Proc Soc Antiq Scot, 116 (1986)

FICHE 4: CONTENTS

Proc Soc Antiq Scot, 116 (1986), fiche 4: A3-G6

THE CHAPEL AND ENCLOSURE ON THE BROUGH OF DEERNESS, ORKNEY: SURVEY AND EXCAVATIONS, 1975-1977

C D MORRIS

DBERNBSS C D MORRIS

CONTENTS

RECORDED FINDS IN NUMERICAL ORDER

RF No.	Object	Layer	Episode
1.	Copper Alloy Coin.	AE	Chapel 12.
2.	Copper Alloy Coin.	AE	Chapel 12.
3.	Copper Alloy Coin.	AC	Chapel 13.
4.	Copper Alloy Coin.	AE	Chapel 12.
5.	Copper Alloy Coin.	AE	Chapel 12.
6.	Copper Alloy Coin.	AE	Chapel 12.
7.	Copper Alloy Coin.	AE	Chapel 12.
8.	Copper Alloy Coin.	AE	Chapel 12.
9.	Copper Alloy Coin.	AK	Chapel 11.
10.	Copper Alloy Coin.	AK	Chapel 11.
11.	Copper Alloy Coin.	AE	Chapel 12.
12.	Copper Alloy Coin.	AE	Chapel 12.
13.	Copper Alloy Coin.	AK	Chapel 11.
14 a-c.	3 Iron Lumps.	AK	Chapel 11.
15.	Copper Alloy Coin.	AK	Chapel 11.
16.	Copper Alloy Coin.	AK	Chapel 11.
17.	Copper Alloy Coin.	AK	Chapel 11.
18.	Copper Alloy Coin.	AK	Chapel 11.
19.	Copper Alloy Coin.	AE	Chapel 12.
20.	Copper Alloy Coin.	AE	Chapel 12.
21.	Copper Alloy Coin.	AE	Chapel 12.
22.	Copper Alloy Coin.	AE	Chapel 12.
23.	Copper Alloy Coin.	AE	Chapel 12.
24.	Copper Alloy Coin.	AE	Chapel 12.
25.	Copper Alloy Coin.	AE	Chapel 12.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

RF No.		Object	Layer	Episode
26.		Copper Alloy Coin.	AE	Chapel 12.
27.		Copper Alloy Coin.	AE	Chapel 12.
28.		Copper Alloy Coin.	AE	Chapel 12.
29.		Copper Alloy Coin.	AE	Chapel 12.
30.		Copper Alloy Coin.	AE	Chapel 12.
31.		Copper Alloy Coin.	AE	Chapel 12.
32.		Copper Alloy Coin.	AE	Chapel 12.
33.		Copper Alloy Coin.	AK	Chapel 11.
34.		Iron Nail.	AK	Chapel 11.
35.		Copper Alloy Vessel-Rim.	AL	Chapel 10.
36.		Iron Rivet-Shank & Plate.	AL	Chapel 10.
37 a-j.	10	Copper Alloy Lumps.	AL	Chapel 10.
38.		Copper Alloy Coin.	AM	Enclosure 9.
39.		Clay Pipe.	AM	Enclosure 9.
40.		Pottery sherd.	AR	Chapel 9.
41.		Pottery sherd.	AR	Chapel 9.
42.		Copper Alloy Pin.	AR	Chapel 9.
43.		Pottery sherd.	AR	Chapel 9.
44 a -b.	2	Pottery sherds.	AR	Chapel 9.
45.		Pottery sherd.	AR	Chapel 9.
46.		Pottery sherd.	AR	Chapel 9.
47.		Iron Object.	BA	Outside Enclosure 4.
48.		Pottery sherd.	AR	Chapel 9.
49.		Pottery sherd.	AR	Chapel 9.
50.		Pottery sherd.	AR	Chapel 9.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

RF No.		Object	Layer	Episode
51.		Pottery sherd.	AR	Chapel 9.
52.		Pottery sherd.	AR	Chapel 9.
53.		Pottery sherd.	AR	Chapel 9.
54 a-o.	15	Pottery sherds.	RF	Chapel 9.
55.	2	Pottery sherds.	AR	Chapel 9.
56.		Pottery sherd.	AR	Chapel 9.
57.		Pottery sherd.	AR	Chapel 9.
58.		Pottery sherd.	AR	Chapel 9.
59.		Pottery sherd.	AR	Chapel 9.
60.		Pottery sherd.	AR	Chapel 9.
61.		Pottery sherd.	RF	Chapel 9.
62 a-b.	2	Pottery sherds.	AR	Chapel 9.
63.		Pottery sherd.	AR	Chapel 9.
64.		Pottery sherd.	AR	Chapel 9.
65.		Pottery sherd.	AR	Chapel 9.
66 a-b.	4	Pottery sherds.	AR	Chapel 9.
67 a-b.	2	Pottery sherds.	AR	Chapel 9.
68 a-j.	10	Pottery sherds.	AR	Chapel 9.
69 a-b.	2	Copper Alloy Objects.	AR	Chapel 9.
70.		Ironpan.	AMA	Enclosure 6.
71.		Pumice.	BU	Enclosure 6.
72.		Non-artefactual Stone.	BM	Chapel 7.
73.		Steatite sherd.	BM	Chapel 7.
74.		Iron Nail.	BM	Chapel 7.
75.		Iron Lump.	BM	Chapel 5.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

FF No.		Object	Layer	Episode
76.		Non-artefactual Stone.	BM	Chapel 5.
77.		Industrial Residue.	BD	Enclosure 4.
78.		Bone Fragments.	BD	Enclosure 4.
79.		Pottery sherd.	BM	Chapel 7.
80 a-b.	2	Iron Lumps.	BT	Enclosure 5.
81.		Pottery sherd.	BT	Enclosure 5.
82.		Quartz Lump.	BT	Enclosure 5.
83 a-d.	4	Iron Lumps.	BD	Enclosure 4.
84.		Iron Lump.	AY	Enclosure 8.
85.		Steatite sherd.	BD	Enclosure 4.
86.		Bone Fragment.	AF	Enclosure 10.
87.		Silver Coin.	CE	Chapel 2.
88.		Fish Bone.	BU	Enclosure 6.
89.		Silver Wire.	BD	Enclosure 4.
90.		Bone Tooth Fragments.	BD	Enclosure 4.
91.		Pottery sherd.	BU	Enclosure 6.
92.		Pottery sherd.	BD	Enclosure 4.
93.		Steatite sherd.	BD	Enclosure 4.
94.		Pottery sherd.	BD	Enclosure 4.
95.	2	Steatite sherds.	BY	Chapel 3.
96 a-e.	5	Iron Lumps.	BY	Chapel 3.
97.		Pottery sherd.	BD	Enclosure 4.
98.		Pottery sherd.	BD	Enclosure 4.
99.		Iron Plate.	BD	Enclosure 4.
100.		Non-artefactual Stone.	BD	Enclosure 4.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

