fig. 6a and sections Figs 6b-d; Plate 4)

This trench was 40m long, N-S aligned and was excavated to a depth of 0.25m below ground level onto firm mid yellow clay natural subsoil (602) with occasional small-medium sub-angular shale fragments. The overlying layer sequence comprised 0.10m of mid red brown clay silt topsoil (600) over 0.15m of mid red brown silt clay subsoil (601). Two linear ditches F604 and F606 were recorded below subsoil layer (601).

Ditch F604 was NE-SW aligned and measured 1.40m wide by 0.16m deep, with moderate sloping sides and a flat base. It contained a single firm mid yellow brown silt clay fill (603) with occasional small-medium sub-angular stones. The ditch was cut along its southern edge by parallel land drain F608.

Ditch F606 was NW-SE aligned and measured 1m wide by 0.37m deep, with moderate sloping sides and a concave base. It contained a single firm mid red brown silt clay fill (605) and moderate to frequent small to medium sub-angular stones. The ditch was cut along its northeastern edge by parallel land drain F607.

5.6 Trench 7 (Plan Fig. 7a and Section Fig. 7b)

This trench was 20m long, N-S aligned and was excavated to a depth of 0.46m below ground level onto firm mid yellow clay natural subsoil (702) with occasional small-medium sub-angular shale fragments. The overlying layer sequence comprised 0.22m of mid red brown clay silt topsoil (700) over 0.20m of firm mid red brown silt clay subsoil (701). A single unexcavated linear ditch F703 present below subsoil layer (701) was recorded.

Ditch F703 was NE-SW aligned, was 1.25m wide and contained a firm mid yellow brown silt clay fill with occasional small-medium sub-angular stones. The ditch continued to the west into Trench 6 and was investigated as F604.

6. THE FINDS by Kerry Kerr-Peterson

6.1 Summary

All finds recovered on site during the evaluation have been retained, cleaned and marked where appropriate. They have been quantified according to material type within each context and the assemblage scanned to extract information regarding the range, nature and date of artefacts represented. All of the finds are post-medieval in date and summarised in Table 1 below.

Context	Context Description	Post-me Pottery	dieval	Glass		СВМ	
		No	Wt	No	Wt	No	Wt
103	Fill of tree throw (F104)	1	0.3				
304	Fill of ditch (F302)			1	18	2	6
Totals		1	0.3	1	18	2	6

Table 1: Summary of finds. Weight is in grams (CBM = Ceramic Building Material)

6.2 Pottery

One small abraded sherd of blue and white transfer printed pottery (0.3g) was recovered from fill 103, feature F104. This is likely to be 19th or 20th century in date.

6.3 Ceramic building material

Two small, undiagnostic fragments of post-medieval ceramic building material were obtained from fill 304, linear feature F302. These contain several large angular inclusions and are likely to be 18th or 19th century in date.

6.4 Glass

One body fragment of dark green bottle glass came from fill 304, F302. This is likely to be 18th or 19th century in date.

7. DISCUSSION

- 7.1 The evaluation has identified the presence of a limited number of archaeological features. These include a probable tree throw (F104), plough scar (F106) and ditch (F302) within Area 1 to the east of the site, while two linear ditches (F604/F703 and F606) were present within Area 2 to the west. The recorded layer sequence was broadly consistent across the site, although archaeological features in Area 2 were cut into a colluvial subsoil, while features in Area 1 were sealed by what appeared to represent an agricultural subsoil.
- 7.2 The archaeological features recorded were generally of limited archaeological interest. The NNE-SSE aligned ditch (F302) recorded in Trench 3 within the western half of Area 1 clearly corresponds to the shallow earthwork feature which cuts across the field and is located alongside a sharp break in the contour. Given the alignment of the ditch, which generally respects the existing field boundaries, as well as the presence of an active stream parallel to the ditch within the coombe, it seems likely that the feature represents a drainage ditch possibly associated with a former hedgebank boundary. The southern extent of the earthwork, which continues up to a gateway in the field boundary, may support this. Finds recovered from the basal fill of the ditch provide a late post-medieval date of between the 18th-19th centuries, whilst the backfilling of the ditch is likely to represent a more recent episode in view

of making the field more accessible for pasture. The strong magnetic response to the northeast of Area 1 and targeted by Trench 2 is likely to represent an infilled natural hollow which follows the course of a weathered band of natural red clay flanked either side by the shale.

