ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

on behalf of
Altogether Archaeology

NORTH PENNINES
Area of Outstanding Natural Beauty
GLOBAL GEOPARKS NETWORK

Long Meg and Her Daughters
Little Salkeld
Cumbria

archaeological excavation

report 3884
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Durham University

Contents

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1. Summary

The project

1.1 This report presents the results of an archaeological excavation conducted as part of the 'Altogether Archaeology' community project at the site of Long Meg and Her Daughters stone circle and adjacent enclosure near Penrith, Cumbria. The works comprised the excavation of three trenches.

1.2 The works were commissioned by the North Pennines AONB, and supervised by Archaeological Services Durham University.

1.3 Trench 1 was excavated on the north-west edge of the circle to investigate a possible entrance linking the circle and the adjacent enclosure. The entrance was suggested by an apparent break in the enclosure ditch identified from aerial photographs, and a possible portal stone standing outside the circle. No evidence for a break in the ditch was recorded in the trench. A charcoal-filled pit was cut through the upper ditch fill. Another pit, possibly a socket for a 'missing' portal stone, was recorded. Two postholes were aligned down the west side of the entrance.

1.4 Trench 2 was excavated around one of the circle stones. The excavation demonstrated that the prone stone lay over the backfilled enclosure ditch. The stone had probably been worked to a rough point at the north end, and had probably one and possibly two cup marks. Assuming the stone had fallen *in situ* this would demonstrate that the enclosure pre-dated the stone circle; however, as no socket hole was identified this cannot be confirmed. A cobbled surface had been laid down between the circle stones either side of Trench 2. This surface continued beyond the south extent of the trench, but stopped at the edge of the stone circle, coinciding closely with the north edge of the backfilled ditch. The cobbles were embedded in the subsoil. Two small relatively modern postholes were identified towards the north end of the trench.

1.5 Trench three was located north of the circle, across the east side of the enclosure ditch and into its interior. No interior features were identified in the trench.

1.6 The enclosure ditch was identified in all the trenches. It can be roughly dated to the Neolithic period on the basis of two small fragments of pottery recovered from the fills. The infilling of the ditch was relatively consistent in all three trenches: a thick primary fill of redeposited natural subsoil may have originated from banked material washing or falling back in soon after it was excavated. Towards the end of its use the ditch had been filled, and possibly levelled, with a deposit of light sand.

1.7 A small assemblage of pottery sherds and worked stone was recovered, together with a significant charcoal assemblage.

2. Project background

Location (Figure 1)

2.1 The site is located at Little Salkeld, Hunsonby, approximately 9km north-east of Penrith, Cumbria (NGR: NY 57110 37210).

2.2 The stone circle and enclosure to the north are part of a Scheduled Monument: 'Long Meg and Her Daughters stone circle, associated cursus and prehistoric enclosure' (List Entry no. 1007866; Monument no. 23663; Cumbria HER no. 6154).

Objectives

2.3 The principal objectives of the project were as follows:

- to provide an opportunity for members of the North Pennines AONB 'Altogether Archaeology' project to receive excavation training and to engage in local heritage research
- to recover information relating to the chronology, form and function of the monument.
- to assess the nature and condition of buried archaeological deposits, at specific locations , to aid future management of the site and enable informed decisions to be made regarding potential future investigation.

2.4 Specific research aims of the excavation were:

- to examine the relationship between the stone circle and the enclosure, including whether a passage existed.
- to determine if the stones were set within a bank and to ascertain if this was in association with the enclosure ditch.
- to record the nature of the enclosure ditch and obtain dating evidence.
- to assess the surviving nature of the Neolithic ground surface within the stone circle and the enclosure and the impact post-neolithic agriculture has had on it.
- to investigate potential features within the enclosure interior, identified in the geophysical survey.

2.5 The wider aims of the Altogether Archaeology project at Long Meg are to further our understanding of the monument within the context of cross-Pennine transport and communications during the Neolithic and to contribute to a broader understanding of the Neolithic throughout the North Pennines.

Project Design

2.6 The works have been undertaken in accordance with a Project Design prepared by Paul Frodsham of the North Pennines AONB Partnership (Frodsham 2015).

2.7 Since the survey area included part of a Scheduled Monument, the geophysical surveys were also undertaken in accordance with a Section 42 licence granted by English Heritage under the Ancient Monuments and Archaeological Areas Act 1979 (as amended by the National Heritage Act 1983).

Dates

2.8 Fieldwork was undertaken between 21st and 29th March 2015. This report was prepared for September 2015.

Personnel

2.9 Fieldwork was conducted by volunteers from the North Pennines AONB 'Altogether Archaeology' project.

2.10 Volunteers were trained and supervised by Matthew Claydon and Jonathan Dye, with direction of project fieldwork by Peter Carne (Manager). This report was written by Matthew Claydon with illustrations by David Graham and editing by Peter Carne. Specialist reporting was conducted by Dr Rob Young (prehistoric pottery), Dr Carrie Armstrong (animal bone), Dr Helen Drinkall (lithics), Jennifer Jones (other artefacts), Lorne Elliott (palaeoenvironmental) and Kamal Badreshany (SEM-EDS analysis).

2.11 Overall project management and coordination was provided by Paul Frodsham, the Altogether Archaeology Project Officer for the North Pennines AONB Partnership. The academic director for the project is Professor Chris Scarre.

Archive/OASIS

2.12 The site code is **AAL15**, for **A**ltogether **A**rchaeology **L**ong Meg 20**15**. The archive is currently held by Archaeological Services Durham University and will be transferred to Penrith Museum in due course. Archaeological Services Durham University is registered with the **O**nline **A**cces**S** to the **I**ndex of archaeological investigation**S** project (**OASIS**). The OASIS ID number for this project is **archaeol3-220820**.

Acknowledgements

2.13 The project team is grateful to the landowners Mr & Mrs Rowley of Glassonby Lodge, Glassonby, the tenants Mr & Mrs Morton of Long Meg Farm and to English Heritage for facilitating this research. Dr Helen Drinkall is grateful for the assistance of Torbin Ballin in preparing the report on the pitchstone.

3. Landuse, topography and geology

3.1 Both the stone circle field and adjacent field to the north are pasture; a single-track road cuts through the fields.

3.2 The stone circle occupies a very gentle north-east-facing slope at the head of a small valley that heads north-west to join the River Eden near Lacy's Caves. The ditched enclosure immediately north of the circle encloses the head of this valley. The northern field is predominantly level in the east but steepens in the west, down to the springs and the farm buildings

3.3 The underlying solid geology of the area comprises Early Triassic sandstone of the St Bees Sandstone Formation. Devensian till covers the sandstone to the east of the road that cuts through the site.

4. Historical and archaeological background

4.1 The following information is edited from the Project Design prepared by Paul Frodsham (2015).

4.2 The huge stone circle, the third largest in England and fifth largest in the British Isles, measures *c.*110 by 93 metres. The original number of stones is not known, and it is

hard to be sure about the current number given that some are broken and partly buried, but recent analysis suggests a total of 68 surviving stones in the circle, of which 26 are still standing, plus Long Meg herself standing some 20 metres outside the circle's possible south-west entrance. The entrance is framed by two outlying 'portal stones'. Long Meg is of local red sandstone, presumably quarried from the nearby river cliffs.

4.3 Within the circle, some of the extremely large stones may mark significant points around the circumference, for example perhaps in relation to sunrise at particular times of year. The largest stone is a huge block in the south-south-west, about 3.3 metres wide and weighing some 28 tons; it has been estimated that it would have taken 120 people to set it up. Two similarly sized massive boulders are located at opposite each other in the circle's east and west arcs.

4.4 In some places, notably on the western side, it appears that the stones are set within a low bank. If original, this is an interesting architectural feature that may suggest links with henge monuments elsewhere, but it may be a result of ploughing in more recent times.

4.5 Long Meg stands 3.8 metres above the turf, and weighs *c*.9 tonnes. It has incised spirals and concentric circles on the east face; it may have been quarried from an already decorated river cliff. Other motifs have been recorded on some of the circle stones, but given the rough, eroded nature of the volcanic rock surface, it is not known for certain whether these are artificial or natural.

4.6 The stones of the circle appear to be rhyolite (a form of granite) and are usually assumed to have been deposited in the general area when the glaciers melted at the end of the Ice Age. There appears to be some variation in the geological structure of the boulders, for example some contain much more quartz than others. Those with large amounts of quartz may be located at significant places around the circle.

4.7 The great enclosure, of which there appears virtually no sign on the ground, lies immediately north of the circle and measures 210 metres north-south by 200 metres east-west. Much of the interior is now taken up by Long Meg Farm, and no ancient features are visible within it. The enclosure appears to be earlier than (or, at the latest, contemporary with) the stone circle. There appears to be an entrance between the two in the north-west of the circle/south-west of the enclosure.

4.8 A possible cursus has been recorded from air photographs running 600 metres from the entrance of the stone circle westwards towards the cliffs above the east bank of the Eden. Whether this is a feature contemporary with the stone circle rather than later field boundaries is not known.

4.9 The whole complex sits on a wide sandstone terrace above the east bank of the Eden. The general location is probably of significance, and may have been so before the monument was constructed. Some of this significance may relate to the nearby red sandstone river cliffs and rapids, possibly marking the highest navigable point on the Eden. The possible local exploitation of gypsum (apparently used to great effect within the great henges at Thornborough in North Yorkshire) may also be significant.

4.10 Topographic and geophysical surveys (Archaeological Services 2013) recorded features of potential significance, including confirmation of presence of the enclosure ditch which appears better preserved in some places than in others. Unsurprisingly, the survey was not able to establish the relationship between the stone circle and enclosure.

4.11 The topographic and resistance surveys support the observation that the stones of the circle seem to have been set within a bank; if so then this is a fascinating feature with a range of implications regarding the original design and links with other sites elsewhere. However, its presence can only be checked for certain by excavation.

4.12 The geophysical surveys have suggested the possible presence of features within the stone circle and enclosure, and elsewhere within the complex, but the nature, condition and chronology of these cannot be determined without excavation. A key question remains the extent to which the Neolithic ground surface remains undisturbed throughout the complex; this has major implications for future site management, including possible future research, but can only be resolved through excavation.

