Discovery and Excavation in Scotland

Updated on 15/06/2007

LOCAL AUTHORITY:	Orkney Islands
PROJECT TITLE/SITE NAME:	Ring Of Brodgar
PROJECT CODE:	HSCO-90042-2012-01
PARISH:	Stenness
NAME OF CONTRIBUTOR:	David Murray
NAME OF ORGANISATION:	Kirkdale Archaeology
TYPE(S) OF PROJECT:	Archaeological Evaluation
NMRS NO(S):	HY21SE 1
SITE/MONUMENT TYPE(S):	Henge, Stone circle
SIGNIFICANT FINDS:	
NGR (2 letters, 8 or 10 figures)	Centred c. HY 294 133
START DATE (this season)	28 August 2012
END DATE (this season)	2 September 2012
PREVIOUS WORK (incl. *DES* ref.)	
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A series of 17 trenches was excavated around the eastern half of the Ring of Brodgar. in order to determine the depth of added soil. The trenches produced a coherent sequence. All the trenches produced some evidence for an added soil horizon directly below the turf. However, the composition and extent of these layers varied considerably. Most simply comprised silty clay dumped on the underlying peat. Two trenches revealed the use of gravel laid over black plastic sheeting, while others uncovered green plastic netting or bedding sand directly below the topsoil. The depth of these introduced deposits varied both between and within trenches, making accurate figures difficult to give. An average of 100-150 mm thick across an area perhaps 2.0 m wide might be given as a rough assessment (although width was more variable than thickness). These deposits often seemed to fill hollows in the underlying peat, suggestive of a complicated sequence of repair, carried out where and when it was needed.
PROPOSED FUTURE WORK:	
CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	Historic Scotland
ADDRESS OF MAIN CONTRIBUTOR:	4 Western Terrace, Edinburgh EH12 5QF
EMAIL ADDRESS:	g_ewart@hotmail.com
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

HISTORIC SCOTLAND PROPERTIES IN CARE

MINOR ARCHAEOLOGICAL WORKS 2012

The Ring of Brodgar • Excavations • August / September 2012

HS PIC Index Number: 90042

SITE: The Ring of Brodgar, Mainland, Orkney Islands

N.G.R.: HY 294 132

DESCRIPTION: The excavation of a series of narrow trenches across the current path in order to determine the depth of added soil

PROJECT CODE: HSCO-90042-2012-01

CONTENTS:

KIRKDALE ARCHAEOLOGY

4 Western Terrace, Murrayfield, Edinburgh EH12 5QF

OCTOBER 2012

INTRODUCTION

The Ring of Brodgar is a magnificent stone circle located on Mainland, the largest of the Orkney Islands. The site originally consisted of approximately 60 stones set in a rough circle 104m in diameter, surrounded by a rock cut ditch some 130m in external diameter, interrupted by two entrance causeways. There is no clear trace of any bank associated with this large ditch.

The circle is in a carefully chosen location, on a narrow neck of land separating the Loch of Harray to the E from the Loch of Stenness to the W. The ground within the circle slopes down appreciably from W to E. Today the Ring of Brodgar is an island of heather covered peaty land surrounded by evidently improved farmland.

The site is part of the 'Heart of Neolithic Orkney' World Heritage Site, and is managed by Historic Scotland. There are large number of visitors every year, drawn to this visually arresting site by its World Heritage status and proximity to other spectacular monuments, noticeably the Stones of Stenness and Maes Howe.

The pressure of visitor numbers on a site suffering from poor drainage is having an inevitable impact. The majority of visitors enters the circle from the causeway to the NE and proceeds in a clockwise or anti-clockwise direction around the stones. The limited route followed by most visitors has led to problems of erosion and waterlogging, the latter particularly obvious on the downslope E side.

As a response to this problem Historic Scotland has, in the past, added material to this outer pathway to raise it, thus reducing the waterlogging of the path and preventing any erosion of archaeological deposits. This has been done on an irregular basis, as dictated by surface conditions. An unfortunate side effect of this treatment has been the creation of a raised ring of grass following the circuit of the stones and standing proud of the surrounding heather. The extent to which the path becomes waterlogged has been reduced, but not been solved by this arrangement.