7.3 The ditch features F604/F703 and F606 recorded to the west of the site within Area 2 were both associated with post-medieval land drains located alongside their edge, clearly suggesting that they were constructed to aid drainage in the field and were re-utilised as such with later clay land drains. The presence of land drains observed within most of the trenches in this area suggests an attempt to counter the problems of ground saturation within the clay rich soils.

8. CONCLUSION

8.1 The evaluation has established the presence of a small number of archaeological features generally associated with post-medieval land division and drainage schemes. Given the coverage of trenching across Areas 1 and 2 and the largely negative results from the geophysical survey, development of the site is unlikely to impact upon hitherto unknown archaeological features or deposits.

9. ARCHIVE AND OASIS

- **9.1** The paper and digital archive and finds are currently held at the offices of AC archaeology Ltd, at 4 Halthaies Workshops, near Exeter, Devon, EX5 4LQ.
- **9.2** The OASIS number for this project is 150141.

10. ACKNOWLEDGEMENTS

The evaluation was commissioned by Guy Kendall of GK Heritage Ltd on behalf of Pinhoe Quarry LLP. The site trial trenching was carried out by Richard Sims and Christopher Cain. The illustrations for this report were prepared by Sarnia Blackmore. The collaborative role of Andrew Pye, Exeter City Council Archaeology Officer is duly acknowledged.

11. REFERENCES

Archaeological Surveys Ltd, 2011, Pinhoe Quarry, Magnetometer survey

Doc. ACD617/1/0

GK Heritage Ltd, 2011, Proposed residential development with associated community facilities at Pinhoe Quarry

GK Heritage Ltd, 2012, Proposed residential development with associated community facilities at Pinhoe Quarry. Written scheme of investigation: for evaluation excavation



Trench 1				Width 1.6m	Alignment NW-SE
Context	Description	Depth	Interp		
100	Mid red brown soft clay silt with occasional small sub-angular stones	0-0.20m	Topsoil		
101	Mid brown red firm silt clay with moderate small sub-angular stones	0.20-0.35m	5m Colluvial subsoil		
102	Mid red firm clay with common small-large angular shale	0.35m+	Natural subsoil		
103	Mid brown red firm silt clay with moderate small sub-angular shale fragments and rare charcoal	0.25-0.55m	Fill of tre	ee throw [104]	
104	Irregular shaped feature, 1.18m wide by 0.30m deep, with moderate sloping sides and an undulating base	0.25-0.55m	Cut of tr	ee throw	
105	Mid brown red firm silt clay with moderate small sub-angular stones and rare charcoal	0.20-0.43m	Fill of plo	ough scar [106	5]
106	NE-SW aligned linear feature, 0.20m wide by 0.22m deep, with moderate-steep sloping sides forming a narrow concave base	0.20-0.43m	Cut of p	ough scar	

Trench 2			Length 20m	Width 1.6m	Alignment NW-SE
Context	Description	Depth		retation	INVV-OL
200	Mid red brown soft clay silt with occasional small sub-angular stones	0-0.18m	Topsoil		
201	Mid brown red firm silt clay with moderate small sub-angular stones	0.18-0.40m	Colluvia	l subsoil	
202	Mid red firm clay with common small- large angular shale fragments	0.40m+	Natural	subsoil	
203	Mid red brown firm clay silt with moderate small-medium sub-angular shale fragments	0.88-1.40m	Colluvia [204]	I subsoil with	in natural hollow
204	NE-SW aligned linear feature, approximately 11m wide by 0.52m deep, with shallow-moderate sloping sides.	0.88-1.40m	Natural	hollow	
205	Mid red firm clay with rare small- medium angular shale fragments	1.40m+	Natural	subsoil	

