Land to the north-east of Castledene Road, Delves Lane, Consett

County Durham

Strip and Record Excavation



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EXECUTIVE SUMMARY

AD Archaeology Ltd. was commissioned by Gleeson Homes to undertake a strip and record excavation in advance of a proposed housing development on land to the north-east of Castledene Road, Delves Lane, Consett.

The development site consists of a single field 3.3 ha in area which is centred on NGR NZ 1180 5030. The site slopes steadily both to the south and east and is uneven in places. An area of 0.46ha in the south-east sector of the development site was identified for the strip and record mitigation. Geophysical survey (Phase Site Investigations 2017) and evaluation trenching (AD Archaeology 2021) had been undertaken in advance of the strip and record excavation.

In the strip and record excavation area features associated with prehistoric settlement activity were located. It seems most likely that the main focus of the prehistoric settlement would have been to the north-west of the development site on higher flatter ground. A WNW-ESE ditch (1004) up to 5m in width, which would have represented a significant landscape feature, ran through the excavation area leading east toward a small valley situated between ridges of higher ground now occupied by Delves Lane to the south and higher ground to the north, taken by the line of Dere Street (present A691 between Leadgate and Lanchester). The Stockerley Burn lies in this small valley running eastward toward Lanchester. The ditch (1004) is likely to have defined one side of a parcel of land associated with the prehistoric settlement activity. Two parallel south-north gullies (1008 & 1010) set 2m apart followed a slightly curvilinear line running into the ditch (1004). These gullies (1008 & 1010) probably defined a routeway associated with the management of stock forming part of a larger field system associated with the prehistoric settlement activity.

A radiocarbon date from gully 1008 (SUERC 104207) produced an Iron Age date with a date range of 396–208 cal BC. An Iron Age date would be consistent with the palaeo-environmental evidence recovered from the features. A complete absence of any artefactual evidence from the features and the lack of palaeo-environmental evidence consistent with later activity, suggests that two post-medieval dates (SUERC 104203; linear feature 1006, 1647-1927 cal AD and SUERC 104208; gully 1010, 1661-1915 cal AD) and one medieval date (SUERC 104209; ditch 1004=1106, 1319-1424 cal AD) relate to intrusive materials or represent unreliable dating evidence resulting from the limited amount of charred material from the samples.

As these outlying features probably lay at some distance from the core of activity of the settlement to which they belong it is not possible to estimate a likely span of occupation or activity. All that can be concluded with confidence is that the features indicate the presence of Iron Age land management and agricultural activity in outlying fields belonging to a site whose main settlement focus probably lay a

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distance to the north-west on higher flatter land. It is uncertain whether this Iron Age activity extended into the Roman period.

The discovery of these outlying features associated with an Iron Age settlement represents an important discovery. More may be learnt about the prehistoric settlement pattern in the wider area, as and when future opportunities arise for investigations to the north-west of the site.

1 INTRODUCTION

1.1 The Project

1.1.1 The project consisted of an archaeological strip and record excavation in advance of a proposed housing development on land to the north-east of Castledene Road, Delves Lane, Consett. The site consists of a single field 3.3 ha in area which is centred on NGR NZ 1180 5030. The site slopes steadily both to the south and south-east and is uneven in places. An area of 0.46ha in the south-east sector of the site was identified for the strip and record mitigation (Fig. 1). The fieldwork was undertaken in November 2021.

1.2 Geology

1.2.1 The underlying solid geology of the area comprises Pennine Middle Coal Measures Formation (mudstone, siltstone and sandstone), overlain by glacial till (BGS, 2022).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 There are a number of prehistoric features and finds in the wider area of the site. A Neolithic stone axe and a scatter of worked flint tools (H1027) have been found in the wider vicinity of the site. A cup and ring marked stone and a stone axe have been located at Delves. The line of the Roman road, known as Dere Street ran north-west/south-east between forts at Lanchester and Ebchester, 1.3km north-east of the site.

2.2 The site of the village of Crook Hall lies to the north-east of the site. The earliest records of settlement in this area date to the medieval period, when a deserted medieval village (H1898) called 'Crokhough' was recorded - this place name probably comes from the Old English for 'flat land by the bend in the river'. The medieval manor house (H1900) at Crookhall was first mentioned in documents dating to around 1180. However, no remains of this early manor house remain, though the ruins of a later manor house can still be seen close to the farm 500m north-east of the site. Early maps show a probable medieval fishpond (H1899) near the medieval settlement.

2.3. The area was much changed in the 19th century with the growth of the coal industry. The main coal mine was Delves pit, which employed over 200 men. Clay worked at the same time as the coal was used to make bricks. Much of the coal was turned into coke at nearby coke ovens. The growth of the collieries led to many houses being built for the miners. The sequence of Ordnance Survey maps shows the site as open field with no structures present.

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2.4 Geophysical Survey

2.4.1 In the geophysical survey anomalies were identified that relate to modern material/objects, agricultural activity and probable geological/pedological variations. There were also several linear/curvilinear anomalies of uncertain origin. It was thought that some of these could be related to agricultural activity or natural variations but it was considered possible that some of them could be associated with features and as such an archaeological origin was not ruled out (Phase Site Investigations 2017). The WNW/ESE ditch (1004) was clearly discernible as a geophysical feature.

2.5 Evaluation Trenching

2.5.1 Subsequent to geophysical survey 18 trenches were excavated across the site (AD Archaeology 2021). The majority of the trenches proved to be devoid of significant archaeological features in the north-western portion of the site.

2.5.2 In the evaluation trenching a WNW-ESE ditch, c.4m wide and up to 0.83m deep, was traced for a distance of 180m (Fig. 3). It had been thought initially that the feature could represent a holloway, but the sections excavated through it established that the feature represented a ditch. Its line could be traced across the site as a geophysical anomaly (anomaly C) and it was located and investigated in four trenches (Trenches 10, 11, 13 and 15). No dating evidence was recovered, the ditch being a pre-modern feature representing a landscape boundary feature of uncertain date. In the south-eastern portion of the site linear features were located in Trenches 16 and 17. In Trench 16 a linear NNE-SSW feature was cut by the terminal of a north-south gully, which was traced a further 11m to the north. No dating evidence was recovered from these features. Palaeo-environmental samples were analysed from the WNW-ESE ditch (Trenches 10=11=13 and 15) and the cluster of features in Trenches 16-17 in order to provide further information on the nature and date of these features. The palaeo-environmental assessment of three bulk samples, were taken from features of uncertain origin in the south-eastern portion of the site. The samples contained similar background scatters of fuel debris. Although the palaeo-environmental remains were limited and did not provide a conclusive evidence of a date, they did strongly suggest that the features were of a pre-modern date.

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3 AIMS AND OBJECTIVES

3.1 The objective of the strip and record was to record archaeological features on the site and recover artefactual and ecofactual evidence.

4 METHODOLOGY

4.1 General Methodology

4.1.1 The strip and record was carried out in compliance with all the relevant codes of practice by suitably qualified and experienced staff.

4.2 Excavation and Recording

4.2.1 The strip and record strategy was agreed with the County Archaeology Officer and was undertaken in accordance with an approved Written Scheme of Investigation (Appendix 2).

9

5 RESULTS OF THE STRIP AND RECORD

Prehistoric

5.1 Features associated with prehistoric settlement activity were located in the strip and record area. It seems most likely that the main focus of settlement lay a distance to the north-west on higher flatter ground. A WNW-ESE ditch (1004) up to 5m in width, which would have represented a significant landscape feature, ran through the excavation area leading east toward a small valley between ridges of higher ground now occupied by Delves Lane to the south and higher ground to the north taken by the line of Dere Street (present A691 between Leadgate and Lanchester). The ditch (1004) probably defined one side of a parcel of land associated with the prehistoric settlement activity. Two parallel south-north gullies (1008 & 1010) set 2m apart followed a slightly curvilinear line running into the ditch (1004). These gullies (1008 & 1010) probably formed a routeway associated with the prehistoric settlement activity.

5.2 Ditch 1004 (Figs. 2-5; Plates 1-9)

5.2.1 A WNW-ESE ditch (1004) was traced for a distance of 70m through the strip and record area running close to the northern limit of the excavation. Six handexcavated trenches 1.5m wide were excavated across the ditch within the strip and record area. Four of these trenches were excavated (Segments 1-4) in November 2021 and two (Trenches 13 and 15) during the evaluation in February 2021. A further trench (Trench 11) was excavated across the ditch during the evaluation 50m to the west of the strip and record area, with its line also being exposed in evaluation trench 10 (Fig.3).

5.2.2 The ditch (1004) varied between 3.20m and 5.00m in width and was up to 0.84m in depth. Its profile varied slightly along its course, but it was more deeply cut on its northern side, with steep concave sides and a variable base. Two parallel gullies (1008 and 1010) ran south-north to issue into the southern side of the ditch (1004). The ditch (1004) was cut through the yellow clay natural subsoil (1022) and the underlying shattered sandstone bedrock which was exposed in the lower half of the feature.

5.2.3 In segment 1 ditch 1004 was 3.20m wide and 0.52m in depth with concave sides and base, with a steeper side to the north and a more gentle slope to the south. It was filled with a grey clayey silt (1003) 0.11m in depth, a gritty grey silty clay (1002) 0.20m in depth containing frequent sandstone fragments (averaging 0.08m by 0.08m by 0.06m) and a brown sandy clay (1001), 0.24m in depth.

5.2.4 In segment 2 ditch 1004 was 3.80m wide and 0.56m in depth. The ditch (1004) was a more deeply cut feature in its northern half consisting of a 2.30m wide steeply cut concave feature, 0.56m in depth with a concave base. On its southern side the ditch (1004) consisted of a shallower flat-based feature, 0.35m in depth. It was filled with a grey clayey silt (1021) 0.07m in depth, a gritty grey silty clay (1020) 0.20m in depth containing frequent sandstone fragments (averaging 0.10m by 0.07m by 0.06m) and a brown sandy clay (1001), 0.34m in depth.

5.2.5 In segment 3 ditch 1004 was 5.00m wide and 0.84m in depth. The ditch (1004) was a more deeply cut feature in its northern half consisting of a 2.90m wide steeply concave cut feature 0.84m in depth with an uneven base. On its southern side the ditch (1004) consisted of a shallower feature, 0.50m in depth, with an undulating base. It was filled with a grey clayey silt (1024) 0.12m in depth, a gritty grey silty clay (1023) 0.20m in depth containing frequent sandstone fragments (averaging 0.08m by 0.08m by 0.06m) and a brown sandy clay (1001), 0.56m in depth.

5.2.6 In segment 4 ditch 1004 was 4.90m wide and 0.60m in depth. There was evidence to suggest the possible recutting (1029) of ditch 1004 in the northern half of the feature. Here it was a more deeply cut feature (1029) consisting of a 3.00m wide steeply cut concave feature 0.60m in depth, with an undulating base. It was filled with a grey clayey silt (1028), 0.06m in depth, and a gritty grey silty clay (1027) 0.20m in depth containing frequent sandstone fragments (averaging 0.10m by 0.08m by 0.06m). It is possible that the recut (1029) was cut from the level of brown sandy clay 1001 but this could not be determined with confidence. On balance it is more likely that the recut (1029) was cut from the level of fill 1018, with brown sandy clay 1001 representing a later deposit infilling both phases of the ditch. On its southern side the original cut of the ditch (1004) survived as a shallower flat-based feature, 0.40m in depth. It was filled with a grey clayey silt (1019) 0.06m in depth and a gritty grey silty clay (1018) 0.20m in depth containing frequent sandstone fragments (averaging 0.10m by 0.08m by 0.06m). The original ditch (1004) and its recut (1029) were subsequently filled with a brown sandy clay (1001) 0.40m in depth. Gullies 1008 and 1010 issued into the southern side of ditch 1004 in the area of segment 4.

Segments of Ditch 1004 excavated in Evaluation (February 2021)

5.2.7 Trench 13 was located in an area subsequently exposed in the north-western corner of the strip and record area. In Trench 13 the ditch (1304=1004) was 4.30m wide and 0.50m deep, consisting of a concave sided feature cut more deeply on its northern side with an undulating base. It was filled with a grey-brown silty clay (1303), 0.30m in depth with occasional small sandstone fragments and a brown silty clay with lenses of yellow clay (1302), 0.20m in depth.