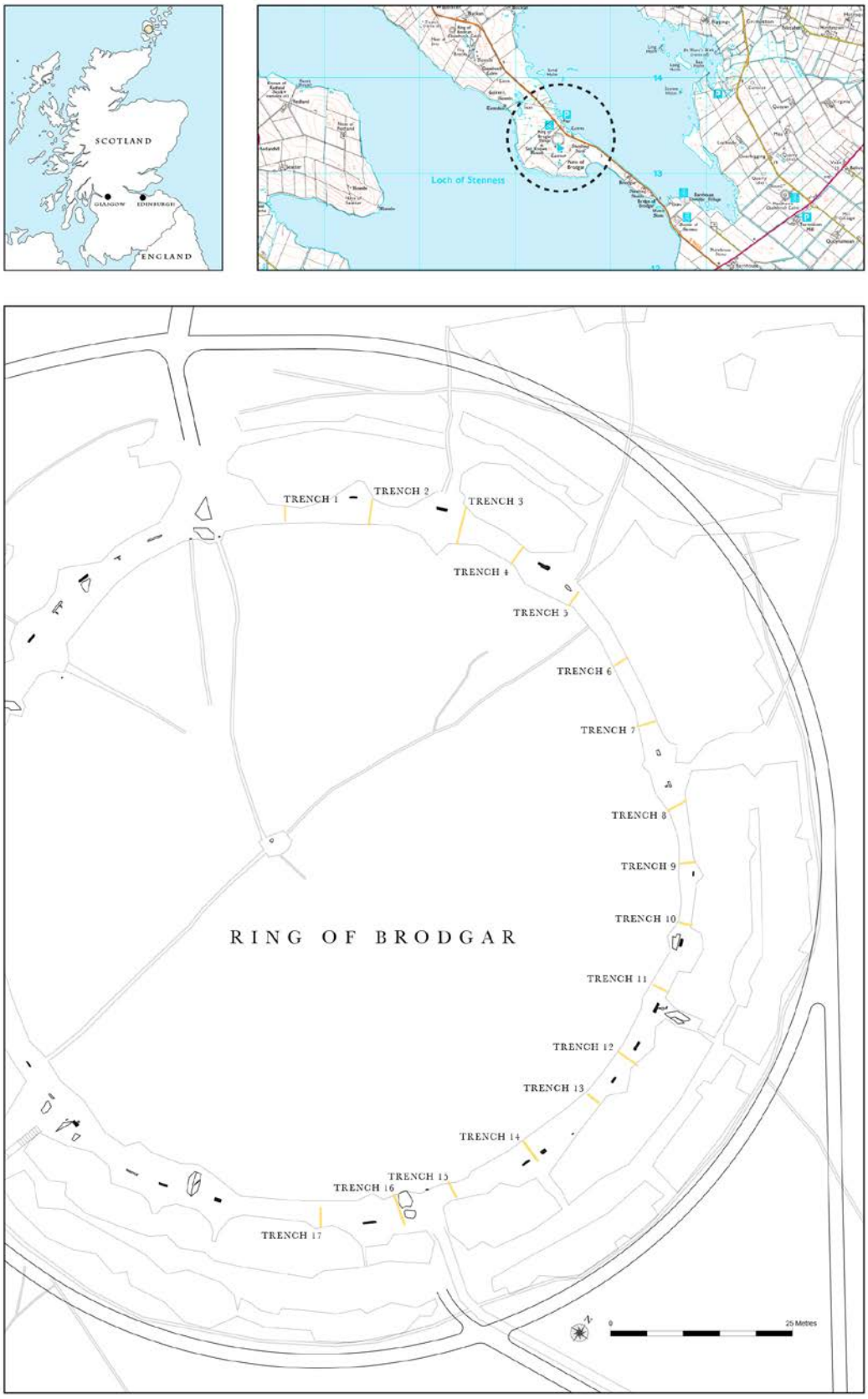

Figure 1: Plan showing the location of the Ring of Brodgar, and the area of works.
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As a consequence of this, Historic Scotland hoped to be able to strip away the added turf and restore the site to its earlier profile, on which some form of dry path can be installed. As a first step in this process Kirkdale Archaeology was asked, under the terms of its PIC Call-Off contract with Historic Scotland, to excavate a series of narrow trenches across the current path, in order to determine the depth of the added soil. Work started in the E half of the circle, where 17 trenches were excavated at intervals of roughly 10m (Fig.1). All trenches crossed the raised grassy strip of the path, and had an average width of 0.25m. They were dug by hand to the base of the added deposits, and the work took place from 28th August, 2012 to 2nd September, 2012.

D E S C R I P T I O N

Excavation started just to the NE of the NW entrance causeway with Trench 1, proceeding in a clockwise manner from here to Trench 17, just to the W of the S causeway. The first context number assigned to each trench is for the topsoil; this was dark brown clayey silt consistently 0.05m thick in every trench.

Trench 1 was laid out over a relatively narrow area of the grassy path, was orientated N/S and measured 2.3m in length. Topsoil **100** was removed to reveal **101**; a pale brown silty clay with some small sub angular stones up to 0.13m thick. Below **101**, context **102** was a black peat, fibrous and full of roots that was not excavated. Context **102** covered all but the northern 0.45m of the trench, where **101** peeled off onto **103**, a compact pale grey greasy clay, with some very pale grey degraded stone throughout. It appeared that **102** overlay **103**.

Trench 2 was located some 2m to the E of the first upstanding stone clockwise from the N entrance. This trench measured 4.5m in length. Topsoil **200** sealed **201**, almost identical in composition and thickness to context **101** in Trench 1. The removal of **201** exposed **202** across the trench, a black fibrous peat, with a somewhat undulating upper surface that was not excavated.

Trench 3 was close to the second stone of the circle and was some 5.5m in length. The sequence of topsoil **300** over silty clay **301** over peat **302** exactly matched that in Trench 2. Here the upper surface of peat **302** was even more obviously uneven, with a couple of ruts up to 0.1m deep exposed.

Trench 4 was 3.35m in length, and again matched the sequence of Trench 2, although context **401**, between topsoil **400** and peat **402**, was a maximum of 0.1m thick, with a flatter upper surface to the peat **402** below.

Trench 5 was 2.6m in length, and again produced topsoil **500** over **501**, but here **501** was up to 0.2m thick in the centre of the trench, where it seemed to infill a slight hollow in the upper surface of the deposits below. These comprised the peat **502** at either end of the trench, with a compact pale grey clay **503** recorded in the centre, at the base of the hollow.