RF No.		Object	Layer	Episode
101.		Pottery sherd.	BD	Enclosure 4.
102.		Pottery sherd.	BD	Enclosure 4.
103.		Pottery sherd.	BD	Enclosure 4.
104 a-c.	3	Pottery sherds.	BD	Enclosure 4.
105.		Pottery sherd.	BD	Enclosure 4.
106.		Pottery sherd.	BD	Enclosure 4.
107.		Pottery sherd.	BD	Enclosure 4.
108.		Stone Lid.	CD	Enclosure 1.
109.		Pottery sherd.	BD	Enclosure 4.
110.		Pottery sherd.	BD	Enclosure 4.
111.		Pottery sherd.	BD	Enclosure 4.
112.		Non-artefactual Stone.	BD	Enclosure 4.
113.		Iron Nail.	BD	Enclosure 4.
114.		Iron Nail.	BD	Enclosure 4.
115 a-b.	2	Pottery sherds.	BD	Enclosure 4.
116.		Whetstone.	BD	Enclosure 4.
117.		Pottery sherd.	BD	Enclosure 4.
118.		Iron Fragment.	BD	Enclosure 4.
119 a-c.	3	Copper Alloy Fragments.	BD	Enclosure 4.
120.		Iron Lump.	BD	Enclosure 4.
121.		Pottery sherd.	BD	Enclosure 4.
122.		Iron Fragment.	BD	Enclosure 4.
123.		Non-artefactual Stone.	CV	Enclosure 1.
124.		Stone Fragment.	CV	Enclosure 1.
125.		Cut Bone Fragment.	BJ	Enclosure 3.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

RF No.	Object	Layer	Episode
126.	Iron Rivet-Shank & Plate.	DQ	Enclosure 1.
127 a-d.	Iron Rivet-Shank & Plate - Fragments	DQ	Enclosure 1.
128.	Iron Rivet-Shank & Plate.	DQ	Enclosure 1.
129.	Iron Nail-Head.	DQ	Enclosure 1.
130.	Non-artefactual Stone.	BD	Enclosure 4.
131.	Non-artefactual Stone.	BD	Enclosure 4.
132.	Non-artefactual Stone.	BD	Enclosure 4.
133.	Non-artefactual Stone.	AF	Enclosure 10.
134.	Non-artefactual Stone.	DI	Enclosure 1.
135. a-h.	8 Iron Lumps.	BD	Enclosure 4.
136.	Non-artefactual Stone.	BD	Enclosure 4.
137.	Iron Rivet & Plate.	BY	Chapel 3.
138.	Non-artefactual Stone.	BD	Enclosure 4.
139.	Industrial Residue.	BD	Enclosure 4.
140.	Iron Lump.	CH	Enclosure 4.
141.	Iron Nail-Head.	AR	Chapel 9.
142.	Bone Point Fragment.	HF	Enclosure 3/Chapel 4.
143.	Pumice.	EM	Chapel 7.
144.	Pottery sherd.	AR	Chapel 9.
145.	Industrial Residue.	AL	Chapel 10.
146.	Industrial Residue.	AL	Chapel 10.
147.	Iron Rivet.	DQ	Enclosure 1.
148.	Chert.	BY	Chapel 3.
149.	Chert.	BY	Chapel 3.
150.	Flint.	BD	Enclosure 4.

RECORDED FINDS IN NUMERICAL ORDER (Cont'd)

RF No.		Object	Layer	Episode
151.		Flint.	BD	Enclosure 4.
152.		Flint Pebble.	AG	Enclosure 7.
153.		Stone Tile.	AM	Enclosure 9.
154.		Stone Pot Boiler.	AK	Chapel 11.
155.		Iron Plate.	DQ	Enclosure 1.
156.		Iron Nail-Head.	DQ	Enclosure 1.
157.		Iron Plate.	DQ	Enclosure 1.
158.		Iron Lump.	DQ	Enclosure 1.
159.	3	Iron Fragments.	DQ	Enclosure 1.
160 a-c.		Iron Rivet-plate, 2 shanks & lumps.	DQ	Enclosure 1.
161 a-c.	2	Iron Plates & Iron Lump.	DQ	Enclosure 1.
162 a-g.	7	Iron Lumps.	AZ	Enclosure 6.
163.	4	Iron Lumps.	AG	Enclosure 7.
164.		Iron Lump.	BT	Enclosure 5.
165.		Iron Plate.	AL	Chapel 10.

RECORDED FINDS BY AREA AND EPISODE

Chapel

Episode 1

None.

Episode 2

RF 87 (CE).

Episode 3

RF 95 (BY), 96 (BY), 137 (BY), 148 (BY), 149 (BY).

Episode 4

RF 142 (HF).

Episode 5

RF 75 (BM), 76 (BM).

Episode 6

None.

Episode 7

RF 72 (BM), 73 (BM), 74 (BM), 79 (BM), 143 (BM).

Episode 8

None.

Episode 9

RF 40-46 (AR), 48-53 (AR), 54 (BF), 55-60 (AR), 61 (BF), 62-69 (AR), 141 (AR), 144 (AR).

Episode 10

RF 35 (AL), 36 (AL), 37 (AL), 145 (AL), 146 (AL), 165 (AL),

Episode 11

RF 9 (AK), 10 (AK), 13-18 (AK), 33 (AK), 34 (AK), 154 (AK).

Episode 12

RF 1 (AE), 2 (AE), 4-8 (AE), 11 (AE), 12 (AE), 19-32 (AE).

Episode 13

RF 3 (AC).

RECORDED FINDS BY AREA AND EPISODE (Cont'd)

Enclosure

Episode 1

HF 108 (CD), 123 (CV), 124 (CV), 126-129 (DQ), 134 (DI), 147 (DQ), 155-161 (DQ).

Episode 2

None.

Episode 3

HF 125 (BJ).

Episode 4

HF 77 (BD), 78 (BD), 83 (BD), 85 (BD), 89 (BD), 90 (BD), 92 (BD), 93 (BD), 94 (BD), 97-107 (BD), 109-122 (BD), 130 (BD), 131 (BD), 132 (BD), 135 (BD), 136 (BD), 138 (BD), 139 (BD), 140 (CH), 150 (BD), 151 (BD).

Episode 5

HF 80 (BT), 81 (BT), 82 (BT), 164 (BT).