5.2.8 Trench 11 was located 50m west of the strip and record area. In Trench 11 the ditch (1106=1004) was 4.60m wide consisting of a gently sloping concave sided feature on its southern side, steepening sharply in its northern half to form a more deeply cut feature with a slightly rounded base. The shallower southern side of the ditch was 0.45m in depth, the more deeply cut northern side being 2.40m wide and 0.83m in depth. The northern more deeply cut portion of the ditch (1106=1004), which was 1.00m wide at its base was filled with a primary fill of dark grey sandy silty clay (1105), 0.38m in depth and a grey sandy silt (1104), 0.26m in depth containing frequent sandstone fragments. These two fills were overlain by a brown-grey silty clay (1103) and a brown sandy clay (1102) with lenses of yellow clay, of a combined depth of 0.44m, which extended the full width of the feature.

5.2.9 Trench 15 was located in an area subsequently exposed in the north-eastern corner of the strip and record area. On reviewing the other segments subsequently excavated through the ditch it seems unlikely that the lowest fill of the ditch was fully excavated in this evaluation trench. In view of this the section from Trench 15 has not been reproduced in this report. The ditch (1004) was 4.20m wide and 0.70m deep at this location.

5.3 Gullies 1008 and 1010 (Figs. 2-3, 6 & 8; Plates 8-13)

5.3.1 Two parallel linear gullies (1008 and 1010) following a slightly curvilinear line ran south-north through the excavation area leading into the southern side of ditch 1004. The gullies ran parallel varying between 2.0-2.10m apart, converging slightly as they ran into ditch 1004. Gully 1008 was a concave profiled feature averaging 0.50m in width. It was filled with grey sandy and silty clays (1007) and was up to 0.18m in depth. Gully 1010 was a concave profiled feature averaging 0.50m in width. It was filled with grey sandy and silty clays (1007) and was up to 0.18m in depth. Gully 1010 was a concave profiled feature averaging 0.50m in width. It was filled with grey sandy and silty clays with lenses of yellow clay (1009=1604) and was up to 0.15m in depth. A radiocarbon date from gully 1008 (SUERC 104207) provides an Iron Age date with a date range of 396–208 cal BC. Gully 1010 was traced as a continuous feature, but gully 1008 appears to have had an entrance across its line at one time, with a terminal being identified cut through a length of gully 1008. It seems most likely that the gullies (1008 and 1010) defined a narrow 2m strip of land forming a routeway associated with the management of stock with an entrance leading into it from its western side. The gullies (1008 and 1010) were contemporary with ditch 1004, running into its southern side.

5.4 Pit 1012 (Figs. 2-4, 6 & 8; Plate 14)

5.4.1 Pit 1012 was located 6m to the west of the line of south-north gully (1008). Pit 1012 was a sub-oval steep-sided feature with a flattish base. It was 1.40m by 1.10m in size and 0.27m in depth and filled with a brown-grey clay (1011).

5.5 Feature 1006=1026 (Figs. 2-3, 7 & 8; Plates 15-16 & 19)

5.5.1 A linear feature (1006=1026) following a slightly meandering course was located in the south-east corner of the excavation area. The feature was 0.75m in width and had concave sides and base. It varied in depth between 0.07m and 0.15m and was filled with a grey-black silty clay (1005) and probably represents a truncated drainage gully. Feature 1026 was a shallow ESE-WNW cut feature probably representing part of linear feature 1006. It survived as a very shallow concave profiled cut feature (1026) up to 0.05m in depth and was 3.50m in length and 0.90m in width. It was filled with a grey-brown silty clay mixed with grey sandy clay (1025). Feature 1006=1026 probably represents a truncated drainage gully.

Post-medieval

Culvert (Figs. 2 & 7-8; Plates 17-18)

5.6.1 A curvilinear post-medieval stone culvert (1014) was located in the southeast corner of the site. The culvert was much disturbed with lining stones (1014) surviving *in situ* in only two places. At these points the drain was constructed from two lines of drain lining stones (averaging 0.20m by 0.10m by 0.08m) forming a channel 0.12m in width and 0.12m in height. The drain was a single course in height overlain by roughly laid capping stones (1015), constructed from sandstone fragments averaging 0.35m by 0.30m by 0.10m in size. The drain channel was filled with a grey clayey silt (1013) 0.10m in depth. The drain was much disturbed and its line could be discerned by a fill of a grey silty clay (1016) lying in a curvilinear cut (1017). The line of the culvert was traced for a distance of 10m continuing east beyond the limit of excavation.

Ridge and furrow agriculture (Fig. 2)

5.7.1 The base of a number of ENE-WSW furrows 0.30m-1m in width were traced across the site. The furrows were spaced at c. 5m intervals and were filled with a grey silty loam, forming a topsoil (1000) 0.30-0.40m in depth, sealing the features described above.

6 Palaeo-environmental evidence (ASDU see Appendices 3-4)

6.1 Nine palaeo-environmental samples were processed and analysed from the limited number of features located. The charred plant remain assemblage from the samples is consistent with a later prehistoric/Romano-British settlement in North-East England.

6.2 As noted with the earlier evaluation samples, there were no concentrations of burnt domestic waste and no sign of diagnostic cereal remains, which is often the case for boundary features located away from the main focus of settlement activity. The small amounts of burnt debris are more likely to derive from scrub clearance or other agricultural activities. Although the palaeo-environmental evidence was limited, the samples have a combination of charred plant remains that indicate the presence of heathland and moorland. These include heather twigs (specifically small root and basal parts), grass-type rhizomes, the remains of grassland plants, and birch and oak charcoal. There is growing evidence from the regional plant macrofossil, charcoal and pollen records, that suggests there was a substantial expansion of heathland and moorland sometime during the Iron Age, and that exploitation of this landscape continued through the Roman period. There is a possibility therefore, that these features have provided further traces of such activity, however, the chronology and spatial extent of this landscape remains uncertain.

6.3 Small amounts of charcoal were present, but most of the fragments were heavily encrusted and hence heavier, and mainly occurred in the sample residues rather than the flots. In some instances, this poor condition has hampered species identification. There is a sign of differential preservation, for example, some of the oak remains were in a worse condition. However, it is uncertain whether this is due to variations in the soil conditions or if it shows there was more than one phase of activity. Heather twigs were the most frequently recorded of the few charred plant macrofossils present, and were similarly found in the evaluation samples. As was previously noted, there were no cereal remains and no finds. The limited evidence from the palaeo-environmental samples from the evaluation and strip and record suggest an Iron Age or Romano-British date.

7 Dating evidence (SUERC Appendix 5 and Table 1)

7.1 Dating these features is not easy as they only contain background activity, which can result in a greater risk of dating intrusive or residual material, especially if the boundaries were in existence for a considerable period of time. However, there are patterns in the evidence that are comparable with many Iron Age and Romano-British sites, including several sites that have had heather remains radiocarbon-dated to these periods (Archaeological Services 2018; 2021).

7.2 A radiocarbon date from gully 1008 (SUERC 104207) produced an Iron Age date with a date range of 396–208 cal BC. An Iron Age date would be consistent with the palaeo-environmental evidence recovered from the features. A complete absence of any artefactual evidence from the features and the lack of palaeo-environmental evidence consistent with later activity, suggests that two post-medieval dates (SUERC 104203; linear feature 1006, 1647-1927 cal AD and SUERC 104208; gully 1010, 1661-1915 cal AD) and one medieval date (SUERC 104209; ditch 1004=1106, 1319-1424 cal AD) relate to intrusive materials or represent unreliable dating evidence resulting from the limited amount of charred material from the samples.

7.3 The outlying features probably lay at some distance from the core of activity of the settlement to which they relate and as such it is not possible to estimate a likely span of occupation or activity. All that can be concluded with confidence is that the features indicate the presence Iron Age land management and agricultural activity in outlying fields at a site whose settlement focus probably lay on higher flatter ground a short distance to the north-west. It is uncertain whether this Iron Age activity extended into the Roman period.

Lab. Number	Context	Material	Radiocarbon Age (BP)	δ ¹³ C (‰)	Calibrated date (95.4% confidence)	
SUERC- 104203	1005, S1 Linear feature 1006	Charcoal: Calluna vulgaris	209±24	-26.4	1647–1927 cal AD	1647–1685 cal AD (30.7%) 1733-1805 cal AD (55.8%) 1927 cal AD-present (8.7%)
SUERC- 104207	1007, S2a, Gully 1008	Charcoal: Betula sp	2267±24	-25.8	396–208 cal BC	396–351 cal BC (46.0%) 295–208 cal BC (49.4%)
SUERC- 104208	1604 S2b, Gully 1010	Charcoal: Calluna vulgaris	174±24	-25.4	1661–1915 cal AD	1661-1696 cal AD (18.2%) 1724–1813 cal AD (51.8%) 1838-1878 cal AD (5.6%) 1915 cal AD-present (19.9%)
SUERC- 104209	1105, S3 Ditch 1004=1106	Charcoal: Calluna vulgaris	563±24	-28.2	1319-1424 cal AD	1319–1360 cal AD (50.0%) 1389-1424 cal AD (45.4%)

Table 1Radiocarbon dates

8 DISCUSSION

8.1 It is most probable that the ditch (1004) and gullies (1008 and 1010) forming a routeway, belong to a late Iron Age system of fields associated with a nearby settlement. It seems most likely that the focus of settlement would have lain to the north-west on higher flatter ground. The excavation area lay on land falling both to the south and east toward a small west-east valley containing the Stockerley Burn, running between ridges of higher land now occupied by Delves Lane to the south and higher ground to the north taken by the line of Dere Street (present A691 between Leadgate and Lanchester).

8.2 At up to 5m in width the WNW-ESE ditch (1004) would have represented a significant landscape feature probably defining one side of a parcel of land. Considering its width of 5m, it was a relatively shallow feature at between 0.50m - 0.84m in depth. The natural subsoil at the site consisted of a thin deposit of yellow clay overlying the sandstone bedrock that was exposed at a shallow depth part way down the face of the ditch. The difficulty of cutting the ditch through this bedrock may have led to the decision to excavate it as a wide but relatively shallow feature. The excavated segments show that the ditch was cut with a deeper channel along its northern side. Although no trace of an upcast bank survived it is most likely that a bank, if present, would have been situated on the northern side of the ditch adjacent to where the deeper channel was cut. Gullies 1008 and 1010 issued uninterpreted into the southern side of the ditch with no evidence for a bank at this point.

8.3 Two parallel south-north gullies (1008 and 1010) set 2.0-2.1m apart followed a slightly curvilinear line running into the ditch (1004). These gullies probably formed a routeway associated with the management of stock forming part of a larger field system associated with the prehistoric settlement. Droveways and routeways are frequently encountered in agricultural fields surrounding prehistoric settlements. At a number of sites some of the narrower routeways have been interpreted as representing "sheep races"- narrow defined routeways designed to allow the management, sorting and examination of sheep (see 8.8).

8.4 A radiocarbon date from gully 1008 (SUERC 104207) produced an Iron Age date with a date range of 396–208 cal BC. An Iron Age date would be consistent with the palaeo-environmental evidence recovered from the features. A complete absence of any artefactual evidence from the features and the lack of palaeo-environmental evidence consistent with later activity, suggests that two post-medieval dates (SUERC 104203; linear feature 1006, 1647-1927 cal AD and SUERC 104208; gully 1010, 1661-1915 cal AD) and one medieval date (SUERC 104209; ditch 1004=1106, 1319-1424 cal AD) relate to intrusive materials or represent unreliable dating evidence resulting from the limited amount of charred material from the

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samples.

8.5 The outlying features probably lay at some distance from the core of activity of the settlement to which they relate and as such it is not possible to estimate a likely span of occupation or activity. All that can be concluded with confidence is that the features indicate the presence Iron Age land management and agricultural activity in outlying fields at a site whose settlement focus probably lay on higher flatter ground a short distance to the north-west. It is uncertain whether this Iron Age activity extended into the Roman period.