5. The excavation

Introduction

5.1 Three trenches were planned for this excavation and were positioned over the stone circle and enclosure in accordance with the project aims (above, 2.4).

Trench 1 (Figure 3)

5.2 Trench 1 was 20m by 5m and positioned over the western side of the possible entrance (Figure 2). The trench was excavated around standing stone 17, which was located in the south-west corner. To the east is stone 19, which stands outside the circle suggesting it is one side of an entranceway.

5.3 Natural subsoil, red orange sandy silt [131] was reached at a depth 0.4-0.5m across the trench. Several features were cut into this.

5.4 A large ditch (Figure 5) was recorded [F109: 5m wide, 1.0m deep] running roughly east/west across the trench which corresponded with the enclosure ditch identified on aerial photographs and in the geophysical survey. The aerial photograph suggested a break in the ditch on the east side of the trench indicating an entranceway, although the geophysical survey did not. No evidence for a break was identified, although it may have been just beyond the excavated area. Other features detected in the survey were not identified in the excavation. The break of slope of the southern edge of the cut was gradual, dropping off fairly sharply towards the centre of the ditch, and the northern edge had a more regular, but steeper cut from edge to base. The primary fill of the ditch comprised brownish pink sand [128: up to 1m thick] with inclusions of frequent small, and occasional large, rounded stones. This deposit was very similar to the natural subsoil into which the ditch was cut and may have been deposited by erosion. Above this deposit was pink silty sand [117: 0.15m thick], overlain by brownish grey silty sand with charcoal smearing [116: 0.1m thick], below orangey grey sand [115: 0.1m thick]. Sealing this was the uppermost fill of the ditch, a distinctive light grey silty sand [108: 0.1m

thick]. Along the northern edge of the ditch imbedded into [108] and [128] was an intermittent spread of small rounded stones [107: 3m+ by 0.5m, 0.15 thick].

5.5 A possible stakehole [F130: 0.1m diameter, 0.15m deep] filled with brownish pink sand [129] was recorded on the northern edge of ditch [F109].

5.6 At the eastern edge of the trench the ditch was cut by a pit [F111: 1m+ by 0.7m, 0.2m deep]. Its primary fill was a dense layer of charcoal [118: 0.1m deep], suggesting burning *in situ;* this was sealed by greyish brown sandy silt with occasional charcoal flecks [110: 0.15m deep]. The feature extended beyond the edge of the trench so it could possibly be a ditch or gully terminus.

5.7 Two discrete features were present in the south-east corner of the trench, potentially flanking the entranceway on its western side. The smaller of the two was a large posthole [F121: 0.45m diameter, 0.5m deep] with near vertical edges and a flat base (Figure 6). It was filled with yellowish brown sandy silt [120: 0.5m thick]. It contained five large packing stones [119]. To the south was a pit or posthole [F124: 0.8m diameter, 0.7m deep]. It had near vertical edges and a flat base (Figure 7). Six large stones [123] were present within the cut, which may be packing. The primary fill was a pinkish brown silty sand [125: 0.3m thick], sealed by a secondary fill of yellowish brown sandy silt [122: 0.4m thick].

5.8 To the north of standing stone 17 was a possible stone socket [F105: 1.6m by 1.2m, 0.3 deep; Figure 8]. The cut was relatively shallow and was lined along its southern edge with rounded stones 0.2-0.3m in size [127]. Similar clusters of stones were recorded around the base of stone 17 and stones 25 and 26 in Trench 2. The primary fill was orangey brown sandy silt [113: 0.3m thick], above which was a greyish brown sandy silt [112: 0.1m thick]. Above the feature was a spread of angular red sandstone fragments [126: 0.2m thick].

5.9 A shallow cut [F104: 1.5m by 1.2m, 0.2m deep] was recorded to the south of standing stone 17. It was filled with orangey brown sandy silt [103] overlain by another deposit of angular sandstone fragments, with dimensions of 0.05-0.3m [102: 0.15].

5.10 These features were all sealed by a mottled orange brown silt sand subsoil [106: 0.1-0.2m deep], in which the cluster of cobble stones [132] around the base of stone 17 sat. The subsoil was overlain by a grey brown sandy silt topsoil [101: 0.25-0.4m deep].

Trench 2 (Figure 4)

5.11 Trench 2 was 20m by 2m and ran roughly north/south between standing stones 25 and 26. This was extended to the west to investigate the base of standing stone 25, and a small additional test pit was excavated at the base of standing stone 26. The trench was located over three parallel geophysical anomalies interpreted as ditches and a stony bank. The aerial photograph interpretation showed the ditch south of these, under the stones.

5.12 Natural subsoil, a reddish orange sandy silt [217], was reached at a depth 0.3m. At the southern end of the trench this was cut by a continuation of the enclosure ditch [F208: 3.1m wide, 0.7m deep], recorded here with fairly steep sides and a flat base

(Figure 9). The course of the ditch corresponded to that visible on the aerial photograph. The primary fill was pink gritty sand with occasional large stone inclusions [215: 0.2m thick]. Above this was pink sand [214: 0.3m thick], overlain by grey silty sand with flecks of charcoal [216: 0.05m thick], greyish yellow sand [213: 0.15m thick] and mottled yellowish grey sand with inclusions of manganese [207=211: 0.1m thick]. This sequence of fills was very similar to that of the enclosure ditch in Trench 1.

5.13 A small test pit 0.4m by 0.4m was excavated to the east, at the base of standing stone 26. Large rounded stones [218] were present beneath the topsoil, which may have been used as packing, although they are rather small compared to the size of stone 26.

5.14 The trench was extended 0.8m to the west to expose most of fallen standing stone 2. Possible packing stones [219] were again present beneath the topsoil around the north end of the stone, which appeared to have been shaped or flaked to create a rough point. If the stone had fallen over from the north side, its original position would have been set into the backfilled ditch. Two circular indentations were identified on the stone, one on the upper face at its worked end (Figure 10) and one on the lower face towards the south end (Figure 11). Both were quite large, around 0.1m in diameter, with a depth of *c.*0.05m. One or both of these may be deliberate cup marks. The upper mark was the more defined, with a sharper cut; the lower mark was rather smooth. The upper cut would have been below ground level if the north end of the stone was imbedded when it was erect.

5.15 Subsoil, brownish orange clayey sand with frequent inclusions of small stone [202: 0.2-0.3m thick], was present in the northern end of the trench. Into this was set a cobbled surface [F210: 3m+ by 1m+, 0.1m thick], which extended over the south part of the trench (Figure 12). Its northern limit corresponded closely with the north edge of the enclosure ditch, and also the outer edge of the stone circle. There was no evidence for the surface extending east or west as it was not encountered in the excavations at the bases of standing stones 25 or 26.

5.16 In the extreme south-east corner of the trench the cobbled surface was overlain by a thin spread of dark brown sandy silt [212: 0.05m thick]. This may be a buried topsoil, but as so little of the deposit was exposed this is uncertain. A spread of occasional large stones [209] was also recorded over the cobbled surface.

5.17 Cut into subsoil [202] were two postholes, [F204: 0.12m by 0.12m, 0.22m deep] and [F206: 0.12m by 0.12m, 0.22m deep] (Figure 13). Both were filled with soft orange brown sandy silt, [F203] and [F205] respectively. The form and fill of these features suggest they may have been for fairly modern fence posts.

5.18 Sealing the postholes, subsoil and cobbled surface was a greyish brown sandy silt topsoil [201: 0.2m-0.4m thick].

Trench 3 (Figure 4)

5.19 Trench 3 was 25m by 2m and ran east/west across the west side of the enclosure ditch, where it geophysical signature was very clear.

5.20 Natural subsoil, a pinkish red silty sand [309], was identified at a depth of 0.3-0.4m. At the east end of the trench this was cut by the enclosure ditch [F303: 6.5m wide, 1m deep], which had gradually sloping sides becoming steeper towards the centre, and a flat base (Figure 14). The primary fill was pinkish red sand with occasional large stones [307: 0.25m deep]. This deposit was very similar to the natural and the primary fills of the ditch in the other two trenches. Overlying this was pinkish grey sand [306: 0.35 deep], over which was yellowish grey sand [304: 0.2m deep], under grey sand [305: 0.1m deep] and finally brown silty sand [302: 0.15m deep]. The sequence of ditch fills and their composition was consistent with the other trenches.

5.21 These features were all sealed by an orange sand subsoil [308: 0.1-0.2m deep] which was overlain by a grey brown sandy silt topsoil [301: 0.25m deep].

6. The artefacts

Prehistoric pottery assessment

Results

6.1 Three sherds were submitted for examination and assessment:

6.2 1) AAL15 [116] SF15: Flat based sherd from a hand-built vessel of possible Grooved Ware type. Mottled grey/black/dark brown fabric with some large calcite gritting present on base and inner surfaces. Max. grit size visible: *c.*13mm x 5mm. Min. grit size visible: *c.*4mm x 2mm and possibly smaller. Outer surface smoothed and decorated with three parallel incised/impressed lines running around the circumference of the vessel. The basal line appears to be impressed with a single strand of twisted cord but the upper two have clearly been incised with a round pointed implement as can be seen in the visible profiles. Six further incised, parallel, lines run at c. 45 degrees across the main incised decoration. The three parallel lines are *c.*2mm wide and *c.*2mm deep and spaced *c.*3-4mm apart. The angled incised lines are *c.*1-1.5mm wide and spaced *c.*3-5mm apart. These latter incisions have been made by a sharp edged object, possibly a flint blade, and are *c.*1-1.5mm deep. Some smearing is present on the outer surface. The inner surface of the vessel has clearly been broken to reveal the coarse nature of the fabric and inner gritting. Max. sherd dimensions: 38mm x 21mm. Base thickness: *c.*13mm. Max. surviving wall thickness: 8mm.

6.3 2) AAL15 [201]: A coarseware base sherd from a flat-based, Roman vessel, probably a jar form. Hard-fired, sandy, fabric with some very small micaceous/sand grits visible on inner surface. Light orange outer surface, darker black/grey inner surface, suggests that the vessel was fired in an inverted position. Max. dimensions: 35mm x 42mm. Wall thickness: *c.*9mm. Base thickness: *c.*10mm. Throwing rings visible on inner surface, outer surface smoothed/worn.