Episode 6

HF 70 (AHA), 71 (BU), 88 (BU), 91 (BU), 162 (AZ).

Episode 7

HF 152 (AG), 163 (AG).

Episode 8

HF 84 (AI).

Episode 9

HF 38 (AM), 39 (AM), 153 (AM).

Episode 10

HF 86 (AF), 133 (AF).

RECORDED FINDS BY AREA AND EPISODE (Cont'd)

Outside Enclosure

Episode 1

None.

Episode 2

None.

Episode 3

None.

Episode 4

HF 47 (BA).

Episode 5

None.

Episode 6

None.

DESCRIPTIVE CATALOGUE OF RECORDED FINDS with Colleen E Batey

Stone

with contributions from David Reed, David Schofield and Robert Young

Chapel

Episode 3

148. Brown chert, Layer BY.

Maximum length: 13 mm Maximum width: 15 mm Maximum thickness: 5 mm

Orange brown, squat chert flake retaining bulb of percussion and hinge fracture at distal end. Dorsal face exhibits one flake scar with hinge fracture.

149. Fawn chert, Layer BY.

Maximum length: 23 mm Maximum width: 9 mm Maximum thickness: 12 mm

A fawn grey columnar chert fragment ? fractured naturally from a larger nodule. One possible flake scar visible, no other evidence for working.

Episode 5

76. Siltstone fragment, Layer BM.

Iron-rich nodule of orange-brown siltstone, 17 x 13 x 12 mm. Local. Non-artefactual.

Episode 7

72. Siltstone fragment, Layer BM.

Light grey fragment of highly calcified siltstone, 72 x 15 x 16 mm. Local. Non-artefactual.

Episode 11

154. Fire-shattered sandstone pebble, Layer AK.

Fragment of stone pebble of fine-grained sandstone with heavy burning (red) externally, and dark grey core, 78 x 61 x 35 mm. Probably a pot-boiler.

Stone (cont'd)

Enclosure

Episode 1

108. Grey siltstone pot-lid, Layer CD.

Pot-lid of light blue/grey slightly calcified siltstone, 90 mm diameter, 9 mm thick, clipped at the edges to form a rough circle. Local. Illus 23.

123. Siltstone fragment, Layer CV.

Piece of siltstone, originally considered to be pottery, 16 x 15 x 4 mm. Local. Non-artefactual.

124. Siltstone fragment, Layer CV.

Piece of siltstone, originally considered to be pottery, 20 x 15 x 15 mm. Local. Non-artefactual.

134. Basalt fragment, Layer DI.

Piece of basalt rock, originally considered to be possibly bog-iron, 37 x 30 x 18 mm. Non-artefactual.

Episode 4

100. Siltstone fragment, Layer BD.

Piece of siltstone, orange-brown externally, grey internally, originally considered to be pottery, 20 x 17 x 7 mm. Local. Non-artefactual.

112. Flat stone fragment, Layer BD.

Piece of micaceous siltstone with two flat sides, originally considered to be pottery, 22 x 21 x 10 mm. Local. Non-artefactual.

116. Small whetstone, pierced near one end, Layer BD.

Small whetstone of purple siltstone, with perforation, 76 mm long and 8 mm wide at both ends, but with a maximum width of 11 mm near the hole. It shows wear predominantly on one wide face, and is 4 mm thick, decreasing to 1 mm. The whetstone is pierced 10 mm from the top by a hole which appears to be cut from one side, ranging from 6 mm to 5 mm diameter. Probably local. Illus 23.

Stone (cont'd)

130. Siltstone fragment, Layer BD.

Piece of siltstone, pale orange in colour, originally considered to be pottery, 28 x 16 x 11 mm. Local. Non-artefactual.

131. Siltstone fragments, Layer BD.

Piece of siltstone, with soft sediment deformation, originally considered to be pottery with V-shaped grooves, 58 x 37 x 11 mm. Pale grey/orange in colour. Local. Non-artefactual.

132. Siltstone fragments, Layer BD.

Two pieces of red orange siltstone, originally considered to be pottery: a = 13 x 13 x 2 mm, b = 14 x 13 x 4 mm. Height of sides 6 mm. Local. Non-artefactual.

136. Siltstone fragment, Layer BD.

Buff-coloured siltstone, slightly curved, smooth concave surface on one side, 34 x 25 x 9 mm. Local. Non- artefactual.

138. Siltstone fragment, Layer BD.

Piece of light orange-grey siltstone, with a groove on one face, originally considered to be pottery, 16 x 13 x 7 mm. Local. Non-artefactual.

150. Red brown flint, Layer BD.

Maximum length: 10 mm Maximum width: 13 mm Maximum thickness: 5 mm

A short, squat, fory red brown flint flake, retaining a pronounced bulb of percussion and evidence for hinge fracturing at the distal end.

151. Grey flint chip, Layer BD.

Maximum length: 24 mm Maximum width: 19 mm Maximum thickness: 8 mm

A grey mottled flint flake ? from preliminary nodule/pebble dressing. The dorsal face retains much hard grey pebble cortex with off white, hard, pitted inclusions. The piece retains a very precise, well defined bulb of percussion and may have been detached from the parent body by means of punch flaking. The right edge may have been notched by crude retouching, possibly in an attempt to create a boring or piercing point at the distal end. The tip of the flake at the distal end is detached transversely to the flake's long axis. Illus 23 .

Episode 5

82. Quartz pebble, Layer BT.

Maximum length: 24 mm Maximum width: 19 mm Maximum thickness: 16 mm

A quartz pebble showing no definite signs of utilisation or working, although an attempt may have been made to remove a single flake from one face.

133. Siltstone fragment, Layer AF.

Piece of grey-orange siltstone, with three grooves on one face, 28 x 24 x 4 mm. Local. Non-artefactual. Originally considered to be pottery.

Episode 6

152. Grey flint, Layer AG.

Maximum length: 29 mm Maximum width: 22 mm Maximum thickness: 15 mm

A mottled grey rounded flint pebble exhibiting some flawing and hard, off white inclusions. No evidence for working.

Episode 9

153. Roof slab fragment, Layer AM.

Fragment of blue-green calcareous mudstone, 184 x 101 x 12 mm, with hole 20 x 13 mm. Split across perforation. Probable roof tile. Illus 23 .

Steatite

Chapel

Episode 3

95. Steatite vessel sherds, Layer BY.

Two conjoining body sherds, total size 60 x 30 x 17 mm. Blackened externally and also with external tooling. Interior smooth with slight traces of superficial scratching. Illus 23 .

Episode 7

73. Steatite vessel sherd, Layer BM.

Body sherd with plain rounded rim, 93 x 82 x 15 mm. Extensive external burning and tooling up to the rim. Interior smooth and lacking burning. Illus 23.