Trench 6 was 2.5m in length. Below context **600**, the usual topsoil, silty clay **601** was noted towards the SW end of the trench, reaching a maximum of 0.1m thick. At the NE and SW ends of this trench peat **602** was exposed, with a pale grey clay **603** in between. In the very centre of the trench, and seemingly below **603**, context **604** was recorded, comprising a compact pale orange silty clay.

Trench 7 was 2.8m in length, and here silty clay **701** proved to be up to 0.15m thick. This overlay peat **702** at the SW end of the trench. Elsewhere the trench bottomed onto a pale grey clay **703**, itself seemingly under **702**. The upper surface of **703** was again noticeably undulating.

Trench 8 was 3.1m in length. Here silty clay **801** was up to 0.15m thick at the NE end of the trench, and typically only 0.05m thick at the SW end, where it seemed to fill a hollow in the upper surface of peat **802** below. A small area of pale grey greasy clay **803** was exposed below **802** at the base of this hollow.

Trench 9 was 2.2m in length and orientated NE/SW. Here silty clay **901** was up to 0.1m thick in the centre of the trench, narrowing to 0.05m at either end. Context **901** sealed peat **902**, the upper surface of which was fairly level.

Trench 10 was 1.95m in length, and here directly below topsoil **1000** a degraded green plastic matting was seen at the E end of the trench. This was over silty clay **1001**, typically 0.05m thick. At the base of the trench, peat **1002** presented a level upper surface.

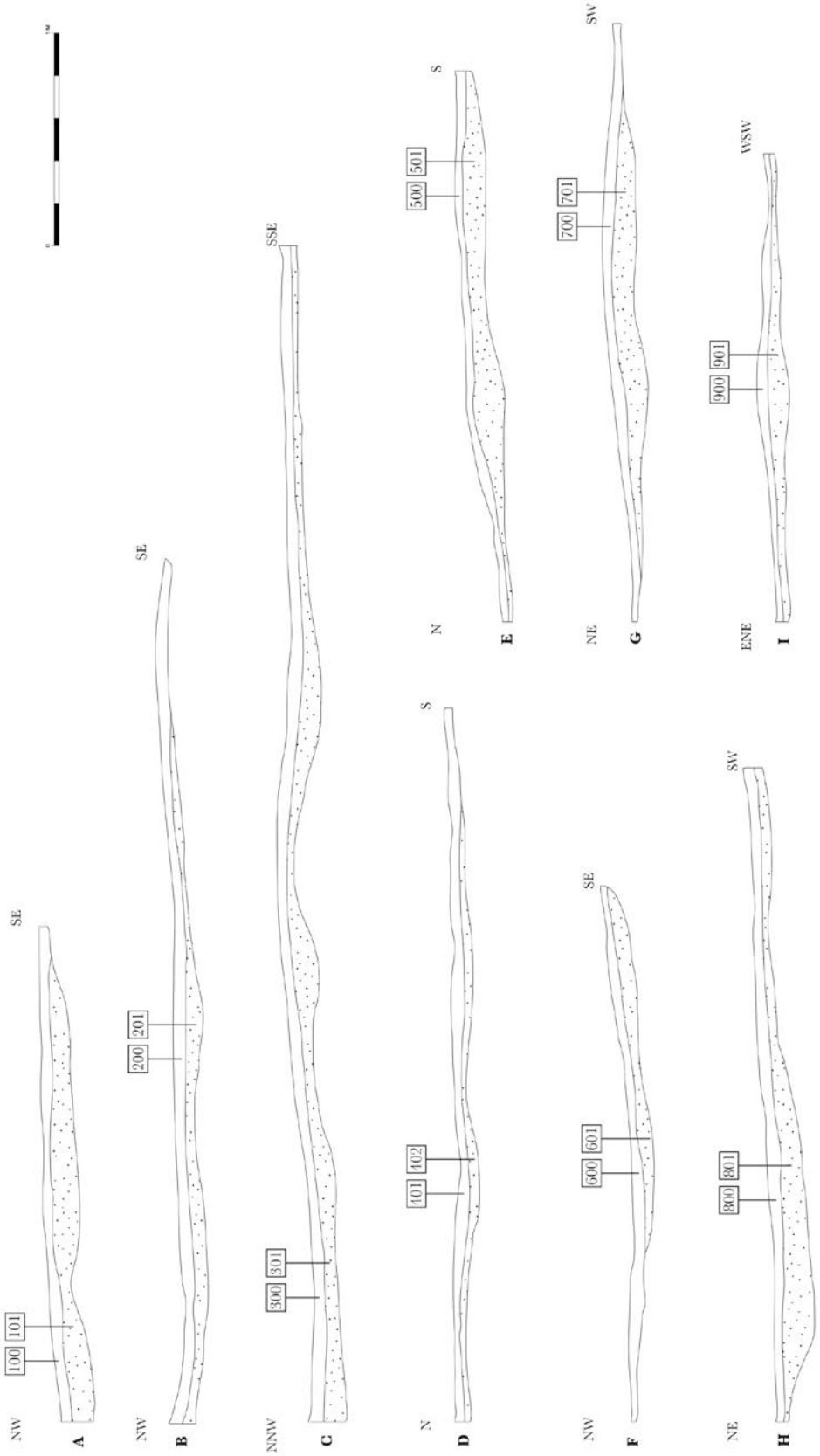

Figure 2 (Part 1): Section drawings – A: Trench 1, SW-facing; B: Trench 2, SW-facing; C: Trench 3, WSW-facing; D: Trench 4, W-facing; E: Trench 5, W-facing; F: Trench 6, NW-facing; G: Trench 7, NW-facing; H: Trench 8, NW-facing; I: Trench 9, NNW-facing