6.4 3) AAL15 [215] SF14: Undiagnostic , prehistoric, body sherd from a hand-built, plain, coarse-ware vessel. Dark grey/black fabric with heavy, white/grey? calcite gritting and some smaller micaceous inclusions present. External face smoothed with very few inclusions showing. Inner face indicates heavy extent of gritting within the fabric. Max grit size: 5mm x 3mm. Min grit size: *c.*1mm x 1mm and possibly smaller. Max sherd dimensions: 32mm x 27mm. Max wall thickness: *c.*8mm.

Discussion

6.5 This small assemblage is very difficult to date. The sherd from context Trench 1 [116] could be of Grooved Ware type and hence broadly later Neolithic in date. Parallels for the vessel form and decoration have been impossible to find among published comparanda.

6.6 The two sherds from Trench 2 are equally enigmatic. Evidence for Roman activity at a site like Long Meg might not be unexpected, as evidenced by the sherd from [201]. The small undecorated body sherd (SF14) is likely to be broadly prehistoric. Given its location in the basal fill of the enclosure ditch it might be of Neolithic origin, but again the sherd is not large enough to permit detailed comparative analysis.

Recommendations

6.7 No further study of the sherds is recommended, but all should be illustrated for any analysis report on the excavation.

Later Pottery assessment

Results

6.8 Eleven sherds (110g wt) were hand-recovered from three topsoil contexts.

6.9 Context [101] had four small sherds of plain glazed ware of 19th/20th-century date.

6.10 Context [201] had three further sherds of glazed ware, probably from the same vessel as two of those from [101]. This context also produced a body sherd from a 19th-century green stoneware vessel and a sherd (not full thickness) of 18th century late blackware.

6.11 Context [301] had the base of a 19th century grey-bodied stoneware bottle or jar with patches of brown glaze and a small base sherd from a 19th-century coarseware vessel.

Recommendation

6.12 No further work is recommended.

Animal bone assessment

Results

6.13 The hand-recovered assemblage comprises four small bone fragments. No diagnostic features were present to determine either element or species. Three of the bone fragments were recovered from topsoil context [201]. One of these fragments is calcined, the other two appear unheated and refit together. These may potentially have originally been one fragment and broken post-excavation, as the break appears recent. A calcined bone fragment was also recovered from context [101]. This is of a size to potentially derive from a medium-sized mammal (sheep/goat-sized), although the tiny nature of the fragment and the inability to identify it to element means this interpretation is tentative.

Discussion

6.14 This assemblage is extremely small and provides little information. The presence of calcined bone indicates the exposure of bone to relatively high temperatures (Ubelaker 1978), above c. 600 degrees Celsius (McCutcheon 1992). The condition of

the bone fragment is relatively good, and the recovery of the items does demonstrate the potential for further material to be recovered from the site.

Recommendation

6.15 No further work is recommended on this assemblage due to its small size.

Clay pipe assessment

Results

6.16 Context [101] had a small piece of pipe bowl with no stamps or decoration. The heel is broken, but the surviving bowl shape suggests a 19th-century date.

Recommendation

6.17 No further work is recommended.

Lithics assessment

Summary

6.18 The lithic assemblage consists of 32 artefacts, comprising flakes, fragments and a single tool. Most of the material was recovered from topsoil contexts in the three trenches. Whilst the artefacts are predominantly flint, there are limited numbers of quartz flakes and a small component of Arran Pitchstone. The presence of pitchstone in such an assemblage is rare and of considerable importance, with very little published examples outside Scotland. The majority of the assemblage can only be assigned to a broad prehistoric date range. However, the Group VI axes and pitchstone indicate a Neolithic date.

Results

6.19 The typological breakdown of the assemblage is shown in Table 1 and of the raw material in Table 2.

Trench 1

6.20 The topsoil [101] of Trench 1 produced nine artefacts. Of these, five are flint flakes with SF4 and SF13 being distal fragments. SF10 is a small flake with a slight break at the proximal end, and breaks are also present on two sides of SF5, although one appears to be a deliberate removal. The final flake, SF6, is the only larger flake from the assemblage with the exception of those made from greenstone. A fragment of greenstone, likely originating from a Neolithic axe, was also recovered. A piece of chert which shows no signs of working and is of natural origin was also recovered.

6.21 The remaining two artefacts are manufactured on Arran Pitchstone. The first (SF8) is a flake, and the second (SF2) is a distal flake fragment with very fine retouch forming a notch on the left dorsal side and a removal and retouch creating a point at the distal end, similar in form to a piercer. The only definitely worked artefact from a secure context in Trench 1 is SF12, a distal flint flake fragment on dark grey flint from pit fill [113]. Unfortunately this is not diagnostic and can only be assigned to a generic prehistoric date.

Trench 2

6.22 This produced seven pieces from topsoil context [201]. There are two flakes of Arran Pitchstone, a quartz flake and two pieces of chert, both of which are of natural origin and show no signs of working. Two flakes of greenstone are also present (SF1 and SF3), which have polished dorsal surfaces indicating an origin from a polished

Neolithic Group VI Langdale axe. Ditch fill context [207] produced a fire-cracked flake. Two pieces of greenstone were also recovered from cobbled surface context [210]. SF11 is a greenstone flake with a finely polished dorsal surface, again originating from a polished axe dating to the Neolithic period. The other artefact is of worked greenstone, with a smooth top surface and curved edge. The material is the same colour and type as that from [101] and [210]. The surfaces are not polished and the form doesn't suggest an axe, but some other implement.

Trench 3

6.23 Trench 3 produced eight artefacts in total; one flake of Arran Pitchstone, a quartz flake, four flint fragments, one of which shows evidence of being heated. There are also two flint flakes, and again one of these shows indications of being heated. Four artefacts also came from unstratified contexts [u/s], comprising two flint flakes and two greenstone flake fragments.

Discussion

6.24 The flint assemblage consists for the main part of small flakes and debitage fragments. There is only one flake of sizeable dimensions (SF 6) (L = 46.54mm, W = 28.78mm, Th = 7.62mm) and this is the only one that demonstrates any depth of patination. Its form would not put it out of place in a Neolithic assemblage. The rest of the flint component is manufactured on dark grey material with limited patination. Overall, the condition of the artefacts is fresh, with only the broken flake SF5 [101] displaying strong evidence of edge damage.

6.25 Quartz is a difficult material to assess given its coarse grained nature and different fracture mechanics when compared to flint (Ballin 2008a; Driscoll and Warren 2007). However the flakes display signs which are reasonably indicative of being humanly worked.

6.26 There are a number of pieces of greenstone present, most likely originating from the Langdale Group VI axe factories in Cumbria. Three of these are flakes exhibiting polished dorsal surfaces, which were originally part of a stone axe, dating to the Neolithic period.

6.27 The importance of the assemblage lies in the presence of the five pieces of Arran Pitchstone, which would have been traded as an exotic material. Unfortunately these were all recovered from topsoil deposits [101] [201] [301] in each of the trenches. Arran Pitchstone is rare south of the Scottish border (Ballin 2008b) and this dearth in artefacts, especially for Cumbria, has been highlighted as an agenda for future research (Ballin 2009). This, coupled with the lack of publication of such pieces, makes this an important find. Results from a large fieldwalking project in the area conducted by Penrith Museum located only three pitchstone artefacts (pers. Comm, Annie Gibney). Although the assemblage at Long Meg is seemingly small, the presence of five pitchstone pieces together actually constitutes a relatively 'large' assemblage.

6.28 In terms of dating, similar associations of pitchstone artefacts with flakes from a polished greenstone axe, along with early Neolithic pottery, have been found at Kirkton in Dumfries and Galloway (Maynard 1993), suggesting a possible early Neolithic date for at least part of this assemblage.

Recommendation

6.29 No further work is recommended on the flint or greenstone components of the assemblage, due to their small numbers and the nature of the pieces. The presence of the pitchstone artefacts at such an important site as Long Meg, coupled with the rarity of such artefacts in England, means that further analysis and publication of the artefacts in a suitable journal is recommended. This would enable the site to be incorporated into the current corpus of pitchstone artefacts and add further to the understanding of trade and exchange networks in the Neolithic period.

Context	Flint		Chert	Greenstone		Quartz	Arran Pitchstone		Total
	Fl	Frag	Frag	Fl	Frag	Fl	Fl	Tool	
[101]	5		1		1		1	1	9
[113]	1								1
[201]			2	2		1	2		7
[207]	1								1
[210]				1	1				2
[301]	2	4				1	1		8
[u/s]	2				2				4
Totals	**11**	**4**	**3**	**3**	**4**	**2**	**4**	**1**	**32**

Table 1: Typological composition of the assemblage by context and raw material type

Key: Fl – flake, Frag – Fragment

Context	Flint	Chert	Greenstone	Quartz	Arran Pitchstone
[101]	5	1	1		2
[103]					
[113]	1				
[201]		2	2	2	2
[207]	1				
[210]			2		
[301]	6			1	1
[u/s]	2		2		
Totals	**15**	**3**	**7**	**3**	**5**

Table 2: Numbers of artefacts by raw material type

Stone assessment

Results

6.30 Two pink/white quartz pebbles were retained, one u/s from Trench 1 and the other (SF9) from pit fill context [103]. Neither is considered to be a hammerstone. The smaller example (u/s) is oval 64mm long with one broken end, and the other (SF9) is sub-circular 98mm diam. The stones show no battering damage and their crystalline interiors – visible in pits over the surface - would have made them unsuitable for use as hammerstones. It is possible that they were curated, however, and that SF9 was deliberately placed in the pit, but this cannot be determined with any certainty.

6.31 A quantity (315g wt) of other small (50mm long max) irregularly shaped white quartz pebbles were found in topsoil context [201]. While the stones show no evidence of working or deliberate use/placement, it is known that white quartz stones and pebbles are often found at prehistoric (and later) sites, deliberately brought in and probably used for marking or decorating monuments and other important places (Darvill 2002, 73-108).

Recommendation

6.32 No further work is recommended.

Iron objects assessment

Results

6.33 Eight objects came from two topsoil contexts. Context [101] had parts of five hand-wrought nails of varying size, all highly corroded. Not easily dated, but they are possibly pre-industrial. A length (148mm) of corroded chain, made up of five oval links, also came from [101]. Both ends are broken. Probably associated with animal tethering. Undateable.