8.6 The onset of developer funded archaeology and the development of geophysical techniques, aerial photography and latterly LIDAR analysis has led to a significant increase in the number of known prehistoric sites across Northumberland, Tyne & Wear, Durham and Teesside. This recent work has shown not only a greater density of prehistoric settlement than once thought but also considerable variation in settlement type and form. The emerging pattern in parts of the North East in the Late Iron Age is of a densely occupied landscape with a range of settlement types from rectilinear enclosed settlements of varying scale, to unenclosed settlements with clusters of roundhouses, to isolated roundhouses. In the last twenty years there has been a rapid increase in the number of settlement enclosures that have been identified and excavated. There have been relatively few investigations of outlying fields and areas immediately beyond the foci of settlement. As such the excavation and recording of the outlying features at the present site represents a valuable contribution to the developing understanding of this complex settlement pattern in the later prehistoric period in North-East England.

8.7 The features located at the present site have parallels to features identified in outlying fields associated with the late Iron Age settlement at the Pegswood Moor site in Northumberland (Proctor 2009). At Pegswood Moor excavations had traced the evolution of a small community over a period of more than five centuries, starting in the 4th BC, with a group of four large roundhouses. By the Late Iron Age, a complex network of enclosures spread across and beyond the 4ha excavated area with two lines of circular structures representing settlement over a couple of centuries. A series of enclosures defining areas of habitation, livestock control, manufacturing/processing and feasting were identified. In the final period (late 1st century BC–early 2nd century AD), a palisaded enclosure was constructed with a more substantial boundary cut across earlier enclosures that were no longer in use. The reorganisation of the landscape in the final period around the need to manage stock suggests a change in the emphasis towards animal husbandry in the early Roman period (Proctor 2009).

8.8 At Pegswood the various enclosures and land sub-divisions were set out in relation to two long east-west and north-south ditches representing two principal

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axial divisions of the landscape. It is possible that the wide WNW-ESE ditch 1004 at the present site represents such a principal land division. It is likely that the ditch served a practical function draining water and waste materials away from a settlement focus to the north-west of the site. At Pegswood and several other sites parallel ditches c.1.5-2m apart have been located which are similar in character to the routeway defined by gullies 1008 and 1010. It is thought that these gullies at Pegswood defined routeways associated with the management of sheep. These routeways termed "sheep races" consisted of narrow passageways used to herd, examine and sort animals. The routeway at the present site has a striking parallel to the sheep races at Pegswood. Whether the routeway defined by gullies 1008 and 1010 was specifically associated solely with the management of sheep is unknown, but it does seem most likely that it was designed to manage and channel the movement of animals.

8.9 The discovery of these outlying features associated with an Iron Age settlement represents an important discovery. Future opportunities may arise for investigations on higher flatter ground to the north-west of the site to learn more about the prehistoric settlement pattern in the Consett area.

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APPENDIX 1: LIST OF CONTEXTS

Context	Depth	Description	
1000	0.34m	Topsoil	
1001	0.56m	Fill of ditch 1004	
1002	0.20m	Fill of ditch (segment 1) 1004	
1003	0.11m	Fill of ditch (segment 1) 1004	
1004	0.84m	Cut of ditch	
1005	0.15m	Fill of feature 1006	
1006	0.15m	Cut of linear feature	
1007	0.18m	Fill of gully 1008	
1008	0.18m	Cut of gully	
1009=1604	0.15m	Fill of gully 1010	
1010	0.15m	Cut of gully	
1011	0.27m	Fill of pit 1012	
1012	0.27m	Cut of pit	
1013	0.10m	Fill of drain	
1014	0.10m	Drain lining stones	
1015	0.10m	Drain capping stones	
1016	0.15m	Fill of drain	
1017	0.15m	Cut of drain	
1018	0.20m	Fill of ditch (segment 4) 1004	
1019	0.06m	Fill of ditch (segment 4) 1004	
1020	0.20m	Fill of ditch (segment 2) 1004	
1021	0.07m	Fill of ditch (segment 2) 1004	
1022		Natural subsoil	
1023	0.20m	Fill of ditch (segment 3) 1004	
1024	0.12m	Fill of ditch (segment 3) 1004	
1025	0.05m	Fill of feature 1026	
1026	0.05m	Cut feature	
1027	0.20m	Fill of recut 1029 (segment 4) 1004	
1028	0.06m	Fill of recut 1029 (segment 4) 1004	
1029	0.60m	Recut of ditch	
1302	0.20m	Fill of ditch (trench 13) 1304=1004	
1303	0.30m	Fill of ditch (trench 13) 1304=1004	
1304=1004	0.50m	Cut of ditch (trench 13) 1004	
1102		Fill of ditch (trench 11) 1106=1004	
1103		Fill of ditch (trench 11) 1106=1004	
1104	0.26m	Fill of ditch (trench 11) 1106=1004	
1105	0.38m	Fill of ditch (trench 11) 1106=1004	
1106=1004	0.83m	Cut of ditch (trench 11) 1004	

APPENDIX 2

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL STRIP AND RECORD OF LAND TO THE NORTH EAST OF CASTLEDENE ROAD, DELVES LANE, CONSETT

1 Introduction

1.1 This written scheme of investigation represents a methods statement for undertaking an archaeological strip and record mitigation in advance of a residential development to the north east of Castledene Road, Delves Lane, Consett. The development site consists of a single field 3.3 ha in area which is centred on NGR NZ 1180 5030. The site slopes steadily downward to the south and east and is uneven in places. An area of 0.46ha in the south-east sector of the site has been identified for the strip and record mitigation (see attached figure).

1.2 Geophysical survey (Phase Site Investigations 2017) and evaluation trenching (AD Archaeology 2021) have been undertaken in advance of the proposed development.

1.3 Policy relating to the assessment and mitigation of impacts to the heritage resource within the planning system is set out in The Adopted County Durham Plan (2020).

Objective 10: Built and Historic Environment- Protect and enhance the significance of County Durham's locally, nationally and internationally important built and historic environment, including its wide range of buildings, sites, archaeology, parks and gardens and other heritage assets.

Policy 44: If the loss of the whole or part of a heritage asset is accepted, conditions will be secured to ensure the new development proceeds after the loss has occurred. Full and proper recording of the asset must be undertaken and made publicly available prior to its loss, in a manner proportionate to the importance of, and impact upon, the asset.

1.4 Having assessed the potential impact of the development on the archaeological resource, Durham County Council Archaeology Team has advised that a condition should be attached to the permission requiring a programme of archaeological mitigation, comprising a strip, map and record excavation. This work will be undertaken as an adherence condition and will be carried out in accordance with this agreed Written Scheme of Investigation.

2 Archaeological and Historical Background

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2.1 Prehistoric Period

2.1.1 There are a number of prehistoric features and finds in the wider area of the site. A Neolithic stone axe and a scatter of worked flint tools (H1027) have been found in the wider vicinity of the site. A cup and ring marked stone and a stone axe have been located at Delves.

2.2 Medieval Period

2.2.1 The site of the village of Crook Hall lies to the north-east of the site. The earliest records of settlement in this area date to the medieval period, when a deserted medieval village (H1898) called 'Crokhough' was recorded - this place name probably comes from the Old English for 'flat land by the bend in the river'. The medieval manor house (H1900) at Crookhall was first mentioned in documents dating to around 1180. However, no remains of this early manor house can be seen, though the ruins of a later manor house can still be seen close to the farm 500m north-east of the site. Early maps show a probable medieval fishpond (H1899) nearby.

2.3 Post-medieval

2.3.1 The area was much changed in the 19th century with the growth of the coal industry. The main coal mine was Delves Pit, which employed over 200 men. Clay worked at the same time as the coal was used to make bricks. Much of the coal was turned into coke at nearby coke ovens. The growth of the collieries led to many houses being built for the miners. The sequence of Ordnance Survey maps shows the site as open field with no structures present.

2.4 Geophysical Survey

2.4.1 Anomalies have been identified that relate to modern material/objects, agricultural activity and probable geological/pedological variations. There are several linear/curvilinear anomalies of uncertain origin (Phase Site Investigations 2017).

2.5 Evaluation Trenching

2.5.1 Subsequent to geophysical survey 18 trenches were excavated across the site (AD Archaeology 2021). The majority of the trenches proved to be devoid of significant archaeological features in the north-western portion of the site and no further work would be appropriate in this area of the site.

2.5.2 In the evaluation trenching a WNW-ESE ditch, 4m wide and up to 0.83m deep, was traced for a distance of 180m through the site. Its line can be traced across the site as a geophysical anomaly (anomaly C) and it was located and investigated in four trenches (Trenches 10, 11, 13 and 15). No dating evidence was recovered, the ditch being a pre-modern feature representing a landscape boundary feature of uncertain date. In the south-eastern portion of the site linear features were located in Trenches 16 and 17. In Trench 16 a linear NNE-SSW feature was cut by the terminal of a north-south gully, which was traced a further 11m to the north. In Trench 17 an east-west gully (corresponding to geophysical B) and a further shallow linear were found. No dating evidence was recovered from these features. Palaeo-environmental samples have been analysed from the WNW-ESE ditch (Trenches 10=11=13 and 15) and the cluster of features in Trenches 16-17 in order to provide further information on the nature and date of these features. The palaeoenvironmental assessment of three bulk samples, were taken from features of uncertain origin in the south-eastern portion of the site. These comprise the fills (1602) and (1604) of gullies (F1603) and (F1605), and the primary fill (1105) of ditch (1106). The samples contain similar background scatters of fuel debris. The composition of these burnt remains is consistent with Iron Age and Romano-British occupation, particularly for this region. Although the palaeo-environmental remains are limited and do not provide a conclusive evidence of a date, they do strongly suggest that the features are of a pre-modern date.

2.5.3 In the north-western portion of the site only a small number of features of limited archaeological significance were located. It is recommended that a localised strip and record is undertaken toward the south-eastern end of the site, centred on the area of Trenches 16 and 17 and extending north-east to incorporate the ditch as located in Trenches 13 and 15. No further work is recommended to the north-west of this, in the central and north-western areas of the site.

3 Aims and Recommended Course of Action

3.1 The aim of the archaeological mitigation is to preserve by record the features at the site which appear to belong to an Iron Age/Romano-British settlement.

3.2 Historic England guidance 'Preserving Archaeological Remains: Decisiontaking for sites under development' (Historic England 2016) emphasises the need to characterise not only the types of remains, but also to understand their significance. The document 'Shared Visions: The North-East Regional Research Framework (NERRF) for the Historic Environment' by David Petts with Christopher Gerrard, 2006 notes the importance of research questions as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to

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wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions.

3.3 There is a growing awareness of the density of prehistoric settlement activity. In recent years development control-led archaeological investigation in the area has contributed significantly to our knowledge of the density of settlement and activity in this area during the prehistoric period (North East Regional Research Framework, Petts & Gerrard, 2006).

Recent excavations have begun to challenge established models of prehistoric settlement morphology. It is therefore important for any evidence of prehistoric settlement to be studied in order to establish more firm chronologies. Also needed is the study of site function and the social role of settlements in the landscape (NERRF Research Priority lii)

The archaeological work has the potential to contribute to the understanding of the Iron Age to Roman transition (NERRF Research Priority Ri)

3.4 The assessment exercises have identified that significant archaeological remains survive in a localised area in the south-east area of the proposed development. The loss of archaeological features should be mitigated by a programme of investigation and recording in advance of their destruction. This will ensure their 'preservation by record'. An area of 0.46ha has been identified for the strip and record (see attached figure).

3.5 Archaeological excavation and recording in advance of development impact will ensure important archaeological remains are not destroyed without first being adequately recorded.

3.6 Durham County Council Archaeology Team has therefore advised that the archaeological mitigation in the area indicated on the attached figure should take the form of a programme of 'strip and record' mitigation. This requires that an area of development impact is stripped under archaeological supervision allowing the targeted excavation of a representative sample of archaeological features and deposits.

3.7 Unless otherwise agreed, archaeological fieldwork should be completed prior to the commencement of groundworks required for the proposed development.

3.8 Should the strip and record area include areas of modern disturbance which exceed the depth of known natural deposits, Durham County Council Archaeology Team will be contacted in order to establish whether the programme of archaeological work need continue in these specific areas.