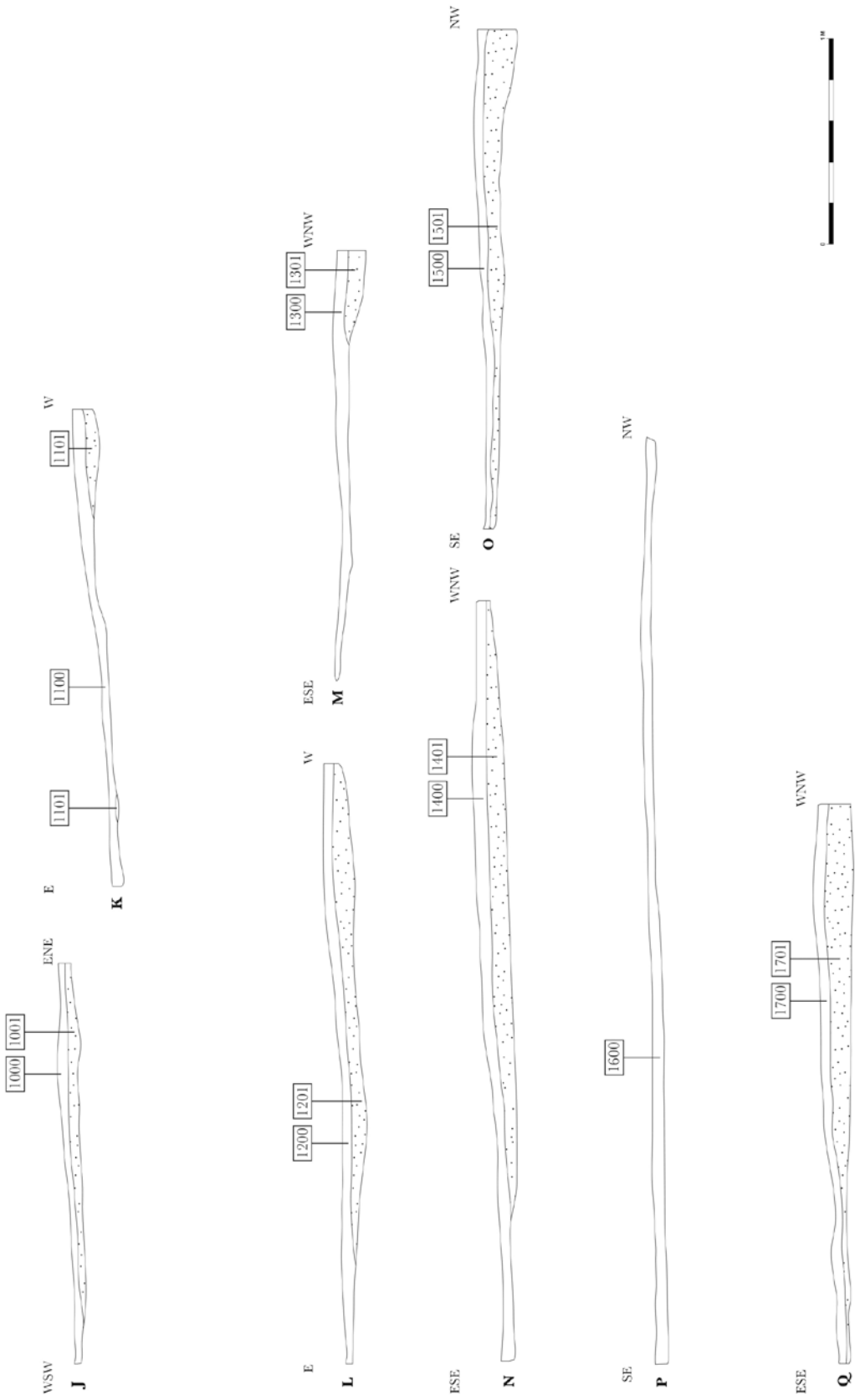

Figure 3 (Part 2): Section drawings – J: Trench 10, NNW-facing; K: Trench 11, N-facing; L: Trench 12, N-facing; M: Trench 13, NNE-facing; N: Trench 14, NNE-facing; O: Trench 15, NE-facing; P: Trench 16, NE-facing; Q: Trench 17, ENE-facing

Trench 11 measured 2.3m long, and here below topsoil **1100** only small pockets of silty clay **1101** were recorded, at the SW end of the trench these were up to 0.08m thick. Peat **1102** had a very gently undulating upper surface.

Trench 12 was 2.9m in length, and here topsoil **1200** was found to overlie a mixed (introduced) fill **1201**. Some 0.05m of silty clay overlay 0.1m of rounded 'type 1' gravel, itself over black plastic terram (at least in the W 1.5m of the trench), all labeled **1201**. This was directly over peat **1202**, generally with a smooth upper surface, but with a slight (0.05m deep) hollow near its centre. At the base of this hollow a small area of pale grey clay **1203** was recorded.