6.34 Context [301] had part of an undateable nail shank and a 19th/early 20th century heel plate.

Recommendation

6.35 No further work is recommended.

Industrial residues assessment

Results

6.36 Topsoil context [101] had a small piece of cinder, incorporating fragments of burnt, shaley coal. This context also had a small piece (20g wt) of undiagnostic ironworking residue. The piece is dark and relatively dense, but has a vesicular and slightly corroded interior, suggesting a fairly high iron content.

6.37 Context [201] (also topsoil) had a further small piece of cinder along with a fragment of unburnt coal.

Recommendation

6.38 No further work is recommended.

7. Palaeoenvironmental assessment

Methods

7.1 A palaeoenvironmental assessment was carried out on a 20 bulk samples, taken from features/deposits associated with the stone circle and the adjacent enclosure ditch. The samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, flint, pottery, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification using a Leica MZ7.5 stereomicroscope for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classification follows Preston *et al.* (2002).

7.2 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 x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.

7.3 The analysis of 3 samples was undertaken by SEM-EDS with the aim of checking for the presence of gypsum. The 3 samples were collected from two different contexts. Sample 1 was composed of soil from context [305] <20>. Sample 2 was composed of soil from context [304] <3>. Sample 3 was composed of 11 rocks and also came from context [304] <3>. Gypsum is a soft sulfate mineral composed of calcium sulfate dihydrate, with the chemical formula $CaSO_4 \cdot 2H_2O$. To determine whether gypsum occurred in the samples, scanning electron microscopy combined with energy dispersive X-ray spectroscopy (SEM-EDS) was utilised as a first analytical step. If the samples contained appreciable amounts of gypsum, bulk X-ray analysis using SEM-EDS would show relatively high levels of both Calcium (Ca) and Sulphur (S). Conversely, the lack of Ca and S, would be a sure indicator of the absence of gypsum from the soils. The presence of Ca and S alone, however, would not signify that gypsum was surely present in the samples as both elements are common components of many types of soils, rocks, and minerals. The discovery of these elements in the samples, thus, would necessitate further testing, potentially using X-ray Diffraction (XRD), to positively identify the presence of gypsum.

7.4 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Hodgson & Brennand 2007; Hall & Huntley 2007; Huntley 2010).

Results

7.5 Finds from the samples were sparse with a few quartz chips and a tiny fragment of flint noted in [122] and a very small fragment of pot/fired clay from [216]. Several contexts contained cracked stones, which may have been heat affected. Charcoal remains occurred in all of the samples in varying quantities and was particularly abundant in fill [118]. Apart from a few fragments of birch charcoal this deposit comprised more than six litres of predominantly oak heartwood stemwood in relatively good condition with evidence of radial cracks and low vitrification. Identified charcoal from the site generally comprised evidence of moderate or strong ring curvature, and anatomical properties typical of sapwood stemwood or branchwood. Oak and hazel were the most frequently recorded taxa. Other species identified included ash, alder, Maloideae (hawthorn, apple, whitebeams), heather, willow/poplar and cherries (blackthorn, wild or bird cherry). Small calibre hazel roundwood charcoal from deposit [125] included evidence of insect degradation.

7.6 Fragments of charred hazel nutshells were present in contexts from all three trenches, although cereal remains and weed seeds were absent. Material for radiocarbon dating is available for all of the samples apart from the possible buried topsoil [212]. Material from [302] may comprise insufficient weight of carbon. The results are presented in Table A1.2.

7.7 The samples selected for SEM-EDS analysis varied from approximately 15 to 20 grams. The soil samples arrived homogenised and required no further processing before analysis. The rock samples were analysed whole. All three samples were then examined using a Hitachi TM3000 SEM fitted with a SwiftED3000 EDS. The accelerating voltage was set to 15 kV and the probe current was set to 700 pA. The bulk compositional analysis was generated by the SwiftED software using standardless matrix corrections and is semi-quantitative. About 1 gram of sample was used in each analysis. Appreciable amounts of Calcium (less than .2 % by weight) or Sulphur (less than .06% by weight) were not recorded in any of the samples. The

lack of gypsum in any of the samples was confirmed without the need for further testing using other analytical methods. Samples 1 (Appendix A1.3) and 2 (Appendix A1.4), both soils, seem to be mostly composed of quartz, feldspar, and clay minerals. Sample 3 (Appendix A1.5), was a mixture of two different types of rocks, sandstone and what appears to be highly weathered granite, possibly rhyolite. The circle stones at Long Meg are mostly made of rhyolite, and are glacial erratics. The Long Meg monolith is made of red sandstone. Although more testing is needed to confirm, it is very likely the rocks of sample 3 are composed of the same materials as the Long Meg monolith (red sandstone) and the circle stones (rhyolite).

Discussion

7.8 The charred plant macrofossil assemblages consisted only of gathered plant remains (hazel nutshells), while cultivated foodplants were absent. Deposits of this nature are commonly found on sites of earlier prehistoric origin (Greig 1991). Evidence from the identified charcoal indicated much of the material was from small stemwood or branchwood indicating the presence of easily collectable material. Evidence of insect degradation from the charcoal in fill [125], probably represents the presence of gathered dry dead timber on trees or easily collectable deadwood from the forest floor. The large fragment size (up to 5cm) and substantial accumulation of the charcoal from fill [118] is not typical of hearth waste, where the hot ash charcoals are regularly scattered, and probably reflects an ephemeral nature for this deposit. Evidence of food waste, calcined bone and industrial waste were absent, and the presence of radial cracks and vitrification probably indicate rapid combustion and high temperature. Material from this deposit predominantly comprised oak heartwood and may reflect the remains of a burnt structure or a particularly large fire.

Recommendations

7.9 Nationally, deposits of Neolithic and earlier Bronze Age date remain a very high priority for study as evidence is patchy, both spatially and with regard to site type. Therefore, charcoal analysis of several samples could be considered for future synthesis, as Huntley (2010) highlights a lack of charcoal investigations from prehistoric sites in northern England. This could be supplemented by AMS dating in order to confirm the origin of the deposits. No further work is required for the plant macrofossil remains as the flots were scanned in their entirety and no additional information would be provided from an analysis.

8. The archaeological resource

8.1 The excavation demonstrated that stone 25, and probably stone 26, lie over the backfilled enclosure ditch. As both stones lie prone their original positions remain uncertain; therefore there is no conclusive proof that the enclosure predates the stone circle.

8.2 There was no evidence that the stones were set into a bank.

8.3 The enclosure ditch can be roughly dated to the Neolithic period on the basis of two small fragments of pottery recovered from the fills. Radiocarbon dating of material from the lower ditch fills could narrow the date range. The profile of the ditch was similar in all three trenches; it ranged from 3.1-6.5m in width, being at its narrowest in Trench 2. The base of the ditch was 1-1.3m below ground level (*c.*164-166m OD).

The sides were angled at approximately 45°, with a flattish base. The infilling of the ditch was relatively consistent in all three trenches. There was a thick primary fill of redeposited natural subsoil, possibly originating from the erosion of bank material. Towards the end of its use the ditch had been filled, and possibly levelled, with a deposit of light sand [108, 213, and 305]. This may have allowed a boundary to remain visible after the ditch had been filled.

8.4 The trenches provided limited information regarding the surviving nature of the Neolithic ground surface within the stone circle and enclosure. No plough furrows were noted in the excavations.

8.5 The only features identified internal to the enclosure were two small postholes in Trench 2. Although undated, their loose fill suggest they are not of great antiquity, and may relate to a modern fence.

8.6 A small sondage excavated up to stone 17 in Trench 1 suggested that it was not deeply imbedded, and that the socket for the stone was relatively shallow, possibly with some small stones used as packing. To the east was a partially stone-lined shallow pit. The similar characteristics and its location suggest that this pit may have once held another standing stone, which along with stone 19 could have delineated the entrance to the circle.

8.7 A posthole with stone packing lay to the east of stone 17. To the south was a larger posthole also packed with stones. The alignment of these features corresponded with the western edge of the possible entranceway.

8.8 A pit was cut through the backfilled enclosure ditch. The pit contained a large quantity of charcoal which could be radiocarbon dated.

8.9 A cobbled surface was laid down between the stones either side of Trench 2. This surface continued beyond the south extent of the trench, but stopped at the edge of the stone circle, coinciding closely with the north edge of the backfilled ditch.

9. Recommendations

9.1 It is recommended that the three sherds of Roman and prehistoric pottery are illustrated. Further analysis and publication of the pitchstone artefacts in a suitable journal is also recommended.

9.2 Charcoal analysis of several samples is recommended for future synthesis, supplemented by AMS dating in order to confirm the origin of the deposits.

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Appendix 1: Data tables

Table A1.1: Context data

The • symbols in the columns at the right indicate the presence of artefacts of the following types: P pottery, B bone, M metals, F flint, I industrial residues, G glass, C ceramic building material, S Stone.