4. General Standards

4.1 All work will be undertaken in line with the Durham County Council Archaeological Team standards for all archaeological work in County Durham and Darlington (March 2021). All work will be carried out in compliance with the codes of conduct of the Chartered Institute for Archaeologists (CIfA), will follow the CIfA Standard and Guidance for Archaeological Excavation and will be in line with the Regional Statement of Good Practice. The archaeological contractor will supply details of appropriate and current insurance to undertake excavations. All staff will be professional archaeologists who are suitably qualified and experienced for their project roles. Curriculum vitaes will be supplied to the Durham County Council Archaeology Team for approval on request. All staff will familiarise themselves with the archaeological background of the site, and the results of any previous work in the area, prior to the start of work on site. All staff will be aware of the work required under the specification, and must understand the project aims and methodologies. This WSI has been produced by J.McKelvey who has completed the MORPHE training scheme.

5. Site briefing / 'Toolbox talk'

5.1.1 Provision will be made for the archaeological contractor to host a short project briefing or 'toolbox talk' prior to the any development work on site commencing. The briefing will include a summary of the requirements of the brief and the objectives of the mitigation exercise. Where appropriate reference will be made to the types of archaeological feature / deposits / finds potentially present on site.

• 5.1.2 The objective of the briefing is to ensure that all site operatives understand the scope and purpose of the archaeological mitigation work and the obligations it conveys on the developer and subcontractors. Provision should be made to brief new subcontractors before they commence work on site (or as soon as reasonably possible after they start) and to provide summary updates on the progress of the archaeological work to all site staff at appropriate intervals or following significant discoveries on site.

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5.2 Soil stripping

5.2.1Topsoil and unstratified modern material will be removed mechanicallyAD ArchaeologyConsettProject no. 394Strip & Record

by machine using a back-acting **wide toothless ditching bucket**, under continuous archaeological supervision.

5.2.2 The topsoil or recent overburden will be removed down to the first significant archaeological horizon in successive level spits.

5.2.3 The full nature and extent of archaeological features and deposits will be exposed.

5.2.4 No machinery will track over areas that have previously been stripped.

5.2.5 Areas containing archaeological features and deposits will be recorded on a pre-excavation plan.

5.3 Recording and Excavation

5.3.1 All features exposed will be fully mapped and a site plan prepared before decisions are made regarding the appropriate level of excavation. The level of excavation and recording required will be agreed with the Durham County Council Archaeology Team following the initial topsoil strip. The aim of the mitigation is to record all and any archaeological features present on the site and to undertake sufficient intrusive excavation to enable the date, character, form and stratigraphic relationships of archaeological features to be understood. This process will typically require, as a maximum, the following level of sampling:

- Discrete features, such as post-holes and pits, will be half sectioned as a minimum whilst smaller features may be fully excavated.
- Linear features will have sample sections put through them at intervals so that a maximum 50% of the exposed feature is excavated.
- All linear feature terminals will be excavated.
- All Intersections between features will be excavated.
- All archaeological features and deposits must be excavated by hand
- Additional targeted excavation may also be required in certain locations in the event that stratigraphic relationships or artefactual dating evidence cannot be recovered from archaeological features via the initial sampling process.

i) This work will involve the systematic examination and accurate recording of all archaeological features, horizons and artefacts identified.

ii) In the event of human burials being discovered the coroners' office will be informed. Any removal of burials will comply with relevant Ministry of Justice regulations. Any human remains encountered will be accurately recorded. The advice of a palaeo-pathologist should be sought as soon as it is clear that one or

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more burials have been encountered and they should be given the opportunity to examine the remains in situ before excavation of the remains has commenced. The remains cannot be excavated and lifted until a Section 25 licence has been obtained from the Ministry of Justice. Both the client and DCCAS must be informed if human remains are found so that an agreement can be reached on the best possible way forward.

iii) Appropriate procedures under the relevant legislation will be followed in the event of the discovery of artefacts covered by the provisions of the Treasure Act 1996.

iv) During and after the excavation, all recovered artefacts and environmental samples will be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this should include controlled storage, correct packaging, regular monitoring of conditions, immediate selection for conservation of vulnerable material).

v) The area will be accurately tied into the National Grid and located on a 1:2500 or 1:1250 map of the area.

vi) A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings will be drawn at 1:50, 1:20 and 1:10 scales as appropriate.

vii) All archaeological deposits and features will be recorded with an above Ordnance Datum (AOD).

viii) A digital photographic record of all contexts will be taken in digital format. All photographs will include a clearly visible, graduated metric scale. A register of all photographs will be kept. Photographs will be taken with a digital camera (a camera of minimum of 10 megapixels) and be of archival quality; as born-digital images, archived accordingly. The photographic record will be sent to ADS York in an approved format to be stored as part of their electronic archive.

ix) Where stratified deposits are encountered, a 'Harris' matrix will be compiled.

5.3.2 Deposits will be assessed for their potential for providing environmental or dating evidence. Sampling will be in line with the strategy agreed with Historic England Science Advisor and Durham County Council Archaeology Team (Section 6). Any variation from this scheme must be approved by the Historic England Science Advisor, Durham County Council Archaeology Team and representatives of the developer.

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6 Environmental Sampling

6.1 A broad environmental archaeology sampling strategy will be agreed with the Historic England's North East Science Advisor, Don O'Meara. After the topsoil stripping and production of a site plan a detailed sampling strategy will then be discussed with the Durham County Council Archaeology Team and the HE Scientific Advisor.

6.2 The objective of the sampling strategy will be to collect a representative amount of plant, animal and inorganic material which may be preserved in the sediments on the site (English Heritage 2011, 5-7). This material will be collected where it is shown that its study is pertinent to undertanding the natural and human environment around the site. Suitable methodologies for sampling and processing will be adopted depending on whether the deposts come from waterlogged or non-waterlogged contexts.

6.3 Soil samples will be taken from the complete range of contexts representative of the archaeological remains uncovered during excavation. Sampling of features will be question lead, and will include a range of contexts (including those which do and do not contain diagnostic artefacts). Sample volumes will be determined by the nature of the contexts excavated, and the questions being asked, but for dry/non-waterlogged deposits this will typically be 40 litres, or 100% of the context if the total volume is less than this. The outcome of any analysis will address the report format outlined by Historic England Guidelines (English Heritage 2011, 7-8), but will typically invove the analysis of charred and uncharred plant material, and the identification of material suitable for scientific dating.

6.4 The presence of deposits containing animal bone will be treated in accordance with recent guidelines on the excavation and recovery of animal bone from archaeological sites (English Heritage 2014). This will include consideration of various appropriate recovery methods where this is appropriate and proportionate based on the nature and significance of the remains.

6.5 If evidence of industrial activity is uncovered during the stripping of the site, or during subsequent excavation or post-excavation work, a discussion between the contractor and DCC will determine the best way of approaching this material. Depending on the nature of the remains this may include the inclusion of a specialist in this field.

6.6 Bulk sample residues will be checked for the presence of industrial waste (e.g. slags, hammerscale, glass working waste) and small faunal remains (e.g. fishbones, small mammal/avian bones) as well as for plant material.

6.7 Scientific dating techniques will include, but not be limited to radiocarbon dating. Depending on the nature of the deposits recovered other techniques considered should include luminescence dating (OSL and TL), and archaeomagnetic dating. It is strongly encouraged that a dating specialist be consulted before the project commences, and that at the post-excavation stage any dating considered is conducted within a Bayesian modelling framework.

6.8 Any subsampling of soil sample for assessment will first be agreed with DCC, while any remaining samples should be kept until the completion of the project in case they prove to be useful in answering questions that may arise during the post-excavation process.

6.9 Should human remains be uncovered during any work on the site Durham County Council will be informed. The excavation and post-excavation treatment of these remains will consider the legal (Ministry of Justice; Mays 2017), moral (Mays 2017), and scientific (English Heritage 2013) issues which are outlined in agreed best practice documents.

7 Post excavation work, archive and report preparation

Finds

7.1 All finds processing, conservation work and storage of finds will be carried out in compliance with the CIFA Guidelines for Finds Work and those set by UKIC and set out in - English Heritage (1995) "A strategy for the Care and Investigation of Finds"; Watkinson and Neal (2001) "First Aid for Finds"; UKIC (1983) "Packaging and Storage of Freshly Excavated Artefacts from Archaeological Sites". All recovered artefacts will be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this should include controlled storage, correct packaging, regular monitoring of conditions, immediate selection for conservation of vulnerable material).

7. 2 The deposition and disposal of artefacts will be agreed with the legal owner and recipient museum prior to the work taking place. Where the landowner decides to retain artefacts adequate provision must be made for recording them. Details of land ownership will be provided by the developer.

7.3 All retained artefacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

7.4 All finds and environmental samples will be processed and subsequently analysed by appropriate specialists as part of the post-excavation assessment. Specialist identification and analysis will include as a minimum and where

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appropriate:

- Pottery and ceramic building material (Rob Young; Alex Croom; Paul Bidwell; Andy Sage)
- Bone (Louisa Gidney)
- Flint (Rob Young)
- Metal work (David Dungworth)
- Industrial debris (David Dungworth)
- Environmental micro and macro fossils (Charlotte O'Brien ASDU)
- Residue analysis (ASDU)
- Radiocarbon dating (ASDU/SUERRC)
- Any other analysis identified as necessary during the fieldwork or post excavation work

7.5 Site Archive

7.5.1 Archiving work will be carried out in compliance with the ClfA Guidelines for Archiving. Paragraph 199 of the National Planning policy Framework clarifies that Local Planning Authorities should make evidence gathered as part of archaeological mitigation exercises, including any archive, publically accessible. Copies of the post excavation assessment and final reports should be deposited with the Historic Environment Record. The full archive, including all reports and relevant documentation, will be archived with an agreed local museum.

7.5.2 The final location for this site archive will be at the County Durham Archaeological Archives (CoDAA) within 6 months of completion of fieldwork. This will be confirmed in writing to DCCAS. If this is not possible, extensions to timescales must be agreed in writing with DCCAS.

7.5.3 Before the commencement of fieldwork, contact will be made with the landowners and with the recipient museum to make the relevant arrangements

7.5.4 The Durham County Council Team will require confirmation that the archive had been submitted in a satisfactory form to the relevant museum before recommending to the local planning authority that the condition should be fully discharged.

7.6 Report

7.6.1 A full and Final Archive Report will be prepared to the following standards:

i) One bound paper copy of the report will be submitted:

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- For deposition in the County HER to the Durham County Council Team
- Digital copies (pdf/A of the report) will be submitted:
- to the commissioning client

ii)

- to the planning authority (Durham County Council Archaeology Team) which must be formally submitted by the developer with the appropriate fee
- to deposition in the County HER to the Durham county Council Team

iii) The report will have each page and paragraph numbered and illustrations cross referenced within the text. All drawn work should be to publication standard.

The report will include as a minimum the following:

- OASIS reference number and an 8 figure grid reference.
- An executive summary
- A location plan of the site at an appropriate scale of at least 1:10 000
- A location plan of the extent of the works within the site. This will be at a suitable scale, and located with reference to the national grid, to allow the results to be accurately plotted on the Sites and Monuments Record
- Plans and sections of archaeology located
- A site narrative interpretative, structural and stratigraphic history of the site
- A table summarising the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds
- Photographs of the site, showing the location of groundworks in context and any archaeological features that are revealed.
- Contractor's details, including dates the work was carried out, the nature and extent of the work.
- Description of the site location and geology
- Artefact reports full text, descriptions and illustrations of finds
- Laboratory reports and summaries of dating and environmental data, with collection methodology
- A consideration of the results of the field work within the wider research context (ref. NERRF)
- Recommendations for analysis of finds or environmental samples
- Copy of this Project Design
- Any variation to the above requirements will be approved by the planning authority prior to work being submitted

7.6.2It is possible that a Post-Excavation Assessment report may be needed as
a stage in the production of the Final Archive Report. If this identifies that further
analysis is needed, an updated Project design will be produced detailing this, and will
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be agreed with DCCAS and the developer. Once agreed, this will need to be implemented and a final report produced. The final report will need to be approved within 3 months of agreement of the Updated Project Design. If this is not possible, extensions to timescale must be agreed in writing with DCCAS.