Steatite (cont'd) /Pumice/Pottery

Enclosure

Episode 4

85. Steatite vessel sherd, Layer BD.

Body sherd, blackened exterior, 55 x 30 x 17 mm. Illus 23 .

93. Steatite base sherd, Layer BD.

Heavy basal fragment, unblackened and only slightly tooled, 82 x 73 x 30 mm. Interior mostly lacking, and fragment badly broken. Illus 23 .

Pumice

Chapel

Episode 7

143. Pumice lump, Layer BN.

Eliptical sectioned lump, light grey brown in colour, 28 x 22 x 16 mm. Water-worn, with no distinguishable features.

Enclosure

Episode 6

71. Pumice ? float, Layer BU.

Fragment of pumice lump roughly semi-circular in section, 53 x 20 x 20 mm. Flattened base, trace of a groove, 9 mm wide. One side is slightly flattened, possibly due to wear. Use or significance unknown, although conceivably originally part of a float. Illus 23 .

Pottery

Chapel

Episode 7

79. Rim, densly shell-tempered, 25 x 10 x 5 mm. Layer BN. Illus 24 .

Episode 9

40. Reddish basal fragment, gritted fabric, 50 x 50 x 10 mm. Layer AR. Illus 24 .

Pottery (cont'd)

41. Orange body sherd, fine gritted fabric, spaced horizontal ridging with vertical slashing. Well made. Blackened externally, 50 x 60 x 7 mm. Layer AR. Illus 24 .

43. Orange basal fragment, blackened, 74 x 44 x 7-13 mm. Layer AR. Illus 24 .

44a. Orange rim ?, coarse fabric, black core, exterior blackened. 30 x 30 x 5 mm. Layer AR. Illus 24 .

44b. Small orange body sherd, some grit, 22 x 14 x 6 mm. Layer AR.

45. Orange-buff body sherd, spaced horizontal ridging, some vertical slashing; blackened. 48 x 47 x 8 mm. Layer AR. Illus 24 .

46. Orange-buff body sherd, spaced horizontal ridging; blackened. 37 x 25 x 6 mm. Layer AR.

49. Orange rounded rim, gritted fabric, 30 x 24 x 6 mm. Layer AR

50. Orange basal fragment, blackened, 25 x 15 x 5 mm. Layer AR. Illus 24 .

51. Buff body sherd, gritted fabric, spaced horizontal ridging, vertical slashing, 28 x 25 x 5 mm. Layer AR.

52. Reddish body sherd, gritted fabric, blackened, 50 x 60 x 10 mm. Layer AR. Illus 24 .

53. Orange body sherd, fine gritted fabric, blackened externally, 18 x 24 x 8 mm. Layer AR.

54a. Orange to sandy brown coarse, grass-marked and heavily fired, flat base fragment. Length 48 mm, base width 23 mm, height 20 mm, thickness 8 mm. Layer BF. Illus 24 .

54b. Body sherd, fabric as 54 a, 20 x 13 x 7 mm. Layer BF.

54c. Body sherd, fabric as 54 a, 20 x 30 x 10 mm. Layer BF. Illus 24 .

54d. Body sherd, fabric as 54 a, 20 x 17 x 6 mm. Layer BF.

54e. Body sherd, fabric as 54 a, 20 x 15 x 17 mm. Layer BF.

54f. Body sherd fired to black fabric, 24 x 26 x 8 mm. Layer BF.

54g. Orange-black body fragment, coarsely gritted and grass-marked, 21 x 18 x 6 mm. Layer BF.

Pottery (cont'd)

54h. Body sherd, fabric as 54g, 22 x 19 x 10 mm. Layer EF.

54j. Two body fragments as 54g, heavily fired, 18 x 20 x 8 mm, and 20 x 13 x 7 mm. Layer EF.

54k. Body sherd as 54j, 23 x 22 x 8 mm. Layer EF.

54l. Body sherd as 54j, 28 x 13 x 7 mm. Layer EF.

54m. Buff to black body sherd, coarsely gritted and grass-marked, 34 x 22 x 7 mm. Layer EF.

54n. Body sherd as 54m, 20 x 15 x 5 mm. Layer EF.

54o. Body sherd as 54m, 18 x 19 x 5 mm. Layer EF.

55. Two associated body sherds, near base, finer fabric, some grit, 64 x 48 x 7 mm. Layer AR.

56. Heavily fired, finely gritted, grass-marked body sherd, orange externally, black internally, 27 x 23 x 10 mm. Layer AR.

57. Rounded rim with slight shoulder 10 mm from top, heavily fired to black fabric. Grass-marked, 30 x 22 x 4 mm. Layer AR.

58. Hard body sherd, spaced horizontal ridging, grey to blackened fabric, 38 x 38 x 8 mm. Layer AR.

59. Orange body sherd, black core, similarities to 56, 26 x 23 x 7 mm. Layer AR.

60. Orange body sherd, close to base, 45 x 55 x 10 mm. Layer AR. Illus 24.

61. Orange-black body sherd, gritted, 35 x 40 x 7 mm. Layer EF. Illus 24.

62a. Body sherd, spaced horizontal ridging, 24 x 25 x 5 mm. Layer AR.

62b. Orange body sherd, ridged, 25 x 23 x 6 mm. Layer AR.

63. Sherd close to base, buff-orange to black, 46 x 24 x 7 mm. Layer AR.

64. Very coarse, heavily grass-marked fragment, orange externally, black internally, 35 x 30 x 9 mm. Layer AR.

65. Orange-buff, gritted body sherd, blackened, 25 x 40 x 5 mm. Layer AR. Illus 24.

Pottery (cont'd)

66a. Three body sherds, orange-brown externally, black internally, 20 x 14 x 8 mm, 20 x 8 x 8 mm, 15 x 15 x 8 mm. Probably originally conjoining. Layer AR.

66b. Body sherd, heavily grass-marked, heavily fired, buff exterior, black interior, 45 x 30 x 9 mm. Layer AR.

67a. Orange-buff gritted body sherd, fine fabric, 26 x 22 x 7 mm. Layer AR.

67b. Orange body sherd, spaced horizontal ridging, black core, 24 x 24 x 7 mm. Layer AR.

68a. Coarse, curved sherd, orange externally, black internally, 25 x 35 x 10 mm. Layer AR. Illus 24.

68b. Coarse, curved sherd, orange externally, black internally, gritted and grass-marked, 28 x 20 x 10 mm. Similar to 64. Layer AR.

68c. Sherd, fabric as 68b, 22 x 18 x 20 mm. Layer AR.

68d. Sherd, fabric as 68b, 22 x 18 x 15 mm. Layer AR.