No	Area	Description	P	B	M	F	I	S
101	1	Topsoil	•	•	•	•	•	•
102	1	Stone fill of F104						
103	1	Fill of F104						•
F104	1	Shallow pit						
F105	1	Stone socket						
106	1	Subsoil						
107	1	Stone deposit in F109						
108	1	Fill of F109						
F109	1	Ditch cut						
110	1	Fill of F111						
F111	1	Ditch/pit cut						
112	1	Fill of F105						•
113	1	Fill of F105				•		
114	1	VOID						
115	1	Fill of F109				•		
116	1	Fill of F109	•					
117	1	Fill of F109						
118	1	Charcoal deposit in F111						
119	1	Packing stones in F121						
120	1	Fill of F121						
F121	1	Posthole						
122	1	Fill of F124						
123	1	Stones in F124						
F124	1	Pit/posthole						
125	1	Fill of F124						
126	1	Stone deposit in F105						
127	1	Packing stones in F105						
128	1	Fill of F109						
129	1	Fill of F130						
F130	1	Stakehole						
131	1	Natural subsoil						
132	1	Stones around base of Stone 17						
201	2	Topsoil	•	•		•		•
202	2	Subsoil						
203	2	Fill of F204						
F204	2	Posthole						
205	2	Fill of F206						
F206	2	Posthole						
207	2	Fill of F208				•		
F208	2	Ditch						
209	2	Stone deposit						
210	2	Cobbled surface						•
211	2	Fill of F208						
212	2	Buried topsoil						
213	2	Fill of F208						
214	2	Fill of F208						
215	2	Fill of F208	•					
216	2	Fill of F208						
217	2	Natural subsoil						
218	2	Packing stones						
219	2	Packing stones	•		•	•		
301	3	Topsoil						•
302	3	Fill of F303						
F303	3	Ditch						
304	3	Fill of F303						

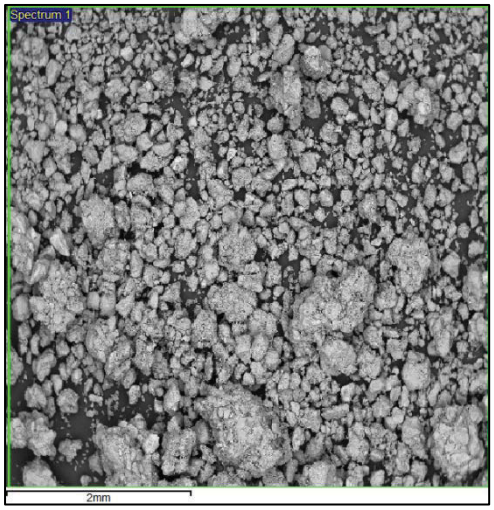
No	Area	Description	P	B	M	F	I	S
305	3	Fill of F303						
306	3	Fill of F303						
307	3	Fill of F303						
308	3	Subsoil						
309	3	Natural subsoil						

Table A1.2: Data from palaeoenvironmental assessment

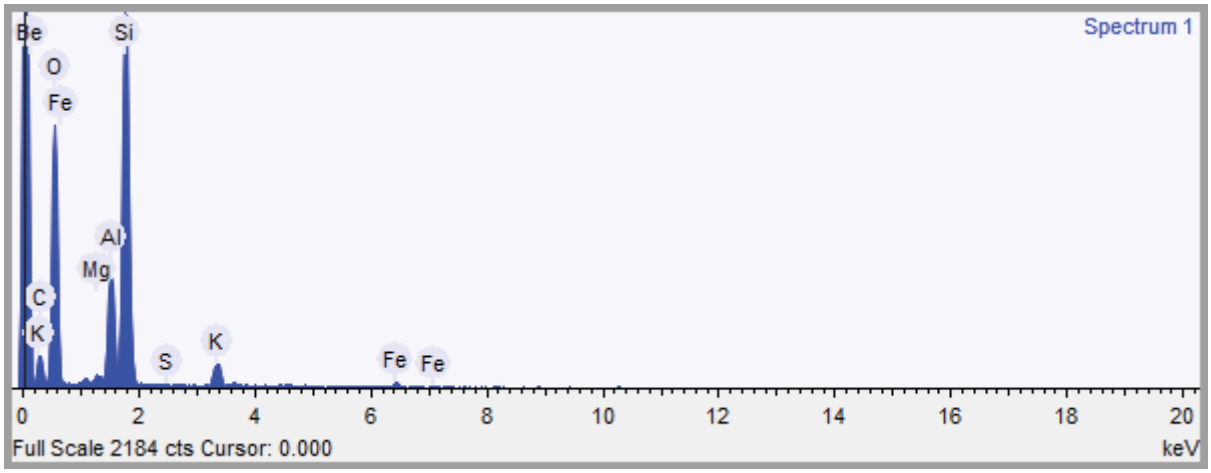
Trench	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**3**	**3**
Sample	**5**	**10**	**8**	**11**	**19**	**12**	**15**	**16**	**17**	**18**	**1**	**2**	**6**	**7**	**14**	**4**	**3**	**20**	**9**	**13**
Context	**103**	**107**	**112**	**113**	**113**	**118**	**120**	**122**	**125**	**129**	**203**	**205**	**212**	**214**	**216**	**302**	**304**	**305**	**306**	**307**
Feature number	**104**	**109**	**105**	**105**	**105**	**111**	**121**	**124**	**124**	**130**	**204**	**206**	**-**	**208**	**208**	**303**	**303**	**303**	**303**	**303**
Feature	**P**	**ED**	**SS**	**SS**	**SS**	**P/D**	**PH**	**P/PH**	**P/PH**	**SH**	**PH**	**PH**	**BT**	**ED**	**ED**	**ED**	**ED**	**ED**	**ED**	**ED**
Material available for radiocarbon dating	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	(✓)	✓	✓	✓	✓
Volume processed (l)	18	15	14	10	5	24	19	20	16	1	2	2	5	8	7	18	15	14	18	19
Volume of flot (ml)	200	60	150	100	25	7200	60	200	250	15	50	40	50	150	400	100	40	100	30	30
Residue contents																				
Charcoal	-	-	-	-	-	++	-	-	-	-	-	-	-	+	+	-	+	+	-	-
Cracked stones	++	-	-	-	-	-	-	++	++	-	-	-	-	-	-	++	-	-	-	-
Fired clay / Pot (number of fragments)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Flint (number of fragments)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1?	-	-	-	-
Quartz (number of fragments)	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Flot matrix																				
Charcoal	++	++	+	++	+	++++	+	+++	+++	++	++	++	+	+++	+++	+	++	+	++	++
Earthworm egg cases	-	+	+	+	(+)	-	+	+	+	+	+	+	++	-	-	++	+	+	+	-
Monocot stem (charred)	-	-	-	-	(+)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhizomes (charred)	-	-	-	-	-	-	-	-	-	-	-	-	+	(+)	-	-	-	-	-	-
Roots (modern)	+++	++	+++	++	+	-	++	++	+	+	++	++	++	+	-	++	++	++	++	+
Uncharred seeds	-	-	-	(+)	(+)	-	-	-	-	-	(+)	-	(+)	-	-	(+)	(+)	-	-	-
Charred remains (total count)																				
(t) *Corylus avellana* (Hazel) nutshell frag.	-	1	-	-	-	-	23	1	3	-	1	1	-	2	1	1	-	1	4	-
Identified charcoal (✓presence)																				
Alnus glutinosa (Alder)	-	✓	✓	-	✓	-	-	-	-	✓	-	-	-	✓	✓	-	-	-	-	-
Betula sp (Birches)	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calluna vulgaris (Heather)	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Corylus avellana (Hazel)	-	✓	✓	✓	-	-	✓	✓	✓	-	-	✓	✓	✓	✓	-	✓	-	✓	✓
Fraxinus excelsior (Ash)	-	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maloideae (Hawthorn, apple, whitebeams)	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	✓	-	-	-
Quercus sp (Oaks)	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	-	✓	-	-	✓	✓	✓	✓
Prunus sp (Blackthorn, wild and bird cherry)	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salicaceae (Willow, poplar)	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[t-tree/shrub. BT-Buried Topsoil; ED-Enclosure Ditch; P-Pit; PH-Posthole; SH-Stakehole; SS-Stone Socket; (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant (✓) may be unsuitable for dating due to size or species]

A1.3: SEM-EDS Bulk Analysis; Sample 1



Back-Scattered SEM image of Sample 1 (AAL15 (305) <20> XRF). Area of EDS analysis is shown in Green



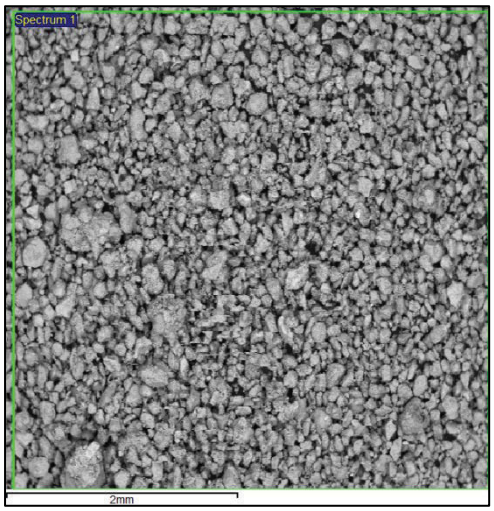
EDS Spectra resulting from the analysis of sample 1

Summary results

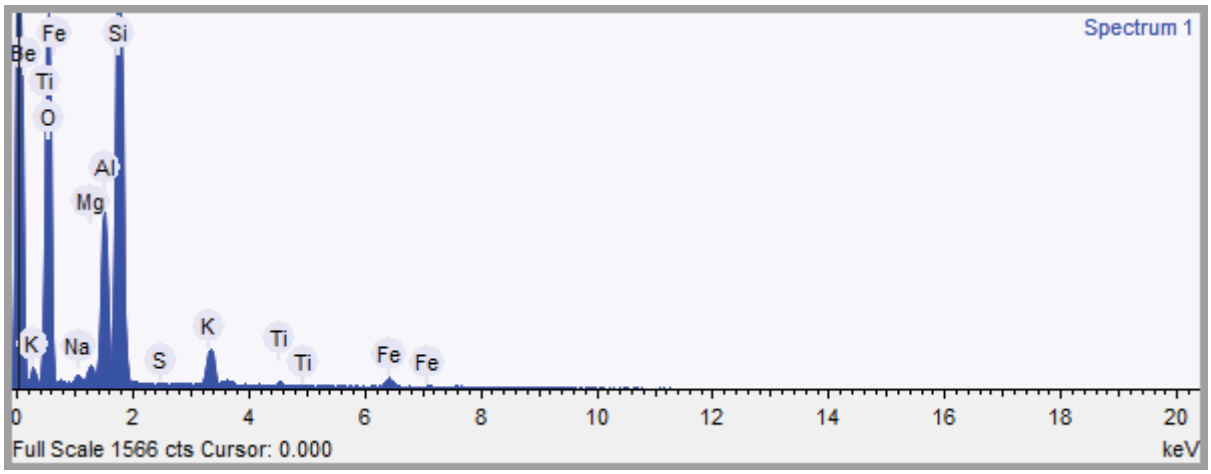
Element	Weight %	Weight % σ	Atomic %
Carbon	15.180	1.905	22.204
Oxygen	53.884	1.283	59.171
Magnesium	0.441	0.077	0.319
Aluminum	5.421	0.188	3.530
Silicon	21.151	0.546	13.231
Sulfur	0.056	0.062	0.030
Potassium	2.214	0.122	0.995
Iron	1.653	0.220	0.520

Quantitative values for various elements in sample 1 as determined by EDS analysis.