Trench 13 measured 2.1m long. Topsoil **1300** peeled straight off onto peat **1302**, except at the extreme W end of the trench. Here a shallow (up to 0.08m deep) hollow in the upper surface of **1302** was in filled by silty clay **1301**. At the very base of this hollow, pale grey clay **1303** was just visible.

Trench 14 was 3.7m in length, and was located in one of the worst affected areas for flooding, between two upstanding stones. At the E end of this trench, topsoil **1400** was removed straight onto peat **1402**, while across the bulk of the trench there was a hollow in **1402** some 3m across, and up to 0.08m deep, seemingly with a steeper E than W edge. This was in filled by **1401**, comprising a thin layer of clean sand directly under **1400**, under which in turn was 'type 1' gravel, with black plastic terram lining the base of the hollow. Pale grey clay **1403** was exposed along the base of much of this hollow.

Trench 15 was located just to the NE of the SE entrance causeway, and measured 2.4m in length. Here peat **1502** was recorded directly below topsoil **1500** at the SE end of the trench, while to the NW there was a broad shallow hollow where the mixed deposit **1501** was recorded. Towards the SE end of **1501** was a thin sand layer with green plastic netting threaded through it. Below this and entirely filling the hollow to the NW was a layer of silty clay. Context **1502** formed the base of the entire trench.

Trench 16 was just to the SW of the SE entrance and was 4.45m in length, with the NE side of its NW end running along the face of a prostrate slab. Here the topsoil **1600** overlay two deposits that

were not excavated: **1601** and **1602**. Context **1601** covered the NW 3.4m of the trench and was a pale grey silty clay flecked with iron pan; to the SE this merged into peat **1602**. The recumbent slab **1603** could be seen to be at least 0.12m thicker than could be seen prior to excavation.

The final trench, Trench 17, measured 2.7m in length. Topsoil **1700** sealed **1701**, a silty clay layer up to 0.12m thick, thinning rapidly to the NW. The trench bottomed onto peat **1702**.

C O N C L U S I O N S

This series of 17 trenches around the eastern half of the Ring of Brodgar produced a coherent sequence. All the trenches produced some evidence for an added soil horizon directly below the turf. The composition and extent of these layers varied considerably however. Most simply comprised silty clay dumped on the underlying peat. Trenches 12 and 14 involved the use of gravel laid over black plastic sheeting, while trenches 10 and 15 produced evidence for green plastic netting, and in trenches 14 and 15 a thin layer of bedding sand was introduced directly below the topsoil.

The depth of these introduced deposits varied both between and within trenches, making accurate figures difficult to give. An average of 0.1m – 0.15m thick across an area perhaps 2m wide might be given as a rough assessment (although width was more variable than thickness).

These deposits often seemed to fill hollows in the underlying peat, suggestive of a complicated sequence of repair, carried out where and when it was needed.

Peat was found in every trench below these introduced fills, and generally formed an easily visible layer on which to stop excavating. This material presumably represents the old ground surface prior to the repairs. The hollows in the top of the peat noted in many trenches seem likely to represent erosion caused by visitors to the site. A good correlation was noted between those trenches with more than one such depression (such as Trench 3) and proximity to stones of the circle, presumably a result of foot traffic 'splitting' and people walking around different sides of the stone.

The peat was not excavated, but at numerous points, typically at the base of the hollows, pale grey clay with degraded stones within it was noted below the peat. This is interpreted as the natural leached subsoil, and seems to be matched by Renfrew's findings (Renfrew, C: 1979, p.39[1]). The peat seemed to be remarkably shallow, as little as 0.05m thick, over this presumed subsoil. In only one case, in Trench 6, was anything seen below the pale grey subsoil at the very base of a hollow. This deposit, **604**, was made up of compact pale orange silty clay with frequent small degraded stone inclusions. This is interpreted as the uppermost weathered surface of the bedrock, and the subsoil seemed to be only 0.05m thick over this.

This shallow depth of peat over the subsoil is somewhat surprising. It brings to mind Thomas's mid-nineteenth century observation:

"It may be observed that not only has peat or turf been cut for fuel, but every layer of soil has been removed as fast as it formed to serve as manure for the infield. The general appearance of the country is sufficiently uninteresting, but a barren and desolate aspect, not natural to the place, is produced by the practice of paring the soil from the outfield, that is from all the land lying without the enclosures; and the Ring of Brodgar has no sanctity with these barbarous depredations, as the broken and scarified turf will witness." (*ibid*, p.43).

This deliberate removal of soil deposits could well explain the shallow depth of peat encountered; certainly Renfrew was prepared to consider the almost total removal of an outer bank to the monument that he estimated to be 3m high.

As the intention is to strip the added soil away from the monument to restore its earlier profile, a note of caution must be added. The peat cover has principally formed since the monument's construction, and thus serves to protect whatever contemporaneous archaeological deposits survive at the site. The thin nature of this material indicates that this protection is minimal and thus needs to be carefully removed. The hollows in the underlying peat, suggested previously to have been caused by earlier visitor erosion, would prove particularly problematic. Indeed it might be

[1] Renfrew, C, 1979: Investigations in Orkney, London, 1979

questioned whether these hollows should be emptied out, as they will presumably need to be in filled again to prevent waterlogging.