68e. Sherd, fabric as 68b, 14 x 10 x 11 mm. Layer AR.

68f. Sherd, fabric as 68b, 18 x 10 x 11 mm. Layer AR.

68g. Sherd, fabric as 68b, 16 x 10 x 4 mm. Layer AR.

68h. Two sherds, fabric as 68b, 10 x 6 x 5 mm, 10 x 5 x 5 mm. Layer AR.

68j. Sherd, fabric as 68 b, 12 x 6 x 9 mm. Layer AR.

144. Sherd, black fabric, 27 x 24 x 9 mm. Layer AR.

Enclosure

Episode 4

92. Black to brown, coarse gritted fabric, body sherd, 45 x 30 x 5 mm. Layer BD. Illus 24.

94. Black body sherd, small grit in coarse fabric, 50 x 40 x 10 mm. Layer BD. Illus 24.

97. Pale orange, large gritted fragment with one concave surface. Questionable whether this is a normal vessel fragment, 44 x 25 x 1-9 mm. Layer BD.

Pottery (cont'd)

98. Lump of clay, folded and smoothed, with horizontal hole remaining in the fold. The body of the vessel splays out but is extremely irregular and may have been a test piece or waster, 46 x 31 x 40 mm. Layer BD. Illus 24 .

101. Orange-brown sherd with slightly curved-over rim, grey core, 27 x 16 x 5 mm. Layer BD.

102. Worn creamy-buff fragment of fired clay, gritted ? pottery vessel, 24 x 15 x 4 mm. Layer BD.

103. Pale orange lump of fired clay, curved upper surface. Uncertain whether this is from a pottery vessel, 24 x 15 x 23 mm. Layer BD.

104a-cThree brownish body sherds, with some grit, 22 x 18 x 8 mm, 26 x 19 x 6 mm, 19 x 17 x 7 mm. Layer BD. Illus 24 .

105. Small pale yellow-orange worn lump of fired clay, 15 x 10 x 8 mm. Layer BD.

106. Tiny pale grey, worn lump of fired clay, 9 x 5 x 2 mm. Layer BD.

107. Pale orange, worn clay, irregular, 25 x 12 x 5 mm. Layer BD.

109. Pale orange, worn, irregular clay fragment, 20 x 14 x 5 mm. Layer BD.

110. Curved brown clay fragment, 50 x 25 x 15 mm. Layer BD. Illus 24 .

111. Basal/wall junction fragment, very coarse gritted, 55 x 36 x 8 mm. Layer BD. Illus 24 .

115a,bTwo orange to dark brown associated body sherds, 57 x 44 x 8 mm. Layer BD.

117. Worn, brown to black, grass-tempered body sherd, 25 x 30 x 2 mm. Layer BD.

121. Buff rim fragment, 14 x 25 x 7 mm. Layer BD.

Episode 5

81. Burnt and blackened pottery fragment, close to base, 30 x 42 x 5 mm. Layer BT.

Episode 6

91. Orange-brown body sherd, gritted, with ridge decoration, 40 x 40 x 7 mm. Layer BU. Illus 24.

Clay Pipe /Industrial Residue /Burnt Matter /Silver

Clay Pipe

Enclosure

Episode 9

39. Fragment of stem near bowl, 25 mm long, eliptical section, 9 mm x 10 mm, 2 mm diameter bore. Stamp PYE & R / - GH, ie "Pye and Robertson, Edinburgh", /1881, cf. Oswald, A. 1975, 206/, Layer AM. Illus 25 .

Industrial Residue

by J Gerry McDonnell

Enclosure

Episode 4

77. A very small fragment of Fuel Ash Slag, Layer BD.

139. A small smithing hearth bottom, 45 x 40 x 25 mm. Layer BD.

Burnt Matter

by J Gerry McDonnell

Chapel

Episode 10

145 and 146. Fragments of what was assumed to be industrial residue. They are clearly not slags in the true meaning of the word, ie derived from a pyrotechnical process. Their texture and structure suggest that they are of organic origin (possibly bone). They are heavily mineralised and iron oxides are present. Energy Dispersive X-Ray Analysis showed the principal element present was calcium.

Silver

Chapel with coin identification by R B K Stevenson

Episode 2

87. Silver coin, found in CE, gravelly hard earth fill of a feature cut into grey clay CF, in three fragments. Cleaned at National Museum of Antiquities, Edinburgh. Illus 25 54b.

Initial weights of fragments	Weights after conservation	% Loss
0.861 g	0.38210 g	55.62
0.203 g	0.09137 g	54.99
0.122 g	0.06120 g	49.84

Identification by R B K Stevenson

Eadgar (959-75), BMC type 1 (three crosses with the moneyer's name in two lines, and three pellets above and below), obv, around small cross patee + EΠ·(?) DG·Ѫ· REX rev. GRIÐ / MoЙE (o with a small solid triangle to right, like a Q); chipped and broken into three pieces.

Enclosure

Episode 4

89. Fragments of fine silver wire in rough arc, with traces of organic matter in association. Maximum length approximately 20 mm x less than 1 mm x less than 1 mm, Layer BD.

Copper Alloy

with coin identifications by R B K Stevenson with P H Robinson

Chapel

Episode 9

42. Copper alloy pin, top missing, 30 mm long, 1 mm thick, Layer AR. Illus 48b.

69a-b Two small pieces of copper alloy; one a slightly bent, corroded rod; the other comprising one bent strip of metal folded onto itself. The two strips have slightly splayed ends, Layer AR.

Episode 10

35. Rim and fragment of body of a cast copper alloy vessel, 153 mm diameter. Existing fragment 25 mm high, 55 mm long, body 2 mm thick. Rim curved outwards with flattened outer face. Layer AL. Illus 48b, 51a,b.

37a-j Ten small fragments of copper alloy, Layer AL.

Copper Alloy (Cont'd)

Episode 11

9. Charles II, Turner (1663-8) ?? Broken R. Little wear, but not all struck up ? Layer AK.

10. Charles I, 3rd issue Turner (1642 -), ? type. Badly double struck. Worn. Layer AK.

13. Louis XIII, Double tournois. Laureate bust draped, right c 1630. Well worn. Layer AK.

15. Charles I, 3rd issue Turner (1642-), type II. Little wear, heavily corroded. Layer AK.

16. James I, farthing, Lennox issue (16 -). Crown and lis on sceptre, large. Details corroded but little wear. Layer AK.

17. Charles I, 3rd issue Turner (1642-), type IV var. DG. Little wear. Layer AK.

18. Charles I, 3rd issue Turner (1642-), type III or IV. Badly double struck. Layer AK.

33. Charles II, Turner (1663-8), ? and seven-pellet rosette. Well worn. Layer AK.

Episode 12

1. Charles II, Turner (1663-8). Mint mark pellet cross on both sides, 'Gothic' 8. Little wear, half not struck up or much corroded. Layer AE.