Trench 3			Length 10m	Width 1.6m	Alignment NE-SW
Context	Description	Depth	Interp	retation	•
300	Mid red brown soft clay silt with occasional small sub-angular stones	0-0.28m	Topsoil		
301	Mid brown firm silt clay with moderate small-medium sub-angular stones and rare large stones	0.28-0.63m	Colluvia	l subsoil	
302	NNW-SSE aligned linear feature, 1.40m wide by 0.52m deep, with moderate-steep sloping sides and a concave base	0.28-0.80m	Cut of d	rainage/field l	ooundary ditch
303	Light yellow and light yellow brown firm clay with occasional small-medium sub- angular stones and rare large stones	0.28-0.43m	Fill of di	tch [302]	
304	Mid red brown firm silt clay with frequent small-medium sub-angular stones	0.43-0.80m	Fill of di	tch [302]	
305	Mid red brown firm clay silt with abundant small-large sub-angular shale fragments	0.63m+	Natural	subsoil	

APPENDIX 1: DESCRIPTIONS OF TRENCHES

Trench 4			Length 20m	Width 1.6m	Alignment NNE-SSW
Context	Description	Depth	Interp	retation	
400	Mid red brown soft clay silt with moderate small sub-angular shale fragments	0-0.12m	Topsoil		
401	Mid yellow brown firm silt clay with frequent small angular shale fragments	0.12-0.35m	Subsoil		
402	Mid yellow firm clay with occasional small-medium sub-angular shale fragments	0.35m+	Natural	subsoil	

Trench 5			Le 20	ength Im	Width 1.6m	Alignment NE-SW
Context	Description	Depth		Interpr	retation	
500	Mid red brown soft clay silt with moderate small sub-angular shale fragments	0-0.18m		Topsoil		
501	Mid yellow brown firm silt clay with frequent small angular shale fragments	0.18-0.34m		Subsoil		
502	Mid yellow firm clay with occasional small-medium sub-angular shale fragments	0.34m+		Natural s	subsoil	

Trench 6			Length 40m	Width 1.6m	Alignment N-S		
Context	Description	Depth	Interp	Interpretation			
600	Mid red brown soft clay silt with occasional small-medium sub-angular shale fragments	0-0.10m	Topsoil				
601	Mid red brown firm silt clay with moderate small-medium sub-angular shale fragments	0.10-0.25m	Subsoil				
602	Mid yellow firm clay with occasional small-medium sub-angular shale fragments	0.25m+	Natural	subsoil			
603	Mid yellow brown firm silt clay with occasional small-medium sub-angular stones	0.25-0.41m	Fill of di	tch [604]			
604	NE-SW aligned linear feature, 1.40m wide by 0.16m deep, with moderate sloping sides and a flat base	0.25-0.41m	Cut of d	rainage/field t	ooundary ditch		
605	Mid red brown frim silt clay with moderate-frequent small-medium subangular stones	0.30-0.67m	Fill of di	tch [606]			
606	NW-SE aligned linear feature, 1m wide by 0.37m deep, with moderate sloping sides and a concave base	0.30-0.67m	Cut of d	rainage/field t	ooundary ditch		
607	NW-SE aligned linear feature, 0.35m wide and containing a mixed mid brown and light yellow brown firm clay with frequent small-medium stones	0.30m+		e land drain			
608	NE-SW aligned linear feature, 0.20m wide by 0.30m deep and containing a mid grey brown firm silt clay with occasional small-medium stones	0.10-0.40m	Land dr	ain			