8 Publication

8.1 Should a significant archaeological site be located a post-excavation assessment report will include all the information necessary to make decisions about the future direction of the project in line with Historic England's Guidelines on the Management of Research Projects in the Historic Environment (Historic England 2015). The report will be submitted to the Durham County Archaeologist for comment and approval prior to any further analysis or publication work commencing.

8.2 If the post excavation assessment report suggests that the site is worthy of publication, this will need to be agreed with DCCAS and the developer. Any publication deemed necessary will need to be agreed in writing within one year of the completion of the final report. The results do not have to be published within that year, as this is subject to the constraints of relevant journals etc, however, a provisional publication date must be set and agreed, in writing. A summary will also be prepared for "Archaeology in Durham".

8.3 Durham County Council Archaeology Team will require confirmation that the publication report has been submitted in a satisfactory form to an appropriate journal before recommending to the local planning authority that the condition should be fully discharged.

9 OASIS

9.1 Durham County Council Archaeology Team supports the Online Access to Index of Archaeological Investigations (OASIS) Project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large scale developer funded fieldwork.

9.2 The contractor will therefore complete the online OASIS form at <u>http://ads.ahds.ac.uk/project/oasis/</u>. A pdf copy of the final report will be uploaded within 3 months of its approval. If this is not possible, extensions to timescale must be agreed in writing with DCCAS.

10 Monitoring

10.1 Durham County Council Archaeology Team will be informed on the start date and timetable for the watching brief in advance of work commencing. Reasonable access to the site for the purposes of monitoring the archaeological scheme will be afforded to the Durham County Council Archaeology Team or his/her nominee at all times. Regular communication between the contractor, the Durham County Council Archaeology Team and other interested parties will be maintained to ensure the project aims and objectives are achieved.

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APPENDIX 3 PALAEO-ENVIRONMENTAL ANALYSIS EVALUATION FEBRUARY 2021



on behalf of AD Archaeology Ltd

> Delves Lane Consett County Durham

palaeoenvironmental assessment

report 5505 March 2021



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1. Summary

The project

- 1.1 This report presents the results of palaeoenvironmental assessment of three bulk samples taken during archaeological works at Delves Lane, Consett, County Durham.
- 1.2 The works were commissioned by AD Archaeology Ltd, and conducted by Archaeological Services Durham University.

Results

1.3 The samples contain similar background scatters of fuel debris. The composition of these burnt remains is consistent with Iron Age and Romano-British occupation, particularly for this region. However, as the remains are limited this is not conclusive evidence.

Recommendations

- 1.4 No further palaeoenvironmental work is required for these samples. However, confirmation that they have an Iron Age or Romano-British origin will require radiocarbon dating evidence. If additional work is undertaken at the site, the results of this assessment should be added to any further palaeoenvironmental data found.
- 1.5 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.

2. Project background

Location and background

2.1 An archaeological evaluation was conducted by AD Archaeology Ltd on land to the north-east of Castledene Road, Delves Lane, Consett. This report presents the results of a palaeoenvironmental assessment of three bulk samples, taken from features of uncertain origin. These comprise the fills [1602] and [1604] of gullies [F1603] and [F1605], and the primary fill [1105] of ditch [F1106].

Objective

2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

Dates

2.3 The samples were received by Archaeological Services on 26th February 2021. Assessment and report preparation was conducted between 2nd and 10th March 2021.

Personnel

2.4 Assessment and report preparation was conducted by Lorne Elliott. Sample processing was by Jonathan Goldberg-Booth.

Archive

2.5 The site code is **CON21**. The flots are currently held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University awaiting collection. The charred plant remains will be retained at Archaeological Services Durham University.

3. Methods

- 3.1 The bulk samples were manually floated and sieved through a 500μ m mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope.
- 3.2 Selected charcoal fragments were identified, in order to provide material suitable for radiocarbon dating. The transverse, radial and tangential sections were examined at up to x500 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990), Gale & Cutler (2000) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.
- 3.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

4. Results

- 4.1 The samples produced moderate-sized flots primarily comprising fragmented (<8mm) coal/cinder, together with small amounts of charcoal, a few charred plant remains, and modern roots. The gully fills contain large quantities of roots, presumably reflecting their shallow nature. There are no finds.
- 4.2 The charcoal assemblages have a common character. Preservation is generally poor, mainly due to the abundance of mineral inclusions. Slivers of oak stemwood heartwood (representing timber-sized wood) are the dominant remains, occurring alongside occasional charred heather twigs. Hazel branchwood from ditch fill [1105] is the only other tree/shrub evidence noted. Charred plant macrofossils are mostly absent, apart from gully [F1605] which has a few grass-type stems/rhizomes, and an herbaceous tuber, both of which are listed as characterising remnants of burnt turf in the archaeological record (Hall 2003). Palaeoenvironmental results for each context are presented in Appendix 1.
- 4.3 Material for radiocarbon dating is scarce, some of which may be unsuitable, depending on whether a long-lived species is used or whether there is sufficient carbon. The charcoal from ditch fill [1105] has the most potential for dating purposes, based on the condition and the type of species. Available material is presented in Appendix 2.

5. Discussion

5.1 The samples contain similar background scatters of fuel debris. The composition of these burnt remains is consistent with Iron Age and Romano-British occupation, particularly for this region (Archaeological Services 2021). However, as the remains are limited this is not conclusive evidence.

6. Recommendations

- 6.1 No further palaeoenvironmental work is required for these samples. However, confirmation that they have an Iron Age or Romano-British origin will require radiocarbon dating evidence. If additional work is undertaken at the site, the results of this assessment should be added to any further palaeoenvironmental data found.
- 6.2 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.

7. Sources

Archaeological Services 2021 Land at Station Road, Wallsend, Tyne and Wear: postexcavation analysis. Unpublished report **5213**, Archaeological Services Durham University

- Gale, R, & Cutler, D, 2000 Plants in archaeology; identification manual of vegetative plant materials used in Europe and the southern Mediterranean to c.1500. Otley
- Hall, A, 2003 Recognition and characterisation of turves in archaeological occupation deposits by means of macrofossil plant remains. Centre for Archaeology Report 16/2003. English Heritage

- Hall, A R, & Huntley, J P, 2007 A review of the evidence for macrofossil plant remains from archaeological deposits in northern England. Research Department Report Series no. 87. London
- Hather, J G, 2000 The identification of the Northern European Woods: a guide for archaeologists and conservators. London
- Huntley, J P, 2010 A review of wood and charcoal recovered from archaeological excavations in Northern England. Research Department Report Series no. **68**. London
- Petts, D, & Gerrard, C, 2006 Shared Visions: The North-East Regional Research Framework for the Historic environment. Durham
- Schweingruber, F H, 1990 Microscopic wood anatomy. Birmensdorf

Appendix 1: Data from palaeoenvironmental assessment

Sample	Context	Feature	Volume processed (l)	Flot volume (ml)	C14 available	Rank	Notes
1	1602	F1603 (gully)	13	200	?	*	The sample produced a moderate-sized flot of mainly fragmented (<4mm) coal/cinder and modern roots, with a small quantity of charcoal. The charcoal is in poor condition due to the amount of mineral inclusions and the high level of vitrification and radial cracking. The charcoal is almost all oak stemwood (heartwood). The assemblage includes a charred heather twig and possible evidence of alder, but poor condition prevents certain identification for the latter. There are no other charred plant remains or finds. (IA/R-B?)
2	1604	F1605 (gully)	18	200	?	*	The sample produced a moderate-sized flot of fragmented (<4mm) coal/cinder, modern roots, and a small amount of charcoal comprising oak stemwood (heartwood) and a few small fragments of heather. The charcoal is generally in poor condition due to abundant mineral inclusions. There are a few charred plant remains consisting of small grass-type rhizomes and indeterminate tubers. (IA/R-B?)
3	1105	F1106 (ditch)	22	150	Y	**	The sample produced a moderate-sized flot of fragmented (<4mm) coal and modern roots, with a small amount of charcoal. The charcoal is in reasonable condition with low amounts of mineral inclusions. Most of the charcoal fragments are small slivers of oak stemwood (sapwood). The assemblage includes some evidence of hazel branchwood and heather. There are no other charred plant remains or finds. (IA/R-B?)

[Rank: *: low; **: medium; ***: high; ****: very high potential to provide further palaeoenvironmental information.

? - material may be unsuitable for AMS dating due to small size or long-lived species]

Appendix 2: Material available for radiocarbon dating

Context	Sample	Single Entity recommended 1st choice	Weight	Notes	Single Entity recommended 2nd choice	Weight	Notes
1602	1	Oak charcoal	121mg	(2 growth rings) - stemwood	-	-	no other material available for radiocarbon dating
1604	2	Heather charcoal	20mg	(3 growth rings) - small branchwood	-	-	no other material available for radiocarbon dating
1105	3	Hazel charcoal	44mg	(9 growth rings) branchwood	Heather charcoal	20mg	(3 growth rings) - small branchwood Also present Oak stemwood sliver (43mg)

APPENDIX 4 PALAEO-ENVIRONMENTAL ANALYSIS STRIP & RECORD NOVEMBER 2021



on behalf of AD Archaeology Ltd

> Delves Lane Consett County Durham

palaeoenvironmental assessment

report 5708 February 2022



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1. Summary

The project

- 1.1 This report presents the palaeoenvironmental assessment results of five bulk samples taken during archaeological works at Delves Lane, Consett, County Durham.
- 1.2 The works were commissioned by AD Archaeology Ltd, and conducted by Archaeological Services Durham University.

Results

1.3 Although the palaeoenvironmental evidence is limited, the samples contain a combination of charred plant remains that indicate the presence of heathland. Comparable evidence has been found at many Iron Age and Romano-British sites within the region, including several sites that have had heather remains radiocarbon-dated to these periods. There is increasing evidence of a substantial expansion of heathland and moorland sometime during the Iron Age, and that this landscape continued to be exploited through the Roman period. It is plausible therefore that these features have provided further traces of such activity.

Recommendations

1.4 No further palaeoenvironmental analysis is required, but there would be some value in obtaining radiocarbon dates, particularly from the heather and birch remains.

2. Project background

Location and background

2.1 An archaeological strip, map and record was conducted by AD Archaeology Ltd at Delves Lane, Consett, County Durham. This report presents a palaeoenvironmental assessment of five bulk samples taken from features (ditch/gullies) representing agricultural boundaries, located beyond the main focus of settlement activity. Limited evidence from the evaluation samples indicated an Iron Age or Romano-British date (Archaeological Services 2021a).

Objective

2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

Dates

2.3 The samples were received by Archaeological Services on 6th December 2022.
Assessment and report preparation was conducted between 7th and 12th February 2022.

Personnel

2.4 Assessment and report preparation was conducted by Lorne Elliott. Sample processing was by Ronan O'Donnell.

Archive

2.5 The site code is **CON21**. The flots and charred plant remains will be retained at Archaeological Services Durham University.

3. Methods

- 3.1 The bulk samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identifications were aided by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.
- 3.2 Selected charcoal fragments were identified, in order to provide material suitable for radiocarbon dating and to determine the nature and condition of the assemblages. The transverse, radial and tangential sections were examined at up to x500 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990), Gale & Cutler (2000) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.
- 3.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

4. Results

- 4.1 Small amounts of charcoal are present, but most of the fragments are heavily encrusted and hence heavier, and mainly occur in the sample residues rather than the flots. In some instances, this poor condition has hampered species identification. There is a sign of differential preservation, for example, some of the oak remains are in a worse condition. However, it is uncertain whether this is due to variations in the soil conditions or if it shows there is more than one phase of activity. Heather twigs are the most frequently recorded of the few charred plant macrofossils present, and were similarly found in the evaluation samples. As was previously noted, there are no cereal remains and no finds.
- 4.2 Material for radiocarbon dating is available, although in some cases, only long-lived species are present, which may give an earlier date and in other instances, the combination of small size and mineral-encrusting may mean there is insufficient carbon. Detailed palaeoenvironmental results and a provisional date for each context are presented in Appendix 1.