2. Charles I, 3rd issue Turner (1642-), type I or II. Well worn. Layer AE.

4. Charles I, 3rd issue Turner (1642-), type Ia. Little wear. Layer AE.

5. Charles II, Turner (1663-8). Small cross and pellets, R broken. Much corroded. Layer AE.

6. Charles II, Turner (1663-8). Small cross and four pellets, of Burns 4. Well worn. Layer AE.

7. George III, halfpenny. Hibernia, 1769. Counterfeit (crown and figures) but full weight. Considerable wear. Layer AE.

8. Charles ?, Turner ?. Blank, concavo-convex. Layer AE.

11. Charles I, 3rd issue Turner (1642-), type II. Worn but more corroded. Layer AE.

Copper Alloy (Cont'd)

12. Charles I, 3rd issue Turner (1642-), type Ia. Large N. Little wear. Layer AE.

19. Charles II, Turner (1663-8). Small cross and ? cf. Burns 3-4, very long stalk, complete R, convex rev. Corroded more than worn. Layer AE.

20. Charles II, Turner (1663-8). Four large pellets above cross and orb, and ? 12½ mm thistle. Little wear. Layer AE.

21. CRII ? ?. Much worn, rev convex, hammered ? Layer AE.

22. Bawbee (1677-79). SCO. Well worn. Layer AE.

23. Charles II, Turner (1663-8) ??. cf Burns 3, right thistle-tip near final stage. Corroded more than worn. Layer AE.

24. William II, Turner (bodle) (1695-7). Upright sword-sceptre saltire. Almost smooth, convex, hammered. Layer AE.

25. George III, halfpenny. Britannia, 1772. Counterfeit (King's face and ribbons). Well worn. Layer AE.

26. George III, halfpenny. Britannia, 1775. Counterfeit (B's hand and neck drape). Little worn, much corroded. Layer AE.

27. George III, halfpenny. Hibernia 1766. Counterfeit (cast from worn coin) but little worn ?. Layer AE.

28. George III, halfpenny. Hibernia 1776. Counterfeit (poor harp), small flan. Much worn. Layer AE.

29. George III, halfpenny. Britannia 1775. Counterfeit (spiral curl), abnormally small flan, very light. Little worn, much corroded. Layer AE.

30. Trade token, Montrose halfpenny, 1796. Dalton and Hamer No 28. Little wear, obv totally corroded. Layer AE.

31. George III, halfpenny. Penny 'cartwheel', 1797. Very little wear. Layer AE

32. Charles ?, Turner ?. Worn smooth, 'crooked'. Layer AE.

Episode 13

3. Elizabeth II, new penny (1971-). Layer AC.

Copper Alloy (Cont'd) / Iron

Enclosure

Episode 4

119a-cThree tiny fragments of copper alloy. Layer BD.

Episode 9

38. Charles II, Turner (1663-8). Small cross and ? R complete. Corroded more than worn. Layer AM.

Iron

Chapel

Episode 3

96a-e Five small lumps, ? iron pan. Layer BY.

137. Rivet and plate. Plate damaged, existing dimensions 16 x 14 x 1-2 mm. Corrosion of head above the plate. Rivet shank extends 13 mm beyond the plate at an angle. Layer BY.

Episode 5

75. Lump, ? bog iron. 12 x 12 x 9 mm. Layer BM.

Episode 7

74. Two fragments of nail. The head and fragment of shank formed one piece 16 mm long. The head was roughly square, sides 10 mm maximum, 4 mm thick. The shank, although corroded, appears to have been 4 mm square in section. The second fragment was a piece of shank 19 mm long, 4-5 mm square. Layer BN.

Episode 9

141. Nail head, very badly corroded, c 25 mm square. Layer AR.

Episode 10

36. Diamond-shaped plate with part of shank remaining. Plate length 34 mm, width 23 mm, 4 mm thick. Rivet is badly corroded but projects above the plate to a height of about 3 mm, and extends below it to a length of 6 mm. Diameter of rivet shaft c 6 mm maximum. Rivet is set slightly off centre. Layer AL. Illus 25.

Iron (Cont'd)

165. Roughly squared rivet plate with edges slightly rounded, shank with rounded section placed eccentrically and passing through the plate at an angle. Plate 22 x 20 x 5 mm; shank 12 x 6 x 5 mm. Layer AL.

Episode 11

14 a-c Three lumps, ? bog iron. 17 x 10 x 8 mm, 13 x 8 x 6 mm, and 11 x 9 x 7 mm. Layer AK.

34. Nail with large eliptical head, 23 mm x 20 mm. Thickness 6 mm maximum, thinning out at rounded edge. Vertical shank 29 mm long, 6 mm square in section at top, narrowing to a flat 3 mm x 2 mm end. Shank set 6 mm from end of head. Head slightly bent over at one side. Layer AK. Illus 25 .

Enclosure

Episode 1

126. Shank fragment and possible square rivet-plate. 33 x 27 x 16 mm, and 30 x 18 x 17 mm. Layer DQ.

127.a Thin strip of rivet plate with wood traces, and indications of a shank-mark. 16 x 14 x 3 mm.

b Plate, 20 x 15 x 5 mm, with trace of shank-mark, 6 mm diameter.

c Lump of corrosion with traces of wood, 19 x 18 x 15 mm.

d Rivet shank, 13 x 6 mm diameter.

Layer DQ.

128. Irregular square-shaped rivet-plate, length 18 mm maximum, width 15 mm maximum, sides 17 mm long, 2 mm thick. Corroded remains of a shank, 5 mm diameter. Also 9 lumps of corrosion. Layer DQ.

129. Nail head with damaged circular top, 16 mm diameter, 1-2 m thick. Shank 11 mm long, rectangular in section, 5 mm x 4 mm. Layer DQ.

147. Rivet, 19 x 12 x 6 mm. Layer DQ.

153. Badly corroded rivet-plate with traces of round-sectioned shank passing through it. Plate, 34 x 25 x 4 mm; shank, 14 x 6 x 4 mm. Layer DQ.

Iron (Cont'd)

156. Corroded rivet/nail head with round-sectioned shank. Head, 21 x 19 x 8 mm; shank, 15 x 5 x 5 mm. Layer DQ.

157. Roughly square rivet-plate with slight traces of shank passing through it at an angle. 19 x 20 x 3 mm. Layer DQ.

158. Lump of amorphous iron including part of a roughly square rivet-plate and slight traces of a shank. 33 x 25 x 9 mm. Layer DQ.