APPENDIX 1: DESCRIPTIONS OF TRENCHES

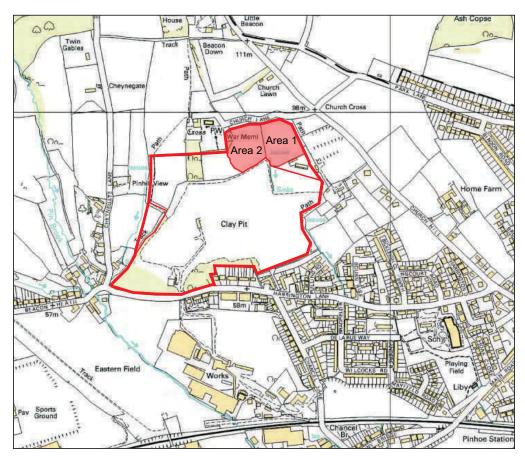
Trench 7			Length 20m	Width 1.6m	Alignment N-S
Context	Description	Depth	Interp	retation	
700	Mid red brown soft clay silt with occasional small-medium sub-angular shale fragments	0-0.22m	Topsoil		
701	Mid red brown firm silt clay with moderate small-medium sub-angular shale fragments	0.22-0.44m	Subsoil		
702	Mid yellow firm clay with occasional small-medium sub-angular shale fragments	0.44m+	Natural	subsoil	
703	Unexcavated NE-SW aligned linear feature, 1.25m wide and containing a mid yellow brown firm silt clay fill with occasional small-medium sub-angular stones	0.44m+	Drainage	e/field bounda	ary ditch

Trench 8			Length 10m	Width 1.6m	Alignment NW-SE
Context	Description	Depth	Interp	retation	
800	Mid red brown soft clay silt with occasional small-medium sub-angular shale fragments	0-0.25m	Topsoil		
801	Mid red brown firm silt clay with moderate small-medium sub-angular shale fragments	0.25-0.46m	Subsoil		
802	Mid yellow firm clay with occasional small-medium sub-angular shale fragments	0.46m+	Natural	subsoil	