5. Discussion

- 5.1 As noted in the evaluation samples, there are no concentrations of burnt domestic waste and no sign of diagnostic cereal remains, which is often the case for boundary features located away from the main focus of settlement activity. The small amounts of burnt debris are more likely to derive from scrub clearance or other agricultural activities. Although the palaeoenvironmental evidence is limited, the samples have a combination of charred plant remains that indicate the presence of heathland and moorland. These include heather twigs (specifically small root and basal parts), grass-type rhizomes, the remains of grassland plants, and birch and oak charcoal. There is growing evidence from the regional plant macrofossil, charcoal and pollen records, that suggests there was a substantial expansion of heathland and moorland sometime during the Iron Age, and that exploitation of this landscape continued through the Roman period. There is a possibility therefore, that these features have provided further traces of such activity, however, the chronology and spatial extent of this landscape is still uncertain.
- 5.2 Dating these features is not easy as they only contain background activity, which can result in a greater risk of dating intrusive or residual material, especially if the boundaries were in existence for a considerable period of time. However, there are patterns in the evidence that are comparable with many Iron Age and Romano-British sites, including several sites that have had heather remains radiocarbon-dated to these periods (Archaeological Services 2018; 2021b).

6. Recommendations

- 6.1 No further palaeoenvironmental analysis is required, but there would be some value in obtaining radiocarbon dates, particularly from the heather and birch remains.
- 6.2 The following remains are the best options for radiocarbon dating and are ranked in order of their suitability; other material is available if required including material found during the evaluation :-

- 1. Heather charcoal from gully [F1010]
- 2. Birch charcoal from gully [F1008]
- 3. Birch charcoal from ditch [F1004] (seg4) (small)
- 4. Heather charcoal from [F1005] (are small but could be combined)
- Oak charcoal from gully [F1010] (this material will give a broad date – but is more representative)
- Oak charcoal from gully [F1008] (this material will give a broad date – but is more representative)
- Oak charcoal from gully [F1005] (this material will give a broad date – but is more representative)

(From the evaluation – these are the best options)

- 1. Heather charcoal from ditch [F1106]
- 2. Hazel charcoal from ditch [F1106]
- 3. Heather charcoal from gully [F1605]
- 6.3 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.

7. Sources

Archaeological Services 2018 West Shiremoor (North), Shiremoor, North Tyneside: post-excavation full analysis. Unpublished report **4872**, Archaeological Services Durham University

Archaeological Services 2021a *Delves Lane, Consett, County Durham:* palaeoenvironmental assessment. Unpublished Report **5505**, Archaeological Services Durham University

- Archaeological Services 2021b Land at Station Road, Wallsend, Tyne and Wear: postexcavation analysis. Unpublished report **5213**, Archaeological Services Durham University
- Gale, R, & Cutler, D, 2000 Plants in archaeology; identification manual of vegetative plant materials used in Europe and the southern Mediterranean to c.1500. Otley
- Hall, A R, & Huntley, J P, 2007 A review of the evidence for macrofossil plant remains from archaeological deposits in northern England. Research Department Report Series no. 87. London
- Hather, J G, 2000 The identification of the Northern European Woods: a guide for archaeologists and conservators. London
- Huntley, J P, 2010 A review of wood and charcoal recovered from archaeological excavations in Northern England. Research Department Report Series no. **68**. London
- Petts, D, & Gerrard, C, 2006 Shared Visions: The North-East Regional Research Framework for the Historic environment. Durham

Schweingruber, F H, 1990 Microscopic wood anatomy. Birmensdorf

Appendix 1: Data from palaeoenvironmental assessment

Sample	Context	Feature	Volume processed (I)	Flot volume (ml)	C14 available	Rank	Notes
1	1005	F1006 - gully	11	30	Y	*	Some heavily mineral-encrusted charcoal that was all retained in the sample residue rather than the flot. Most of this charred material is 'slivers' of oak stemwood, apart from a few small heather twigs (basal parts). The heather is slightly less encrusted than the oak, possibly indicating a separate phase of activity. The flot primarily has modern roots. There are no plant macrofossils and no finds. IA / RB?
2	1007	F1008 - gully	22	150	Y	*	Some heavily mineral-encrusted charcoal, but the condition is not as poor as the material from [1005]. As with [1005], most of this charred material was retained in the sample residue rather than the flot, and is mainly 'slivers' of oak stemwood, apart from a few small birch fragments, whereas the flot primarily contains modern roots. There are no plant macrofossils and no finds. IA / RB?
3	1009	F1010 - gully	18	100	?	*	Some mineral-encrusted charcoal, but the condition is not as poor as the material from [1005]. Most of this charred material was retained in the sample residue rather than the flot, and is mainly 'slivers' of oak stemwood, apart from a few heather twigs (basal parts), whereas the flot primarily contains modern roots. There are a few uncharred plant macrofossils (bramble, sedge), but these are probably modern intrusions and there are no finds. IA / RB?
5	1019	F1004 - ditch (seg4)	20	15	?	*	Traces of charcoal (birch and oak stemwood), coal, cinder and modern roots, and a few charred plant remains (comprising small rhizomes (<2mm), a heather twig and a cinquefoil achene). IA / RB?
6	1021	F1004 - ditch (seg2)	24	30	?	*	Traces of charcoal (hazel stemwood), coal, cinder and modern roots. Nothing diagnostic

[Rank: *: low; **: medium; ***: high; ****: very high potential to provide further palaeoenvironmental information. ? = material may be unsuitable for AMS dating due to small size or long-lived species]

APPENDIX 5 RADIOCARBON ANALYSIS (SUERC)





Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE 01 June 2022

Laboratory Code	SUERC-104203 (GU60384)
Submitter	Charlotte O'Brien Archaeological Services Durham University South Road Durham DH1 3LE
Site Reference Context Reference Sample Reference Material δ ¹³ C relative to VPDB	Delves Lane Consett, County Durham 1005 1 Charcoal : Calluna vulgaris -26.4 ‰

Radiocarbon Age BP 209 ± 24

N.B. The above ¹⁴C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23*.

For any queries relating to this certificate, the laboratory can be contacted at <u>suerc-c14lab@glasgow.ac.uk</u>.

Conventional age and calibration age ranges calculated by :

B Tugney

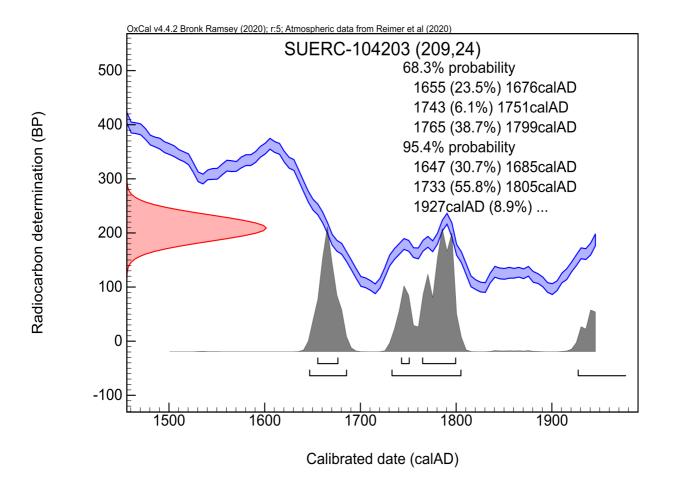
Checked and signed off by :

P. Nayonto





The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curvet

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60* † Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*





Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE 01 June 2022

Laboratory Code	SUERC-104207 (GU60385)
Submitter	Charlotte O'Brien Archaeological Services Durham University South Road Durham DH1 3LE
Site Reference	Delves Lane Consett, County Durham
Context Reference	1007
Sample Reference	2a
Material	Charcoal : Betula sp
δ ¹³ C relative to VPDB	-25.8 ‰
Context Reference	1007
Sample Reference	2a
Material	Charcoal : Betula sp

Radiocarbon Age BP 2267 ± 24

N.B. The above ¹⁴C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23*.

For any queries relating to this certificate, the laboratory can be contacted at <u>suerc-c14lab@glasgow.ac.uk</u>.

Conventional age and calibration age ranges calculated by :

B Tugney

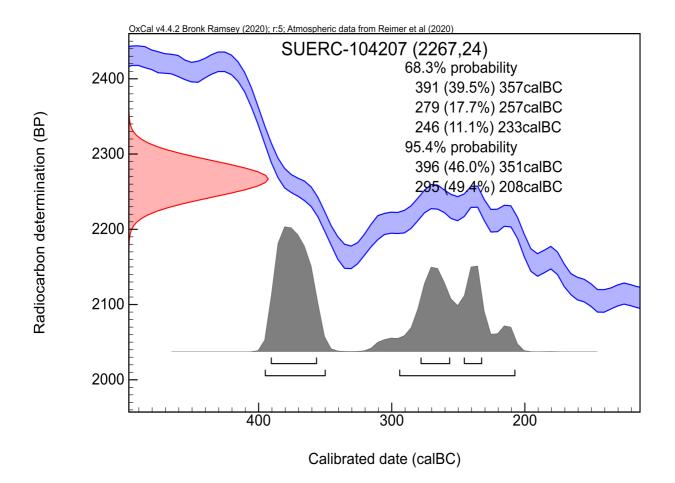
Checked and signed off by :

P. Nayonto





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The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curvet

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60* † Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*





RADIOCARBON DATING CERTIFICATE 01 June 2022

Laboratory Code	SUERC-104208 (GU60386)
Submitter	Charlotte O'Brien Archaeological Services Durham University South Road Durham DH1 3LE
Site Reference Context Reference Sample Reference Material	Delves Lane Consett, County Durham 1604 2b Charcoal : Calluna vulgaris
δ ¹³ C relative to VPDB	-25.4 ‰

Radiocarbon Age BP 174 ± 24

N.B. The above ¹⁴C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23*.

For any queries relating to this certificate, the laboratory can be contacted at <u>suerc-c14lab@glasgow.ac.uk</u>.

Conventional age and calibration age ranges calculated by :

B Tugney

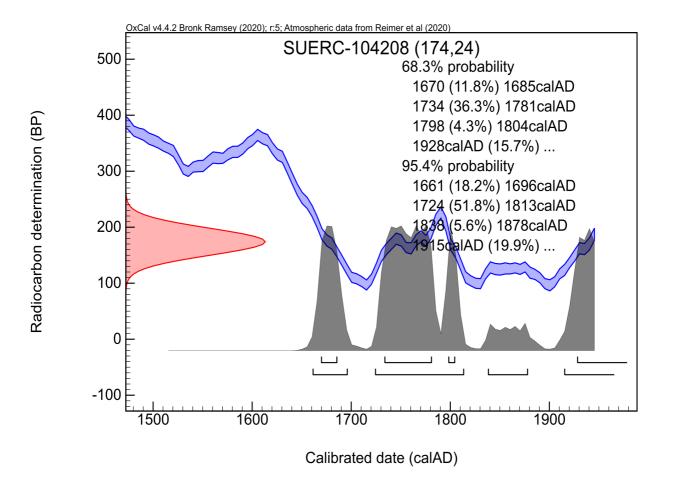
Checked and signed off by :

P. Nayonto





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The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curvet

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60* † Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*





RADIOCARBON DATING CERTIFICATE 01 June 2022

Laboratory Code	SUERC-104209 (GU60387)
Submitter	Charlotte O'Brien Archaeological Services Durham University South Road Durham DH1 3LE
Site Reference Context Reference Sample Reference Material δ ¹³ C relative to VPDB	Delves Lane Consett, County Durham 1105 3 Charcoal : Calluna vulgaris -28.2 ‰

Radiocarbon Age BP 563 ± 24

N.B. The above ¹⁴C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23*.