As well as the archaeological potential below the peat, there is the upstanding evidence to consider. Further details of the bases of upright stones will be exposed since low mounds of soil often exist around these, and their removal will expose more of the standing stone to weathering and erosion. The fallen slabs are likely to have even more revealed than the upstanding ones.

Around some of the stones there is evidence for packing stones arranged about the main slab. In one case these take the form of a parallel low slab connected by a stone at right angles to the main stone, while in another two parallel slabs either side of an upright suggest a stone hole some 1.8m across. The removal of the added soil will provide further details of these, and perhaps even new instances. All of this material should be adequately recorded.

Consideration should also be given to the practicalities of the stripping of the added soil from the Ring of Brodgar. Although exact figures are hard to provide it is evident that large quantities of material will need to be excavated and removed. All excavation should be manual, due to the proximity of the stones and shallowness of the soil, and machinery generally should not be used. This means the manual removal (presumably in wheelbarrows) of the soil from the site, which is likely to cause further erosion due to the soft nature of the ground, the present waterlogging, and the likelihood of heavy rain given the site's geographical location. The possibility of laying down a temporary pathway needs to be considered to alleviate this problem.

A final problem with the removal of this material will be the popularity of the monument as a visitor attraction. While the decision to strip the two sides of the site separately means that visitor access in some form should always be possible, it may be necessary to close and mark off half of the site while the work is underway.

LIST OF CONTEXTS

Trench 1

Number	Description
100	Dark brown clayey silt topsoil
101	Pale brown silty clay with some small sub-angular stones throughout
102	Peat, fibrous and full of roots
103	Compact pale grey silty clay. Natural?
200	Dark brown clayey silt topsoil
201	Pale brown silty clay with some small sub-angular stones throughout
202	Peat, fibrous and full of roots
300	Dark brown clayey silt topsoil
301	Pale brown silty clay with some small sub-angular stones throughout
302	Peat, fibrous and full of roots
400	Dark brown clayey silt topsoil
401	Pale brown silty clay with some small sub-angular stones throughout
402	Peat, fibrous and full of roots
500	Dark brown clayey silt topsoil
501	Pale brown silty clay with some small sub-angular stones throughout
502	Peat, fibrous and full of roots
503	Compact pale grey silty clay. Natural?
600	Dark brown clayey silt topsoil
601	Pale brown silty clay with some small sub-angular stones throughout
602	Peat, fibrous and full of roots
603	Compact pale grey silty clay. Natural?
604	Compact pale orange silty clay and brash. Upper surface of bedrock?
700	Dark brown clayey silt topsoil
701	Pale brown silty clay with some small sub-angular stones throughout
702	Peat, fibrous and full of roots
703	Compact pale grey silty clay. Natural?
800	Dark brown clayey silt topsoil
801	Pale brown silty clay with some small sub-angular stones throughout
802	Peat, fibrous and full of roots
803	Compact pale grey silty clay. Natural?
900	Dark brown clayey silt topsoil
901	Pale brown silty clay with some small sub-angular stones throughout
902	Peat, fibrous and full of roots
903	Compact pale grey silty clay. Natural?
1000	Dark brown clayey silt topsoil
1001	Pale brown silty clay with some small sub-angular stones throughout, green plastic mesh at the top of this at the E end of the trench
1002	Peat, fibrous and full of roots
1003	Compact pale grey silty clay. Natural?
1100	Dark brown clayey silt topsoil
1101	Pale brown silty clay with some small sub-angular stones throughout
1102	Peat, fibrous and full of roots
1200	Dark brown clayey silt topsoil
1201	Gravel over black plastic terram
1202	Peat, fibrous and full of roots
1203	Compact pale grey silty clay. Natural?

Number	Description
1300	Dark brown clayey silt topsoil
1301	Pale brown silty clay with some small sub-angular stones throughout
1302	Peat, fibrous and full of roots
1303	Compact pale grey silty clay. Natural?
1400	Dark brown clayey silt topsoil
1401	Mixed deposit: thin layer of sand, type 1 gravel and silty clay, all over black plastic terram
1402	Peat, fibrous and full of roots
1403	Compact pale grey silty clay. Natural?
1500	Dark brown clayey silt topsoil
1501	Pale brown silty clay with some small sub-angular stones throughout, thin sand layer with green plastic netting at the top of this in the centre of the trench
1502	Peat, fibrous and full of roots
1600	Dark brown clayey silt topsoil
1601	Pale grey silty clay mottled with iron pan at NW end of trench, merges into 1602 to the SE
1602	Peat, fibrous and full of roots
1603	Recumbent slab along NE side of trench
1700	Dark brown clayey silt topsoil
1701	Pale brown silty clay with some small sub-angular stones throughout
1702	Peat, fibrous and full of roots