A1.4: SEM-EDS Bulk Analysis; Sample 2



Back-Scattered SEM image of Sample 2 (AAL15 (304) <3> XRF). Area of EDS analysis is shown in Green



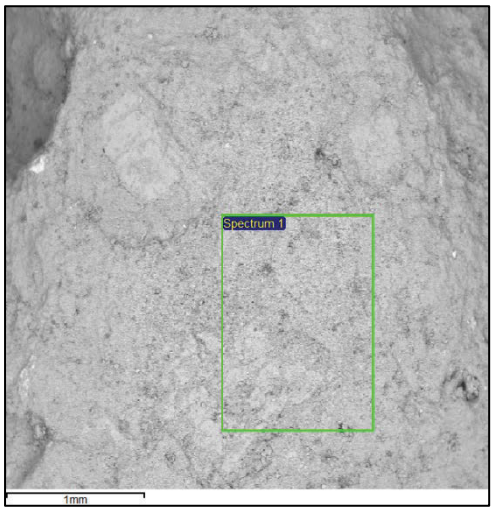
EDS Spectra resulting from the analysis of sample 2

Summary results

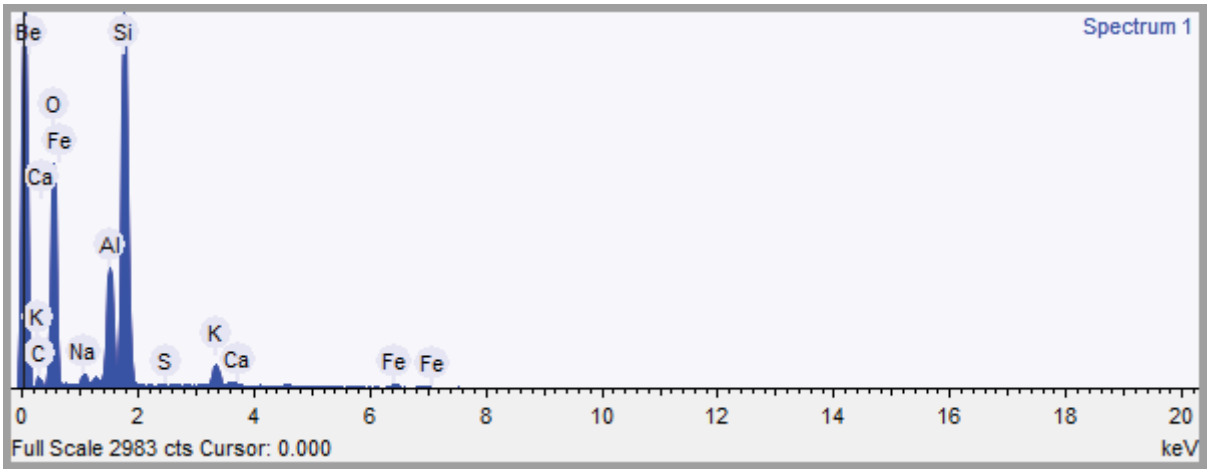
Element	Weight %	Weight % σ	Atomic %
Oxygen	58.621	0.486	72.225
Sodium	0.442	0.112	0.379
Magnesium	0.731	0.101	0.593
Aluminum	7.580	0.187	5.537
Silicon	26.468	0.351	18.576
Sulfur	0.000	0.000	0.000
Potassium	3.229	0.145	1.628
Titanium	0.467	0.128	0.192
Iron	2.462	0.276	0.869

Quantitative values for various elements in sample 2 as determined by EDS analysis.

A1.5: SEM-EDS Bulk Analysis; Sample 3



Back-Scattered SEM image of Sample 3 (AAL15 (304) <3> XRF), probably a weathered granite (rhyolite?). Area of EDS analysis is shown in Green



EDS Spectra resulting from the analysis of sample 3

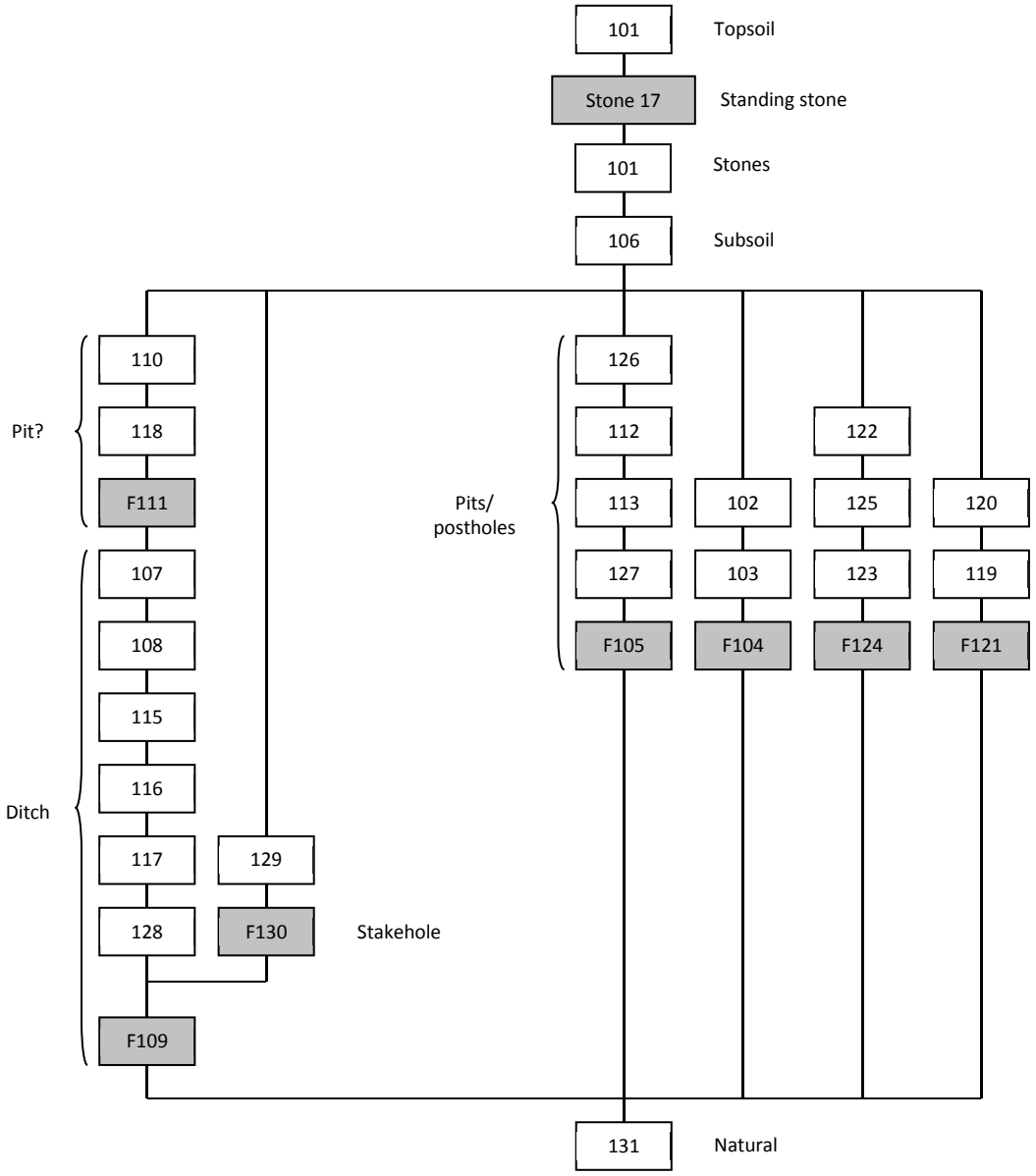
Summary results

Element	Weight %	Weight % σ	Atomic %
Carbon	5.546	3.567	8.804
Oxygen	54.281	2.091	64.695
Sodium	0.979	0.107	0.812
Aluminum	7.624	0.328	5.388
Silicon	27.030	1.063	18.352
Sulfur	0.000	0.000	0.000
Potassium	2.685	0.156	1.309
Calcium	0.048	0.083	0.023
Iron	1.806	0.219	0.617

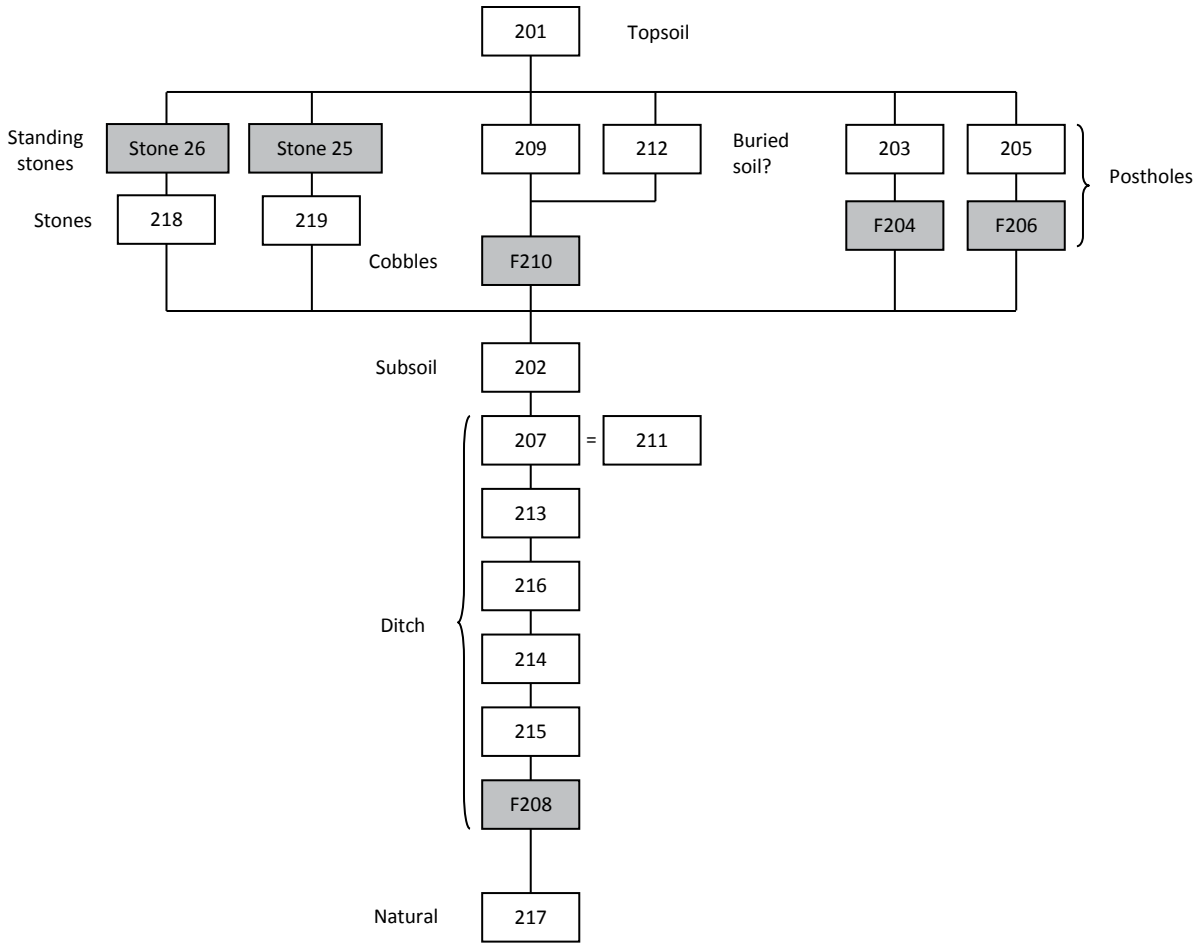
Quantitative values for various elements in sample 3 as determined by EDS analysis