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

B Tugney

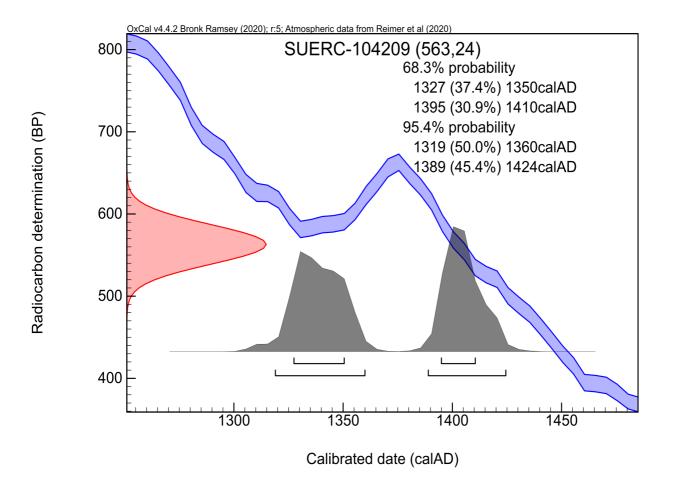
Checked and signed off by :

P. Nayonto





The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336

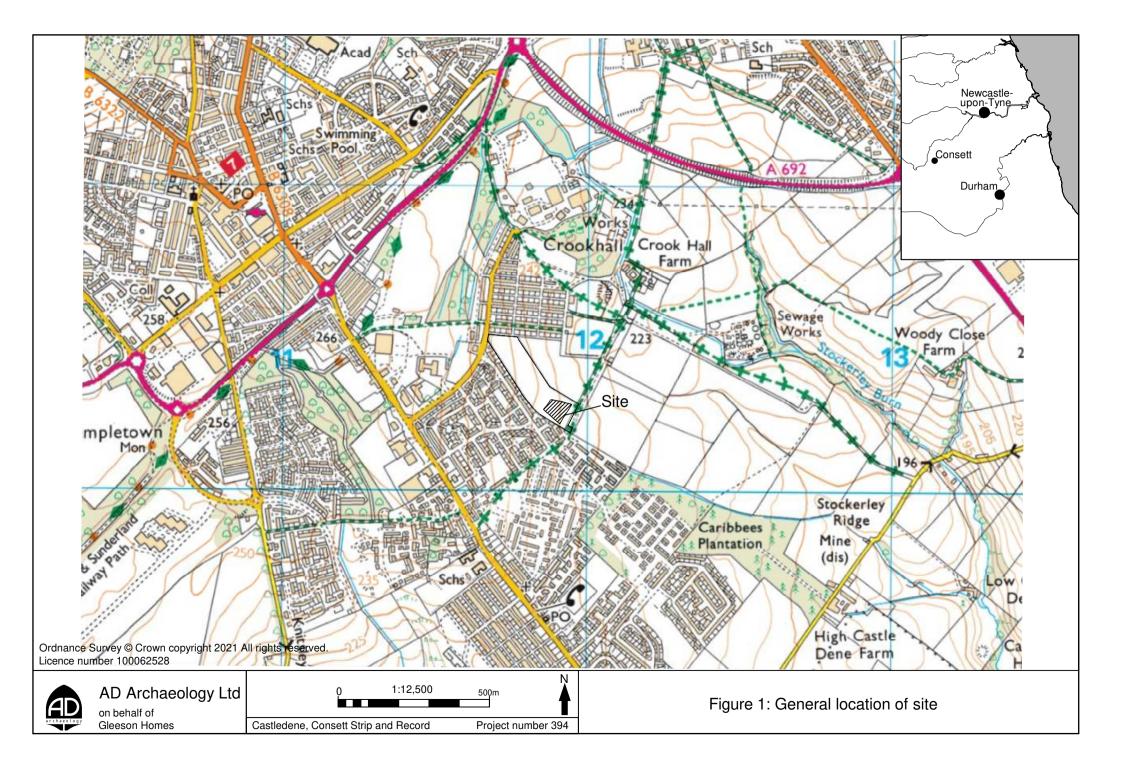


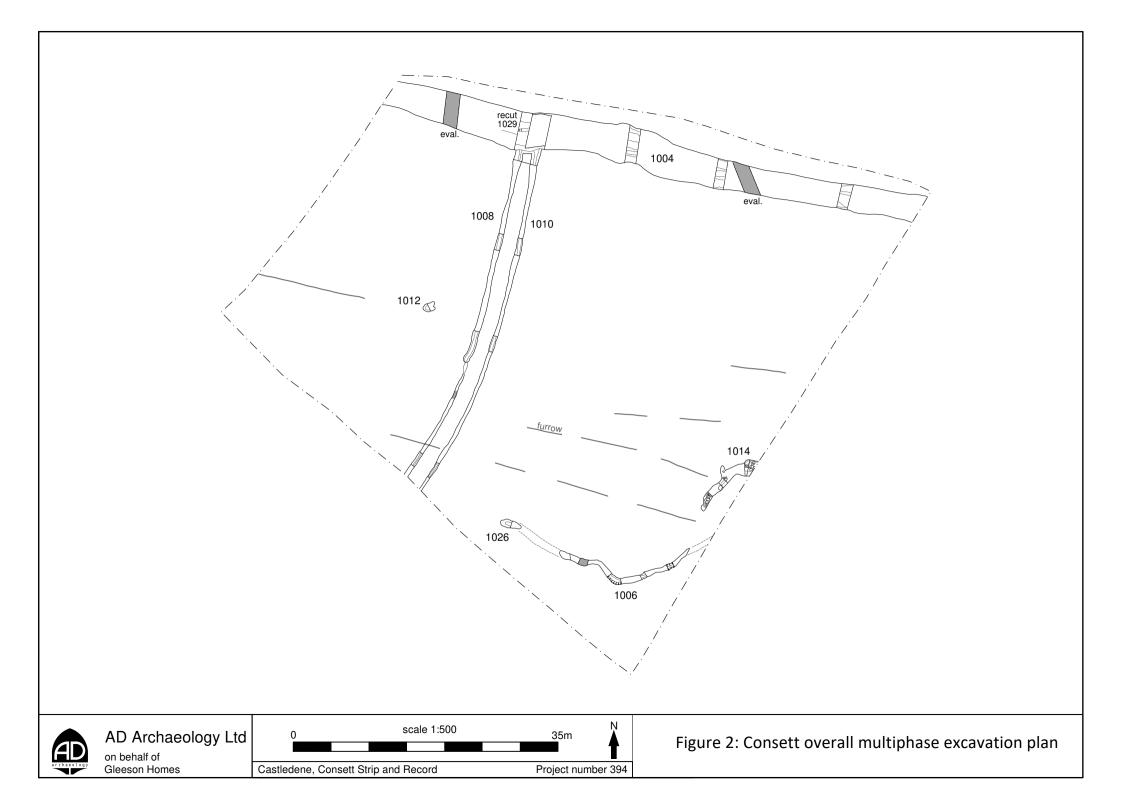
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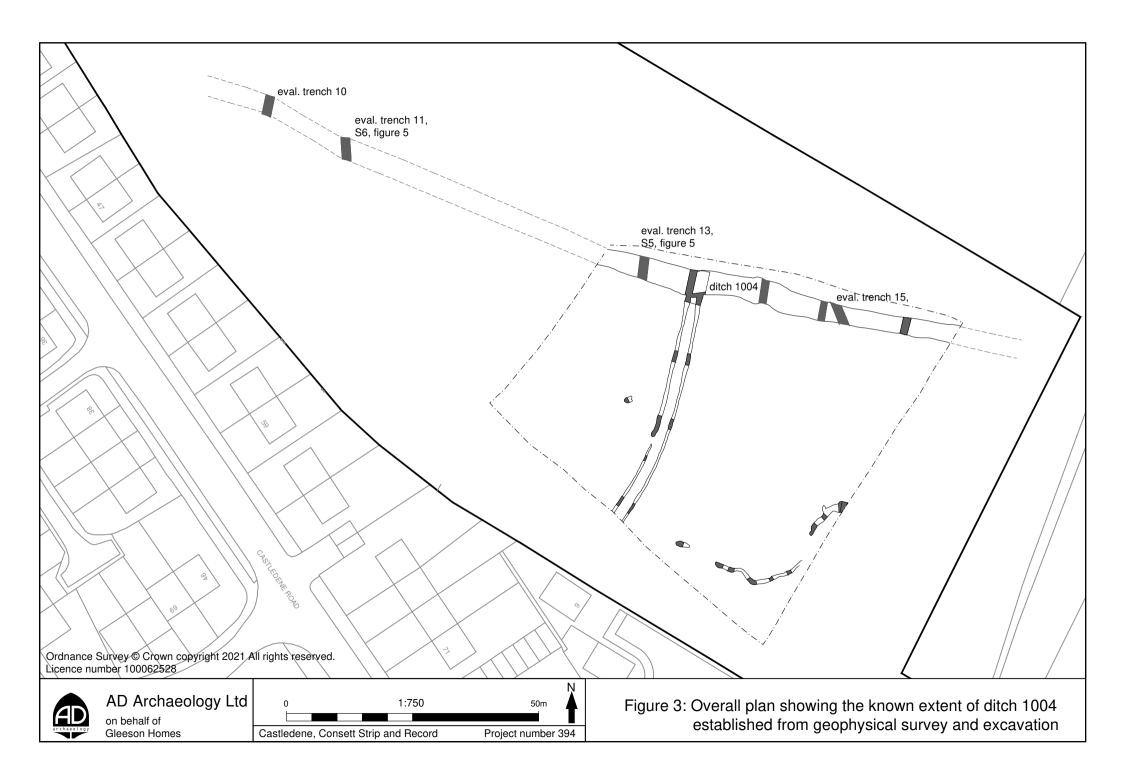
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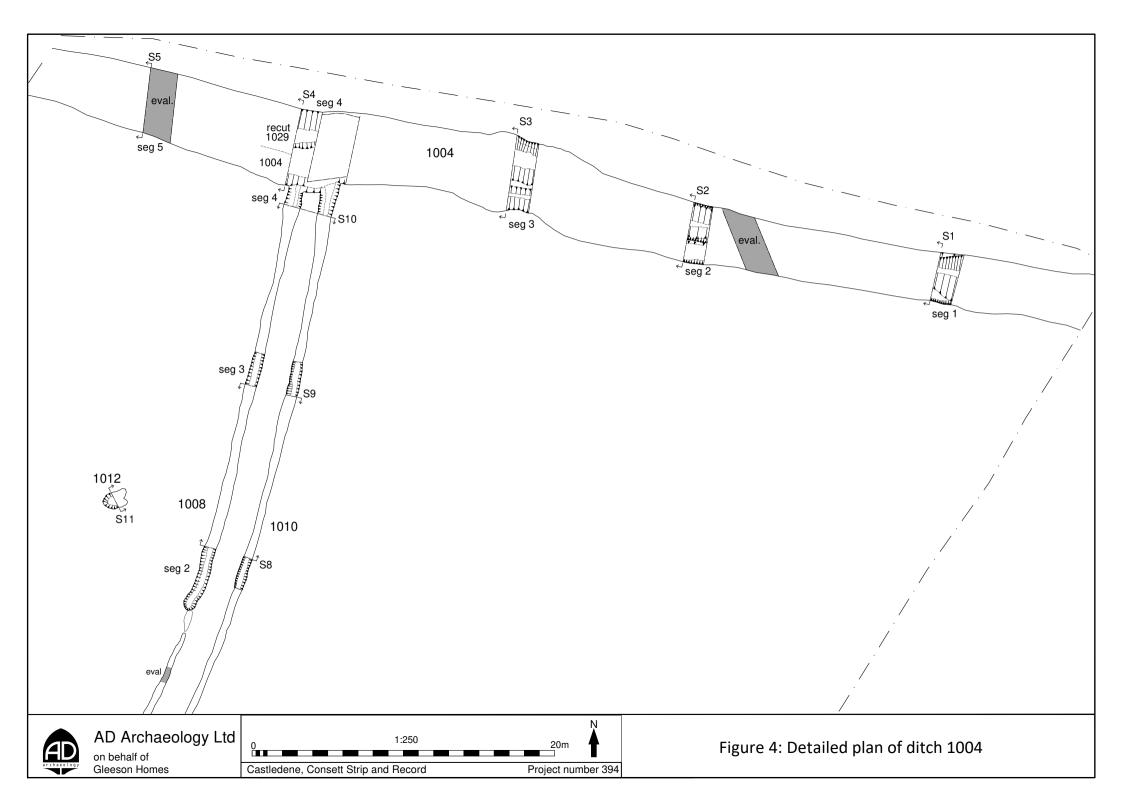
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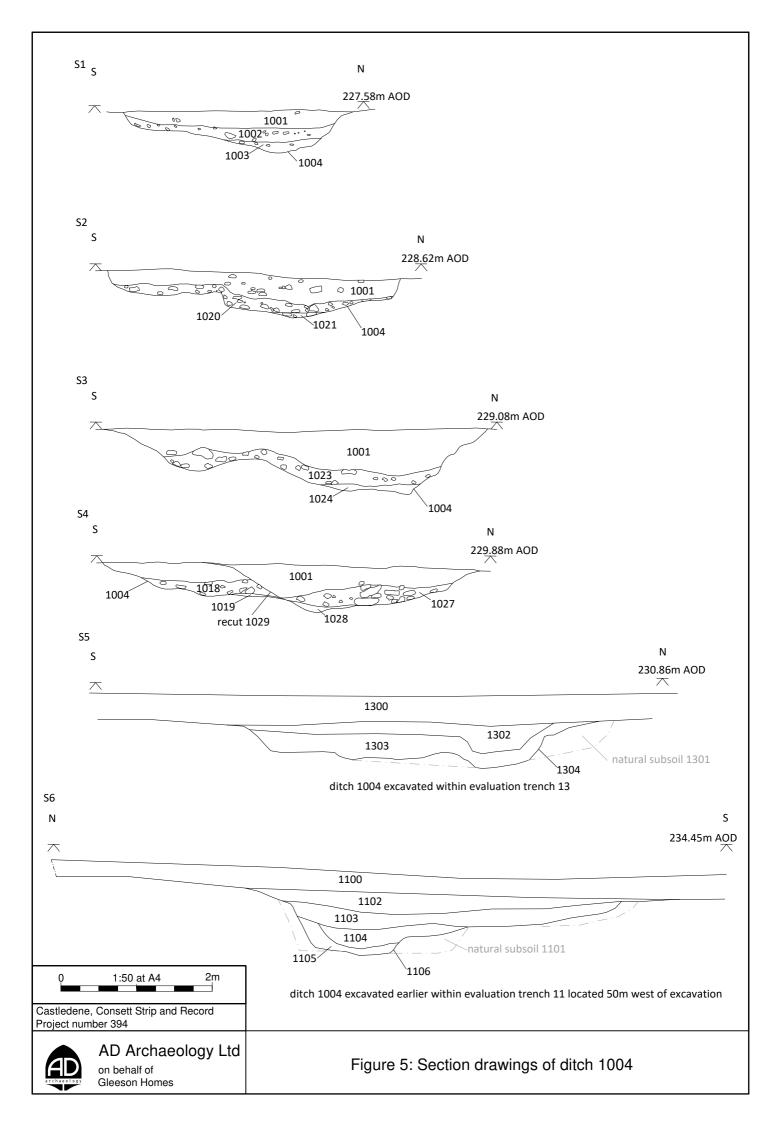
* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60* † Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