159. Three small fragments of corroded shank, round-sectioned and one with possible traces of a rivet-plate. 11 x 5 x 4 mm; 11 x 12 x 6 mm; 9 x 4 x 2 mm. Layer DQ.

160. Large number of lumps of corroded iron, with amorphous rivet-plate and traces of two shanks visible only on x-ray. Some traces of wood remain. a. Rivet-plate, 15 x 11 x 4 mm; b,c. shanks (visible only on x-ray), 20 x 4 and 18 x 4 mm. Layer DQ.

161a-d Two roughly square rivet plates lacking shanks, and one amorphous lump. Plates, 18 x 15 x 3 mm and 14 x 15 x 3 mm (attached to a stone); lump 31 x 41 x 16 mm. Layer DQ.

Episode 4

83a-d Four lumps, ? bog iron. 33 x 24 x 12 mm, 17 x 9 x 8 mm, 13 x 9 x 5 mm, 12 x 11 x 7 mm. Layer BD.

99. Plate, slightly mis-shapen and corroded, but originally probably rectangular. Length 25 mm, width 16 mm, 3 mm thick. Iron excresences around hole in base of plate probably due to puncturing by a nail, 7-8 mm diameter, or a similar pointed object. Layer BD.

113. Extensively corroded nail head, and fragment of shank. Head probably originally square, one side clearly 11 mm in length, and 2 mm thick. Shank 20 mm in length, 3 mm in width. Layer BD.

114. Corroded ? shank. 15 x 13 x 11 mm. Layer BD.

118. Disc, probably a nail head, 20 mm diameter, slightly concave, 5 mm thick. Layer BD.

Iron (Cont'd) / Bone

120. Corroded iron lump. 22 x 22 x 15 mm. Layer BD.

122. Fragmented and corroded nail shank fragment. 10 mm x 5 mm diameter. Layer BD.

135a-h Eight small lumps of ? bog iron. Layer BD.

140. Lump, ? bog iron. 45 x 40 x 25 mm. Layer CH.

Episode 5

80. Two tiny lumps of ? bog iron. Layer BT.

164. Highly corroded amorphous lump with solid core, 30 x 21 x 12 mm. Not now identifiable. Layer BT.

Episode 6

70. Amorphous lump, ? iron pan. 29 x 30 x 18 mm. Layer AMA.

162a-g Seven amorphous lumps, one with a solid core, not now identifiable. 20 x 15 x 10 mm; 15 x 8 x 7 mm; 13 x 10 x 5 mm; 13 x 10 x 6 mm; 10 x 7 x 5 mm; 15 x 7 x 6 mm; 10 x 10 x 5 mm. Layer AZ.

Episode 7

163. Four pieces, originally conjoining, of an amorphous lump with solid core, not now identifiable. 14 x 12 x 3 mm; 12 x 12 x 2 mm; 10 x 10 x 3 mm; 8 x 5 x 1 mm, Layer AG.

Episode 8

84. Lump, ? bog iron or natural concretion. 25 x 12 x 10 mm. Layer AY.

Outside Enclosure

Episode 4

47. Badly corroded fragment, possibly a nail shank, 29 mm long, maximum, width 10 mm (including corrosion products). Layer BA.

Bone

with D James Rackham

Chapel

Episode 4

142. Roughly cut and slightly pointed length of bone. Length 52 mm, 7 mm square maximum, cut to a point 3 mm wide. Layer HF. Illus 25 .

Enclosure

Episode 3

125. Cut long bone, one end roughly worked to a flat narrower end. 91 mm long, 26 mm wide maximum. Flat section roughly 23 mm long, 14 mm wide with a slightly rounded end, and 5 mm thick. Layer BJ. Non-artefactual.

Episode 4

78. Five fragments of bone, part of a strip cut from the curved shaft of a long bone, with some working to produce one flat edge. No attempt has been made to remove the curved surface of the interior of the long bone. Within the centre of the bone strip is a dark substance which reacts with HCl to produce a green-brown liquid, and has the general appearance of iron residue, though it must be highly corroded; probably a natural concretion. Maximum fragment size: 32 x 11 x 6 mm. Layer BD.

88. Fish bone, pointed at one end, rounded at the other. 12 x 6 x 2 mm. Layer BD. Non-artefactual.

90. Tooth enamel flake. 10 x 7 x 5 mm. Layer BD. Non-artefactual.

86. Worn rib fragment, not obviously manufactured. 114 x 13 x 5 mm. Layer HF. Non-artefactual.

OTHER FINDS

with Colleen E Batey

Special Stone

identifications by David Reed

During the excavations, every piece of stone removed from the mass of rubble in and around the Chapel was carefully examined for evidence of working by Man. All stones retained by this process were given numbers in a sequence separate from that of the Recorded Finds, as they were not three-dimensionally recorded, and also required specialist examination. In the event, few were found to be artefacts or worked by Man, and only these retained. However, the full list of identifications is appended below.

Special Stone

Chapel

Episode 7

DS 76 BN 38 Buff coloured massive sandstone, probably from Eday beds. May have been worked, but very roughly. An unusual shape! Retained.

Episode 12

DS 75 AA 1 Buff coloured sandstone with a muddy layer above (calcareous mudstone). This has formed 'load casts' when the mud has invaded the siltstone, producing the globular shapes. "Working" is natural.

DS 75 AA 2 Dark blue flagstone, probably part of Rousay Flags group. Outcrops locally at Deerness. Natural shape. Strip of orange is a line of calcareous mudstone with heavy ferric staining and a large calcite crystal. This is natural and has formed along a join or fault and has re-crystallised from the old rock.

DS 75 AA 3 Grey stone with calcite. Interbedded siltstone with some mudstone and sandstone (calcareous from Eday Flags (fluvial). Worm trace marks in section and on surface have produced the structures on the surface (bioturbation); ie it is natural.

DS 75 AA 4 Grey calcareous flagstone, with lines which are natural joints. The straight edge is due to a broken joint.

DS 75 AA 5 Orange/brown sandstone with ripple marks in the section. The stone is not dressed, but has broken along its regular joints to produce a diamond shape. Natural, but has mortar deposit on it (see below Sheet 4: C 10-11).

DS 75 AA 6 A fine-grained sandstone from the Eday group, common to the Deerness area. This is a fluvially-produced rock. The sandstone is partly calcareous and is orange/buff coloured. The marks on the sides of the rock are natural, showing ancient preserved ripple marks when the sand was originally deposited in a deltaic environment. Natural. Mortar deposit on it (see below Sheet 4: C10-11).