LIST OF DRAWINGS

Number	Type	Description	Scale
1	Plan	Location plan of trenches 1 - 4	1: 100
2	Section	SW facing section of Trench 1	1: 20
3	Section	SW facing section of Trench 2	1: 20
4	Section	WSW facing section of Trench 3	1: 20
5	Section	W facing section of Trench 4	1: 20
6	Section	W facing section of Trench 5	1: 20
7	Section	NW facing section of Trench 6	1: 20
8	Section	NW facing section of Trench 7	1: 20
9	Section	NW facing section of Trench 8	1: 20
10	Section	NNW facing section of Trench 9	1: 20
11	Section	NNW facing section of Trench 10	1: 20
12	Section	N facing section of Trench 11	1: 20
13	Section	N facing section of Trench 12	1: 20
14	Section	NNE facing section of Trench 13	1: 20
15	Section	NNE facing section of Trench 14	1: 20
16	Section	NNE facing section of Trench 15	1: 20
17	Section	NNE facing section of Trench 16	1: 20
18	Section	NNE facing section of Trench 17	1: 20
19	Plan	Location plan of trenches 5 - 6	1: 100
20	Plan	Location plan of trenches 7 - 9	1: 100
21	Plan	Location plan of trenches 10 - 12	1: 100
22	Plan	Location plan of trenches 13 - 14	1: 100
23	Plan	Location plan of trenches 15 - 17	1: 100

LIST OF DIGITAL PHOTOGRAPHS

Number	Description	From	Date
1	General view of NE side of circle	SE	28/08/2012

Number	Description	From	Date
2	General view of circle	SW	28/08/2012
3	Waterlogging in the NE part of the circle	W	28/08/2012
4	Waterlogging in circle	SE	28/08/2012
5	Detail of plastic matting under turf	W	28/08/2012
6	Waterlogging in the NE part of the circle	S	28/08/2012
7	Trench 1, pre-excavation	SW	28/08/2012
8	Trench 2, pre-excavation	S	28/08/2012
9	Trench 1 temporarily in-filled	SW	28/08/2012
10	Trench 2 temporarily in-filled	W	28/08/2012
11	General view of site	W	29/08/2012
12	Crowds at site	W	29/08/2012
13	Crowds at site	W	29/08/2012
14	Trench 1 as finished	S	29/08/2012
15	Trench 1; W facing section; N end	W	29/08/2012
16	Trench 1; W facing section; S end	W	29/08/2012
17	Trench 1, detail of probable subsoil **103** at N end	E	29/08/2012
18	Trench 1 as finished	SW	29/08/2012
19	Trench 2 as finished	S	29/08/2012
20	Trench 2; W facing section; S end	W	29/08/2012
21	Trench 2; W facing section; Middle	W	29/08/2012
22	Trench 2; W facing section; N end	W	29/08/2012
23	Trench 2 as finished	SE	29/08/2012
24	Trench 3, pre-excavation	S	29/08/2012
25	Trench 4, pre-excavation	S	29/08/2012
26	Trench 3 as finished	S	29/08/2012
27	Trench 3; W facing section; S end	W	29/08/2012
28	Trench 3; W facing section; Middle	W	29/08/2012
29	Trench 3; W facing section; N end	W	29/08/2012
30	Trench 4 as finished	SE	29/08/2012
31	Trench 4 working shot	E	29/08/2012
32	Trench 4 as finished	S	29/08/2012
33	Trench 4; W facing section; S end	W	29/08/2012
34	Trench 4; W facing section; Middle	W	29/08/2012
35	Trench 4; W facing section; N end	W	29/08/2012
36	Working shot	SE	29/08/2012
37	Trench 3 as backfilled	S	29/08/2012
38	Trench 4 as backfilled	S	29/08/2012
39	Trench 5, pre-excavation	S	30/08/2012
40	Trench 6, pre-excavation	SW	30/08/2012
41	Trench 5 as finished	S	30/08/2012
42	Trench 5; W facing section; S end	W	30/08/2012
43	Trench 5; W facing section; N end	W	30/08/2012
44	Trench 5 as finished	SE	30/08/2012
45	General shot	W	30/08/2012
46	General shot	W	30/08/2012
47	General shot	W	30/08/2012
48	General shot	W	30/08/2012
49	Trench 6 as finished	SW	30/08/2012
50	Trench 6 as finished	W	30/08/2012