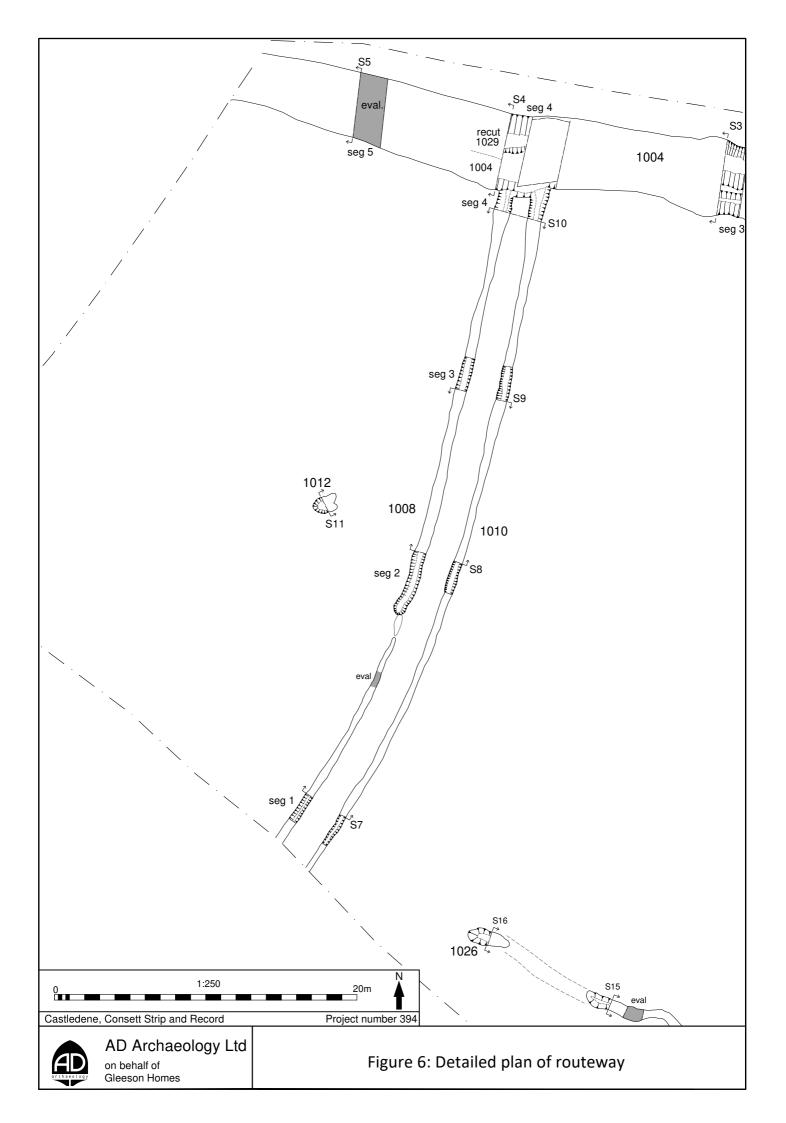


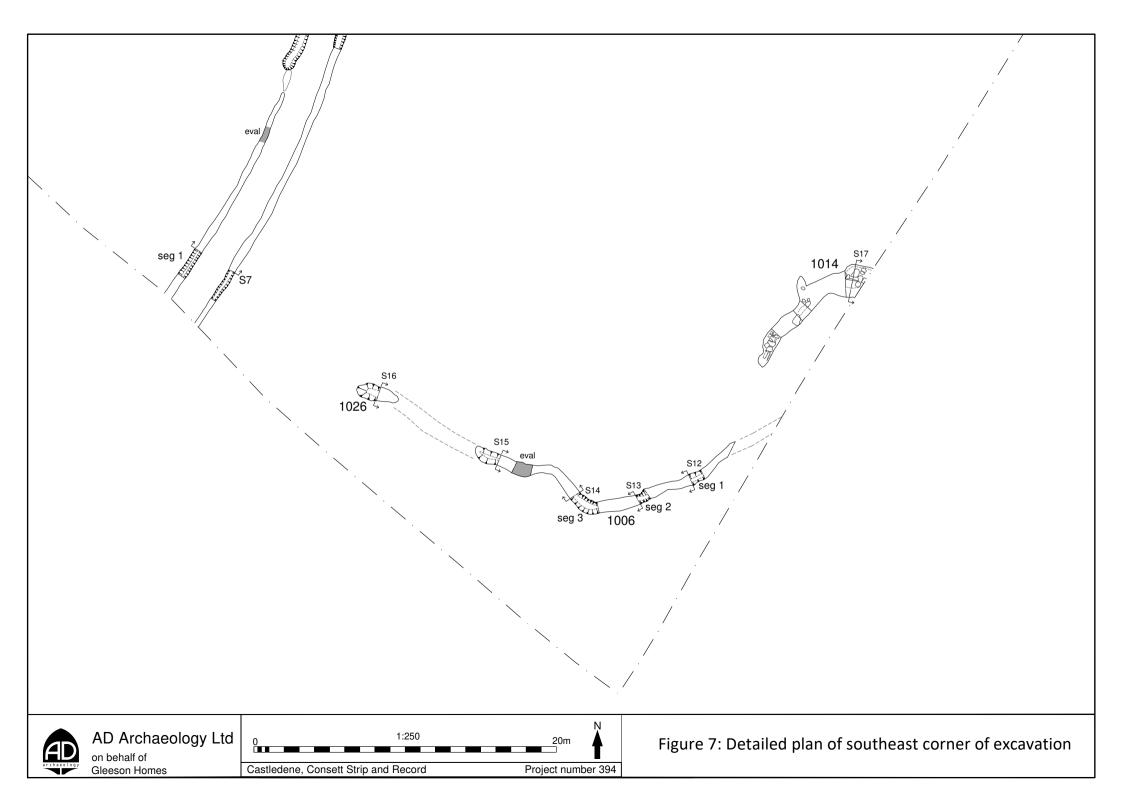












Routeway (Gullies 1008 & 1010)

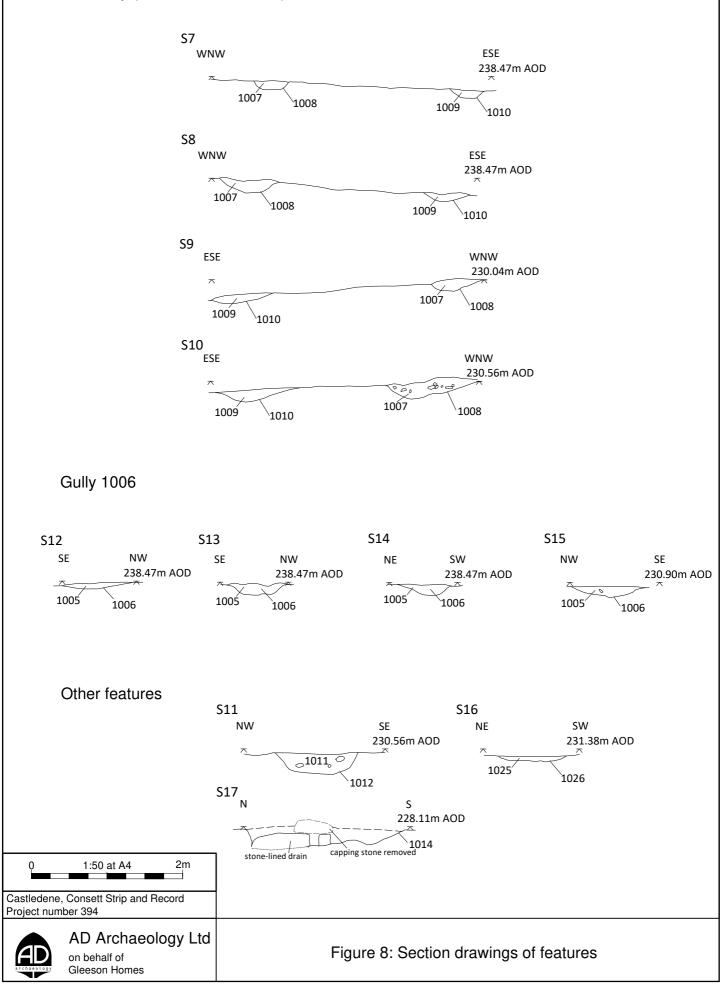




Plate 1: Ditch 1004 overall looking west





Plate 2: Ditch 1004 Segment 1 looking west



Plate 3 Ditch 1004 Segment 2 looking west



Plate 4 Ditch 1004 Segment 2 looking north-west





Plate 5 Ditch 1004 Segment 3 looking north-west



Plate 6 Ditch 1004 Segment 3 looking west





Plate 7 Ditch 1004 Segment 4 looking south-west



Plate 8 Ditch 1004 Segment 4 and Gullies 1008 & 1010 looking south





Plate 9 Overall shot looking south-east



Plate 10 Gullies 1008 & 1010 looking south





Plate 11 Gullies 1008 & 1010 Segment 4 looking south



Plate 12 Gullies 1008 & 1010 Segment 1 looking south





Plate 13 Gullies 1008 & 1010 looking north





Plate 14 Pit 1012 looking south-east



Plate 15 Feature 1006 looking south-west



Plate 16 Feature 1006 Segment 1 looking south-west





Plate 17 Culvert looking east



Plate 18 Culvert looking north-east





Plate 19 Feature 1026 looking south-east





Plate 20 Site looking north-west