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Application area

Areas 1 and 2

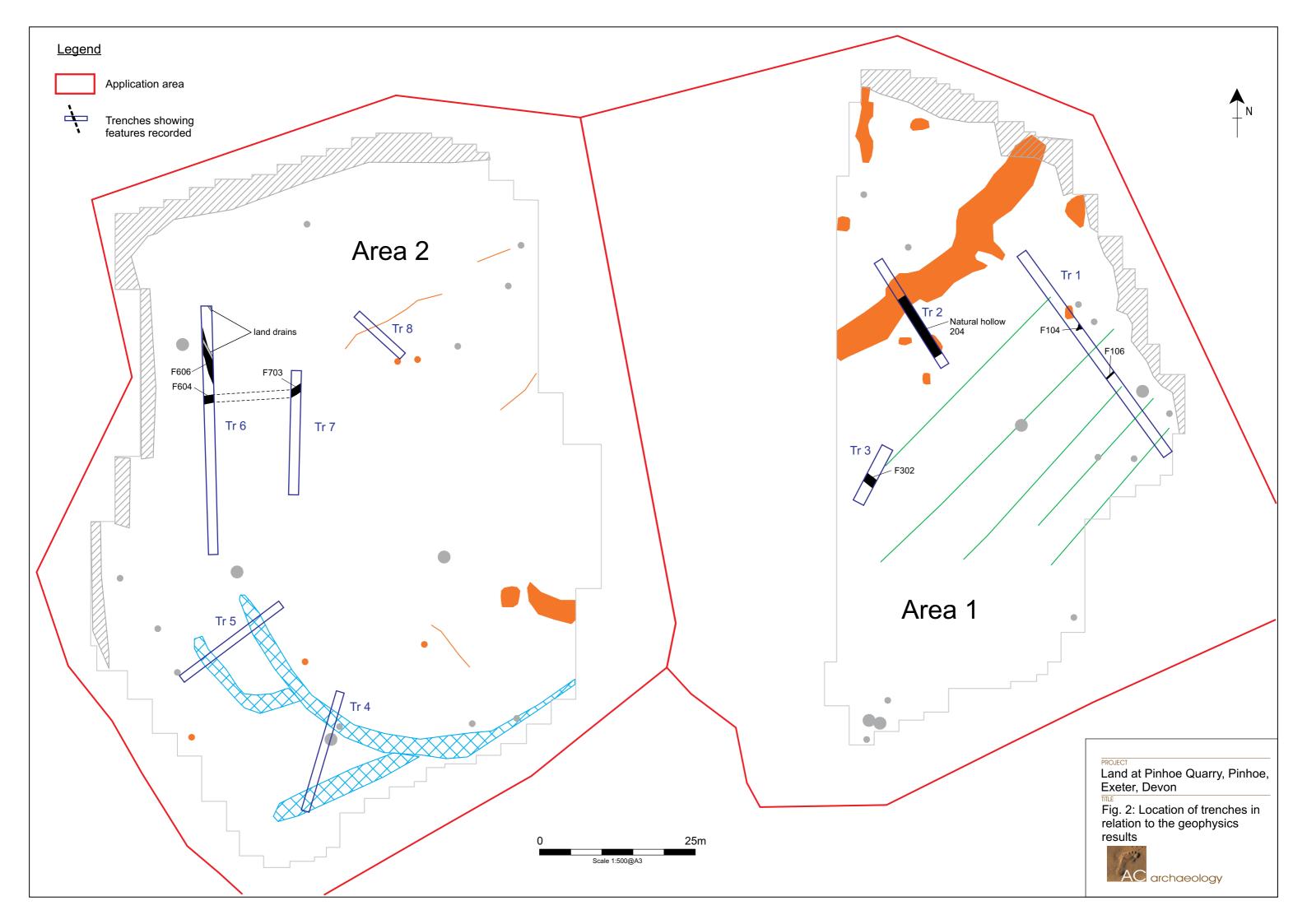
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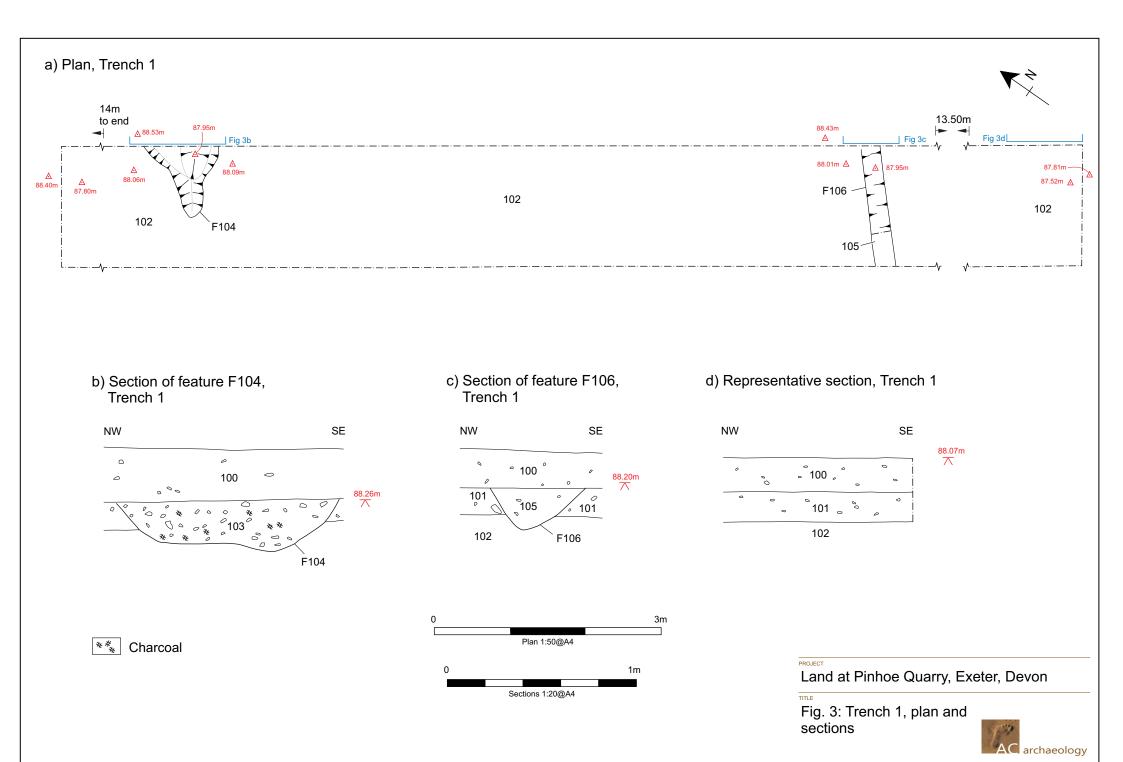
Land at Pinhoe Quarry, Pinhoe, Exeter, Devon