Number	Description	From	Date
51	Trench 6; NW facing section; S end	NW	30/08/2012
52	Trench 6; NW facing section; Middle	NW	30/08/2012
53	Trench 6; NW facing section; N end	NW	30/08/2012
54	Trench 6; SE facing section; S end	SE	30/08/2012
55	Trench 6; SE facing section; Middle	SE	30/08/2012
56	Trench 6; SE facing section; N end	SE	30/08/2012
57	Shot of runes carved on stone	S	30/08/2012
58	Shot of runes carved on stone	S	30/08/2012
59	Shot of runes carved on stone	S	30/08/2012
60	Trench 5 as backfilled	S	30/08/2012
61	Trench 6 as backfilled	SW	30/08/2012
62	Trench 7, pre-excavation	SW	30/08/2012
63	Trench 8, pre-excavation	SW	30/08/2012
64	Trench 7 as finished	SW	30/08/2012
65	Trench 7; NW facing section; S end	NW	30/08/2012
66	Trench 7; NW facing section; Middle	NW	30/08/2012
67	Trench 7; NW facing section; N end	NW	30/08/2012
68	Trench 7; SE facing section; S end	SE	30/08/2012
69	Trench 7; SE facing section; Middle	SE	30/08/2012
70	Trench 7; SE facing section; N end	SE	30/08/2012
71	Trench 7 as finished	SW	30/08/2012
72	Trench 8 as finished	SW	30/08/2012
73	Trench 8; NW facing section; S end	NW	30/08/2012
74	Trench 8; NW facing section; Middle	NW	30/08/2012
75	Trench 8; NW facing section; N end	NW	30/08/2012
76	Trench 8 as finished	SE	30/08/2012
77	Trench 9, pre-excavation	SW	30/08/2012
78	Trench 10, pre-excavation	SW	30/08/2012
79	Trench 9 as finished	SW	30/08/2012
80	Trench 9; NW facing section; S end	NW	30/08/2012
81	Trench 9; NW facing section; Middle	NW	30/08/2012
82	Trench 9; NW facing section; N end	NW	30/08/2012
83	Trench 9 as finished	SE	30/08/2012
84	Trench 10 as finished	SW	30/08/2012
85	Trench 10 as finished	W	30/08/2012
86	Trench 10; NW facing section; S end	NW	30/08/2012
87	Trench 10; NW facing section; Middle	NW	30/08/2012
88	Trench 10; NW facing section; N end	NW	30/08/2012
89	Trench 10 as finished	SE	30/08/2012
90	General shot	NW	30/08/2012
91	Flooding in vicinity of Trench 14	W	30/08/2012
92	Trench 9 as backfilled	SW	30/08/2012
93	Trench 10 as backfilled	SW	30/08/2012
94	Trench 11, pre-excavation	W	31/08/2012
95	Trench 12, pre-excavation	W	31/08/2012
96	General shot	S	31/08/2012
97	General shot	S	31/08/2012
98	General shot	S	31/08/2012
99	General shot	S	31/08/2012

Number	Description	From	Date
100	General shot	S	31/08/2012
101	Trench 11 as finished	W	31/08/2012
102	Trench 11; N facing section; E end	N	31/08/2012
103	Trench 11; N facing section; Middle	N	31/08/2012
104	Trench 11; N facing section; W end	N	31/08/2012
105	Trench 11 as finished	S	31/08/2012
106	Trench 12 as finished	W	31/08/2012
107	Trench 12; N facing section; E end	N	31/08/2012
108	Trench 12; N facing section; Middle	N	31/08/2012
109	Trench 12; N facing section; W end	N	31/08/2012
110	Trench 12 as finished	SE	31/08/2012
111	Trench 11 as backfilled	W	31/08/2012
112	Trench 12 as backfilled	W	31/08/2012
113	Trench 13, pre-excavation	W	31/08/2012
114	Trench 14, pre-excavation	NW	31/08/2012
115	Trench 14, pre-excavation	NW	31/08/2012
116	Trench 13 as finished	W	31/08/2012
117	Trench 13; N facing section; E end	N	31/08/2012
118	Trench 13; N facing section; Middle	N	31/08/2012
119	Trench 13; N facing section; W end	N	31/08/2012
120	Trench 13 as finished	SE	31/08/2012
121	Terram within **1301** in Trench 13	NW	31/08/2012
122	Trench 14 as finished	NW	31/08/2012
123	Trench 14; NE facing section; NW end	NE	31/08/2012
124	Trench 13; NE facing section	NE	31/08/2012
125	Trench 13; NE facing section	NE	31/08/2012
126	Trench 14; NE facing section; SE end	NE	31/08/2012
127	Trench 13 as backfilled	W	31/08/2012
128	Trench 14 as backfilled	NW	31/08/2012
129	Trench 15, pre-excavation	NW	01/09/2012
130	Trench 16, pre-excavation	NW	01/09/2012
131	Trench 15 as finished	NW	01/09/2012
132	Trench 15; NE facing section; NW end	NE	01/09/2012
133	Trench 15; NE facing section; middle	NE	01/09/2012
134	Trench 15; NE facing section; SE end	NE	01/09/2012
135	Trench 15 as finished	SW	01/09/2012
136	Trench 16 as finished	NW	01/09/2012
137	Trench 16; NE facing section; NW end	NE	01/09/2012
138	Trench 16; NE facing section; to SE of shot 46	NE	01/09/2012
139	Trench 16; NE facing section; to SE of shot 47	NE	01/09/2012
140	Trench 16; NE facing section; SE end	NE	01/09/2012
141	Detail of exposed stones **1603** in SW facing section of Trench 16	SW	01/09/2012
142	Detail of exposed stones **1603** to NW	SW	01/09/2012
143	Detail of exposed stones **1603** to SE	SW	01/09/2012
144	Trench 17, pre-excavation	NW	01/09/2012
145	Trench 15 as backfilled	NW	01/09/2012
146	Trench 16 as backfilled	NW	01/09/2012
147	Unexcavated packing stones by stone 7	NW	01/09/2012

Number	Description	From	Date
148	Unexcavated packing stones by stone stump 8	NW	01/09/2012
149	Trench 17 as finished	NW	01/09/2012
150	Trench 17; NE facing section; NW end	NE	01/09/2012
151	Trench 17; NE facing section; Middle	NE	01/09/2012
152	Trench 17; NE facing section; SE end	NE	01/09/2012
153	Trench 17 as finished	SW	01/09/2012
154	Waterlogging between stones 13 and 14	SE	01/09/2012
155	Waterlogging between stones 13 and 14	SE	01/09/2012