Appendix 2: Stratigraphic matrices

Trench 1



Trench 2



Trench 3

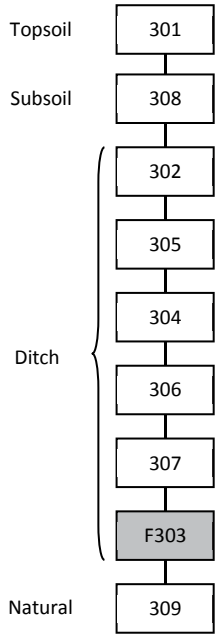


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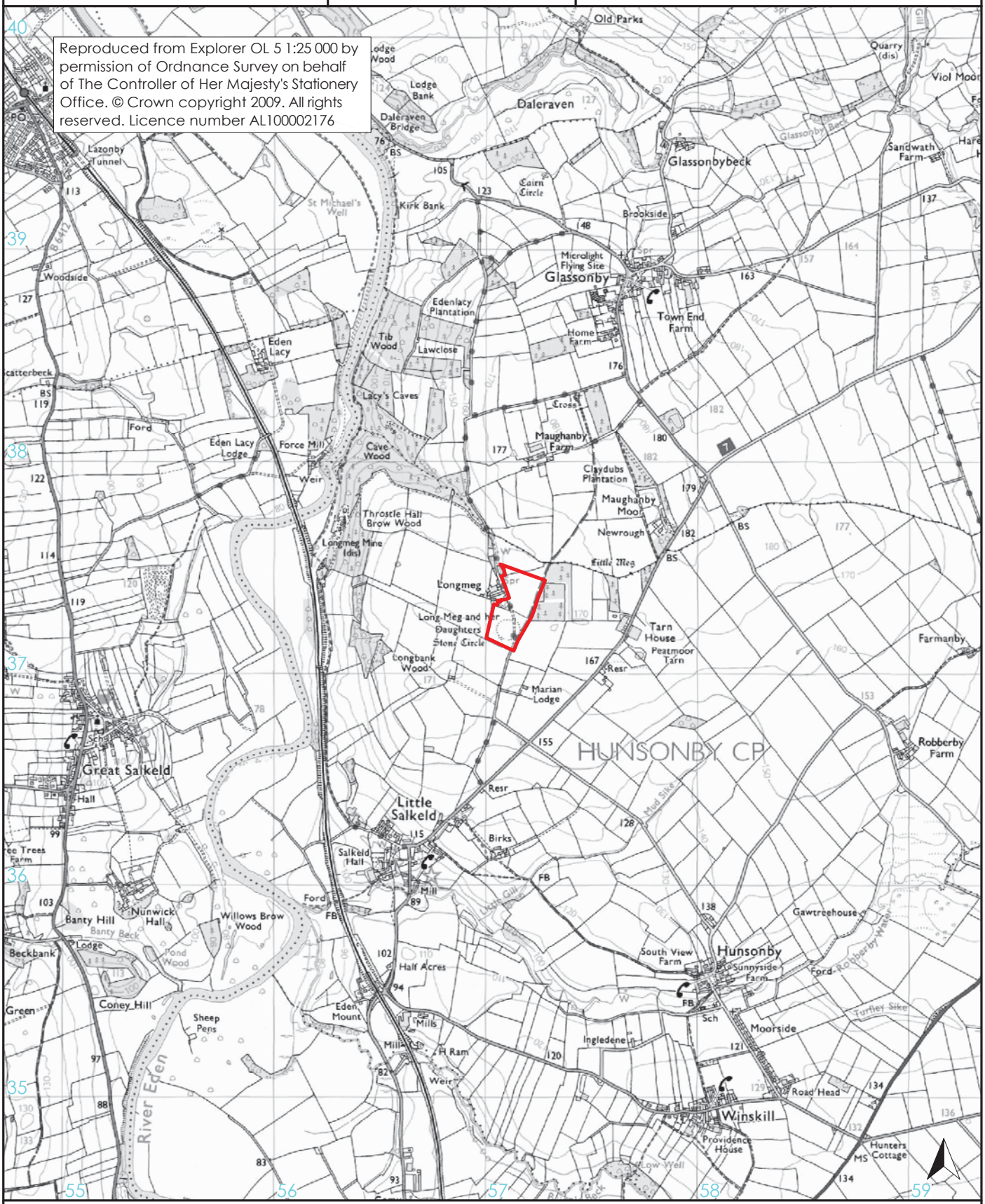
Figure 1: Site location



site boundary

0 1km
scale 1:25 000 for A4 plot

study boundary
survey area
stones
ditch transcribed from aerial photograph
soil-filled feature
possible stone / bank
former ploughing
track
bank
tree
metal sign
trench

Area 2
Area 1
Springs
Track
Longmeg
Long Meg and Her Daughters
1
2
3
r2
r8
r9
r11
375
374
373
372
572
570
571

inset showing trench 3 plan main features (red) see figure 4

inset showing trenches 1 & 2 main features (red) see figure 3

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0 50m
scale 1:1250 for A3 plot

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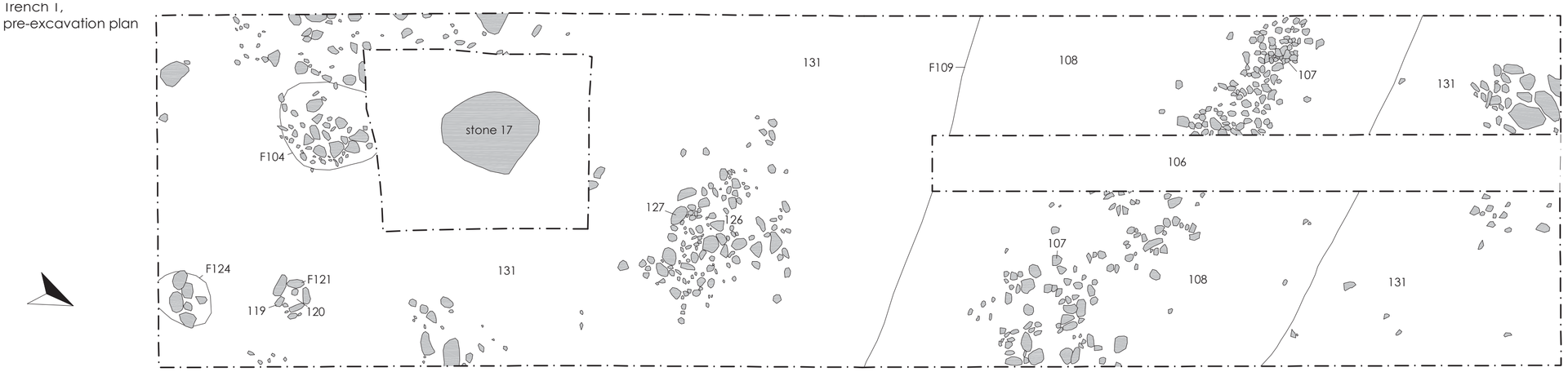
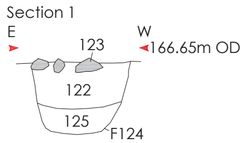
Figure 2: Trench locations on archaeological interpretation