TITLE

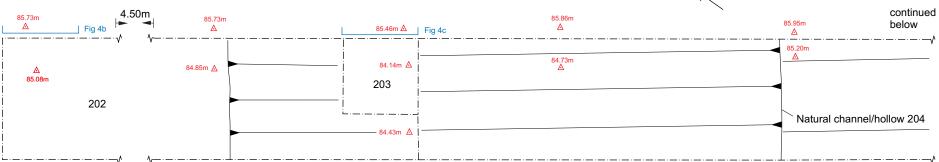
Fig. 1: Location of site

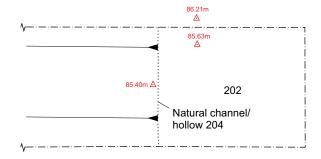




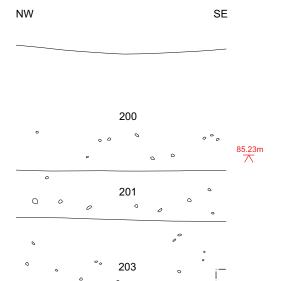


a) Plan, Trench 2

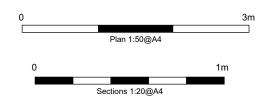




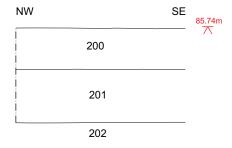
c) Section of natural channel/hollow, Trench 2