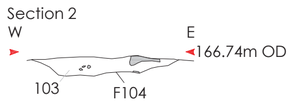
Trench 1,
pre-excavation plan



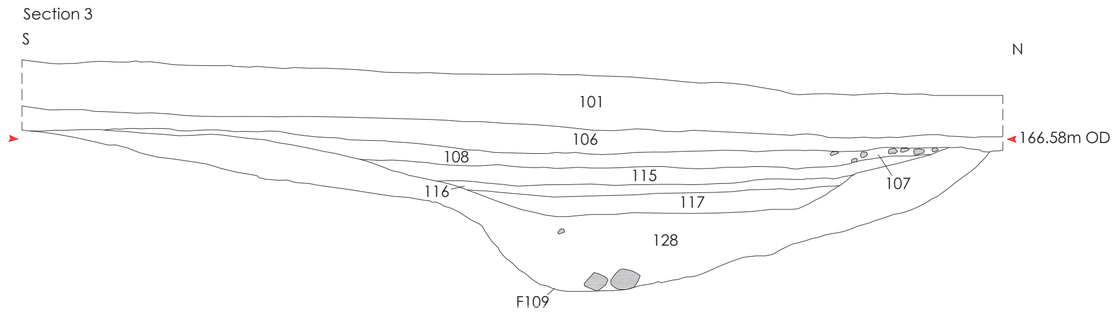
Section 1



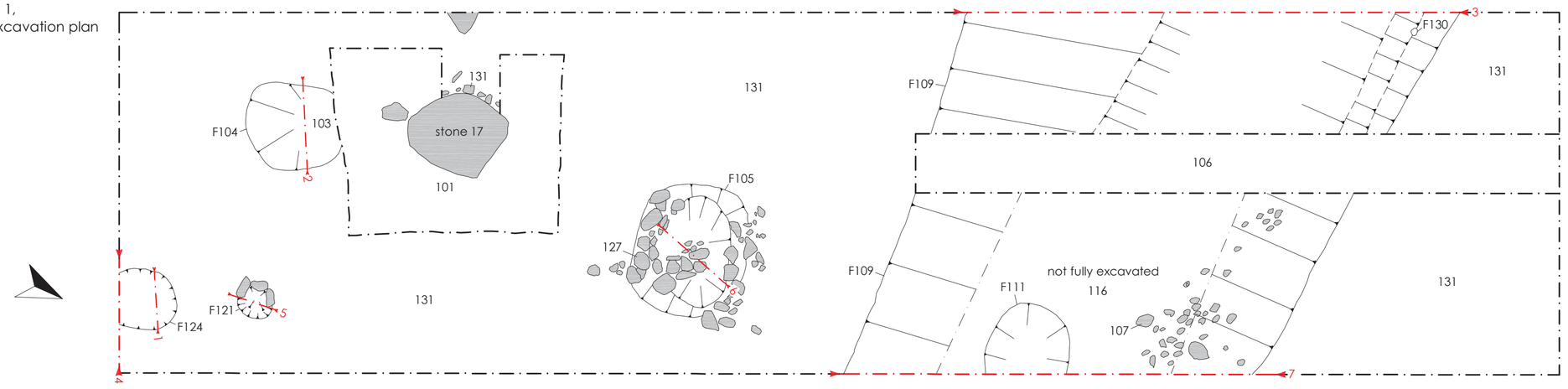
Section 2



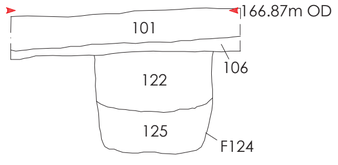
Section 3



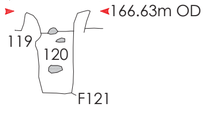
Trench 1,
post-excavation plan



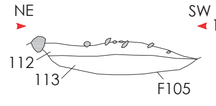
Section 4



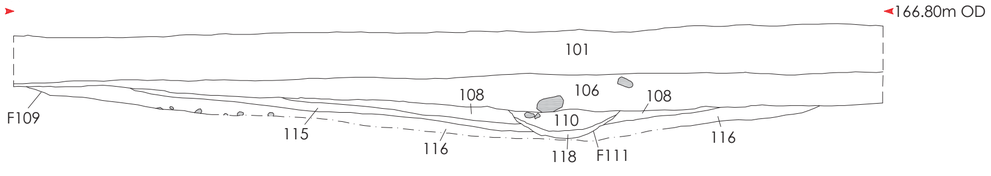
Section 5



Section 6



Section 7



extent of excavation

section 2

stone

0 1.5m
scale of sections 1:30 for A2 plot

0 2m
scale of plans 1:50 for A2 plot

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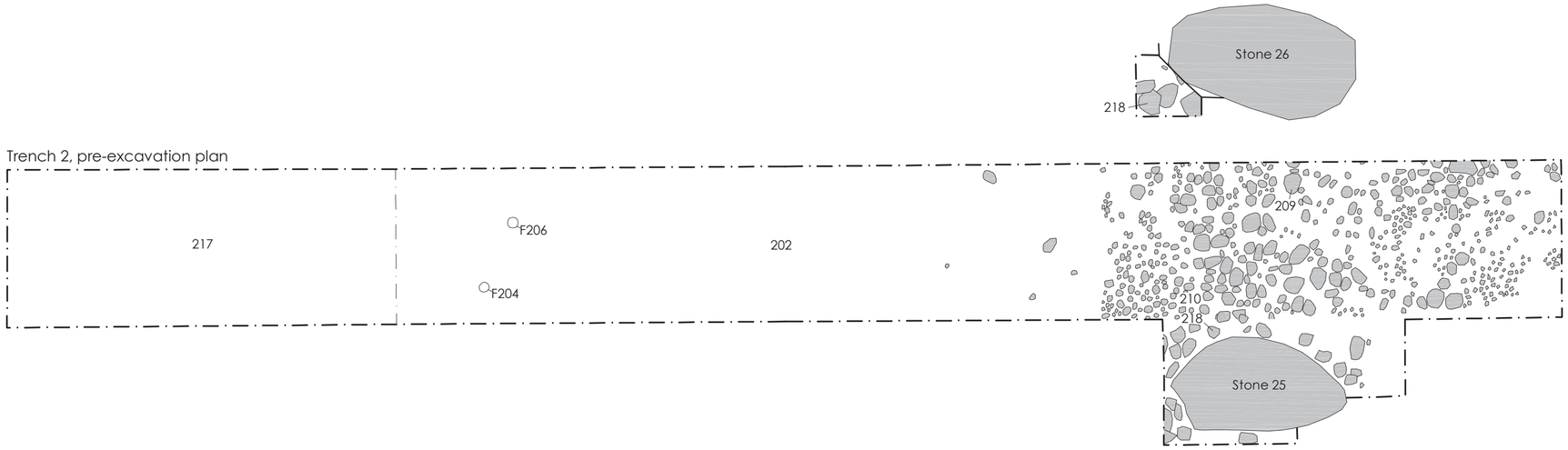
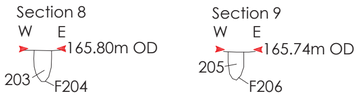
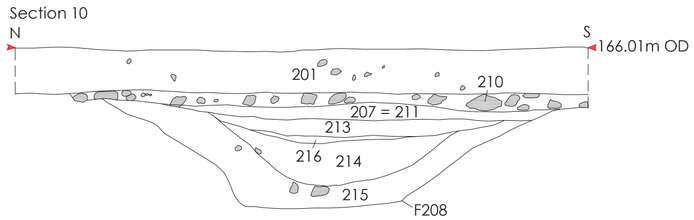
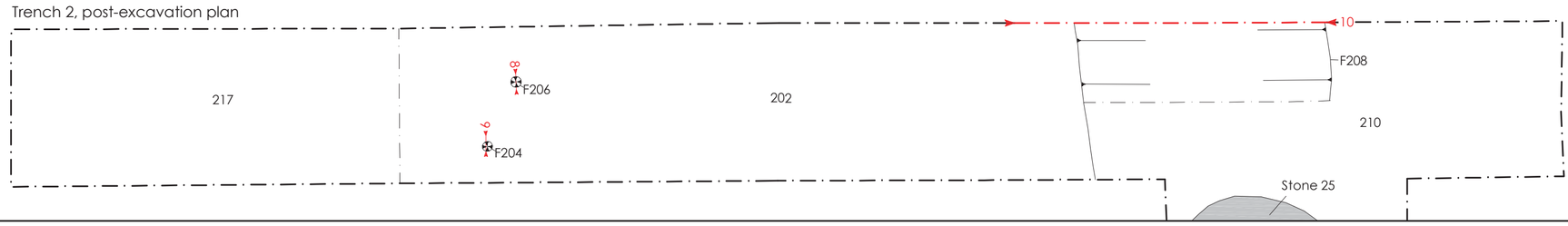
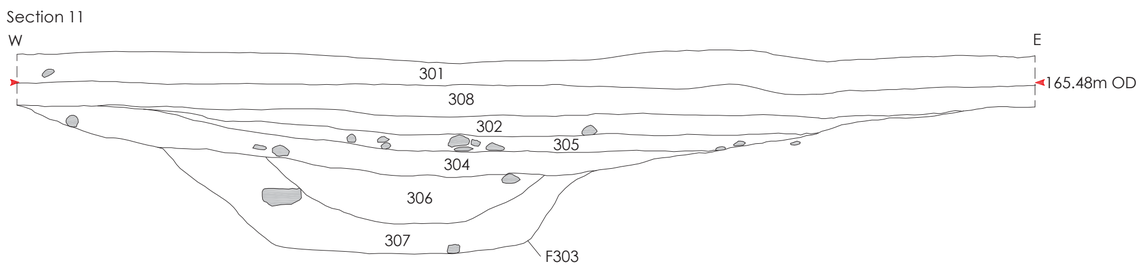
Figure 3: Trench 1, plans and sections

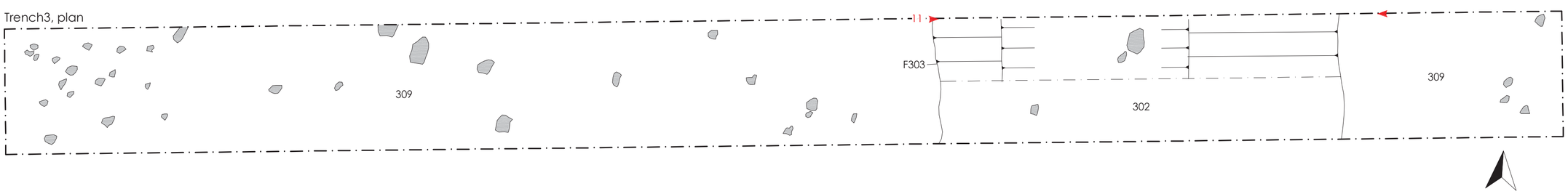












extent of excavation

2 section

stone

0 1.5m
scale of sections 1:30 for A2 plot

0 2m
scale of plans 1:50 for A2 plot

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Figure 4: Trenches 2 & 3, plans and sections

Figure 5: Trench 1, enclosure ditch F109, looking south-west

Figure 6: Trench 1, posthole F121, looking west

Figure 7: Trench 1, pit/posthole F124, looking south

Figure 8: Trench 1, stone socket F105 with standing stone 17 behind, looking south-west

Figure 9: Trench 2, enclosure ditch F208, looking east

Figure 10: Trench 2, prone standing stone 25 with possible cup mark along bottom left edge, looking south

Figure 11: Trench 2, detail of prone standing stone 25 showing possible cup mark underneath, looking north-west

Figure 12: Trench 2, cobbled surface 210 with larger stones 209 on top, looking south-west

Figure 13: Trench 2, postholes F204 and F206, looking west

Figure 14: Trench 3, enclosure ditch F303, looking north-west