205



b) Representative section, Trench 2

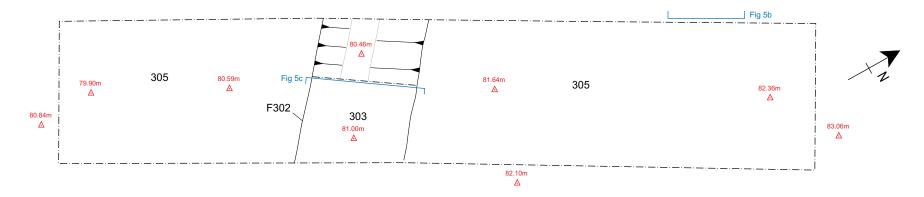


Land at Pinhoe Quarry, Exeter, Devon

Fig. 4: Trench 2, plan and sections



a) Plan, Trench 3



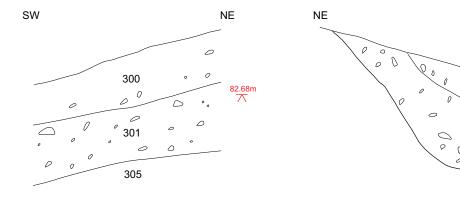
SW

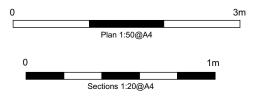
305 F302 80.99m

b) Representative section, Trench 3

c) Section of ditch F302, Trench 3

303



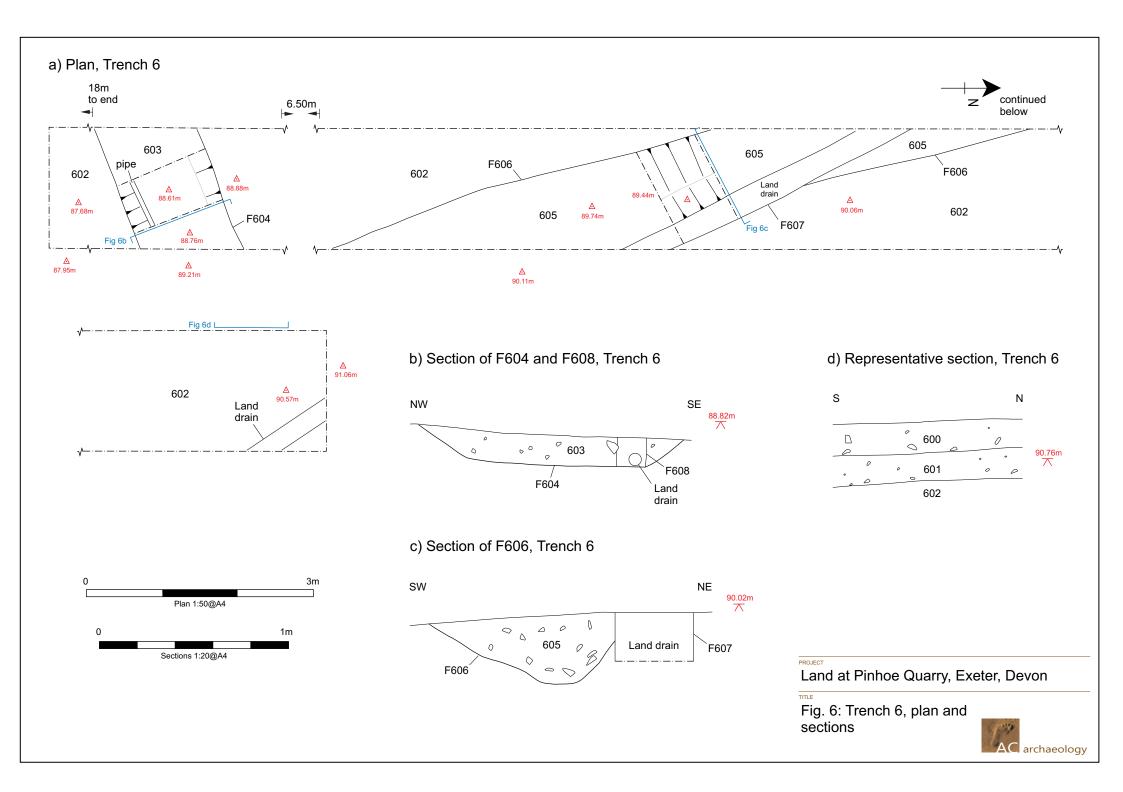


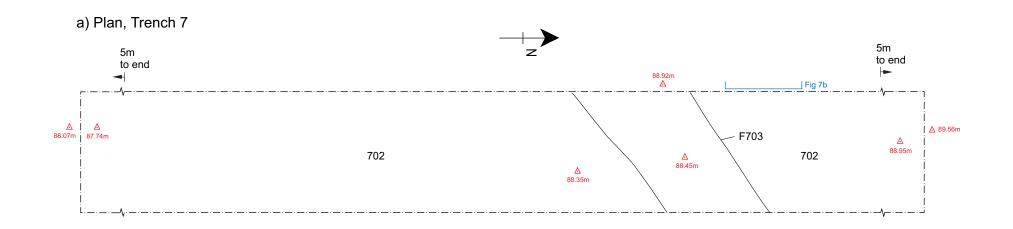
Land at Pinhoe Quarry, Exeter, Devon

TITLE

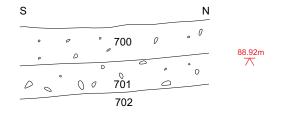
Fig. 5: Trench 3, plan and sections

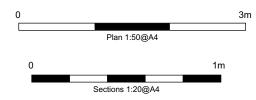






b) Representative section, Trench 7





PROJECT

Land at Pinhoe Quarry, Exeter, Devon

TITLE

Fig. 7: Trench 7, plan and section





Plate 1: General view of Area 1, with Area 2 beyond the hedgeline



Plate 3: Trench 3, section of linear ditch F302 looking SE. Scale 1m



Plate 2: Trench 2 looking NW. Scale 1m



Plate 4: Trench 6, section of linear ditch F606 looking NW. Scale 1m



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