DS 75 AA 7 Inter-laminated mudstone and siltstone. Orange calcareous stone with very thin alternating layers. These produce the marks on the side. Natural.

Special Stone (Cont'd)

DS 75 AA 8 Massive blue calcareous flagstone. The right-angle corners are a result of the natural jointing in the rock.

DS 75 AA 9 Reddish-brown flagstone. (Not examined).

DS 75 AA 10 Interbedded calcareous mudstone and siltstone, disrupted with worm burrowing (bioturbation). Slight iron oxide traces. Recrystalised calcite down one face, due to movement when faulting. Natural.

DS 75 AA 11 Black calcareous flagstone with high organic content (probably Rousay Flags). The lines are natural joint lines.

DS 75 AA 12 Blue calcareous flagstone. Now broken, no features seen. Natural.

DS 75 AA 13 Fine-grained flagstone with parallel laminations of fine-grained organic layers and coarse-grained lighter, siltstone layers. This flag is typical of the Rousay Flags which outcrop by the Brough of Deerness. The "cross-shape" on the surface is natural, due to erosion of joint lines . The "polished surface" is natural, as it has split along a bedding surface on to a finer-grained organic layer. Natural. Retained as a typical example of the large stone utlised for the probable mensa.

DS 75 AA 14 Massive calcareous sandstone, from the Eday Beds occurring at Deerness. The hole present may be Man-made. The only other explanation available is that a fossil fish has fallen out of the rock to leave cavity. Retained.

DS 75 AA 15 Fluvial-derived buff sandstone, with ferric staining, from the Eday group, local to Deerness. The grooving on both sides are impressions of ancient wave ripple marks. Natural.

DS 75 AA 16 Massive buff/yellow sandstone, with (natural) iron nodules. The lines on the flag are natural.

DS 75 AA 17 Blue calcareous flagstone, no features seen. Broken. Natural.

Special Stone (Cont'd)

DS 75 AE 21 Blue flagstone with calcite on one edge. The unusual "cut marks" are fractures bent by the slumping of the rock. ie natural.

DS 75 AE 22 Calcareous silt/mudstone, "pipe" pattern is a trace fossil on the rock, and is associated with the other worm disturbance (bioturbation). Natural.

DS 75 AE 23 Blue calcareous flagstone, probably from Rousay Flags, outcropping locally at Deerness. Has a line of re-crystallised calcite along the joint line, and also with large calcite crystals (natural). Ferric oxide produces the orange staining. Natural.

DS 75 AE 24 Calcareous mudstone, bedded with sandstone, probably from the Eday Beds (fluvial). The marks on the side of the rock are natural, ancient ripple marks. Although the hole in the side is not identifiable, it is probably natural - maybe it contained a pyrite nodule. Natural.

DS 75 AE 25 Very dark blue laminated flagstone rich in organics. Re-crystallised calcite along one edge. Natural.

DS 75 AE 26 Dark blue/grey falgstone, fine-grained and calcified, with re-crystallised calcite on one side. The (larger) markings on the surface are not tool marks, but are joint lines (natural) in the flag. This is probably from the Rousay Flags. There are other similar random scratchings on the surface, which cannot be natural. Retained.

DS 75 AE 27 Brown weathered stone. (Not examined).

DS 75 AE 28 Dark, blue flag with very fine, 1 mm, laminations. On the surface the cross-marks are not toolmarks, but are natural, formed by erosion of weak fractured lines, most at right angles to each other. Flag is 11 cm thick. Natural.

Special Stone (Cont'd)

DS 75 AE 29 Black calcareous flagstone (probably Rousay Flags), high in organic content. The marks on the side are natural.

DS 75 AE 30 Blue calcareous flagstone (probably from the Rousay Flags group), outcropping locally in Deerness. One face has re-crystallised calcite, with large calcite crystals developed. Ferric oxide produces the orange staining. Natural.

DS 75 AE 31 Very dark blue, laminated flag, rich in organics with secondary calcite along the joints. The surface has not been worked. Natural.

DS 75 AE 32 Large thin flat stone. ? roofing stone. (Not examined).

DS 75 AE 33 Large flat black stone. ? roofing stone. (Not examined).

DS 75 AE 34 Large flat grey stone. ? roofing stone. (Not examined).

DS 75 AH 35 Large flat black stone. ? roofing stone or part of altar. (Not examined).

DS 75 AH 36 Large flat black stone. Calcite on edges. ? roofing stone or part of altar. (Not examined).

Episode 13

DS 75 AC 18 Blue/grey flagstone, very calcareous. The straight edge with long indentation parallel to it is very probably natural, although there is no lithology to account for the differential erosion. of 19.

DS 75 AC 19 A 4.5 cm blue/grey flag with a 1.5 cm siltstone layer above (sandy-coloured). The grooved edge is due to erosion of the upper siltstone bed, against a more resistant flagstone bed, producing a natural edge. Natural. of 18.

DS 75 AC 20 Large brown stone. (Not examined).

Enclosure

Episode 4

DS 76 BD 39 Five pieces of grey flagstone. (Not examined). Probably natural.

Episode 9

DS 75 AM 37 Yellow sandstone with soft sediment deformation. The "shaping" on one face is natural caused by differential erosion. Natural.

General Stone

The following contexts also produced general finds of stone. They were all examined by David Reed, and a full Catalogue of them is available in an archive report produced by him, of which copies are lodged in the National Monuments Record for Scotland, the Ancient Monuments Branch of Scottish Development Department, and with the Orkney Archaeologist in Kirkwall. Since almost all the material, with exceptions noted below, showed no evidence of working by Man, it was not considerd profitable to include the Catalogue in this report. Similarly, it was not considered meaningful to retain the bulk of the material for storage: those that were retained are noted.

Chapel

Episode 1 : DX, DY

Episode 2 : CA

Episode 3 : BY (chert FF 148 and flint FF 149 retained)

Episode 5 : BV. BX

Episode 7 : BW

Episode 9 : AR

Episode 10 : AL

Episode 11 : AK

Episode 12 : AA, AE

Episode 13 : AC

Enclosure

Natural : BO

Episode 1 : BP, CU, DI, DQ, DS, GT

Episode 2 : CG, CI, EA, EB, G2

Episode 3 : BJ

Episode 4 : BD (2 pieces of quartz retained, with special stone 39)

Episode 5 : AZ, BT, FA

Episode 6 : AVA, BU (small crystal of quartz or andalusite retained), CJ

Episode 7 : AQ

Episode 8 : AY

Episode 9 : AM

Episode 10 : AF

General Stone / Mortar

Outside Enclosure

Episode 4 : BA, BH

Episode 5 : AT, AX

Mortar

Mortar was found in the following layers

Chapel

Episode 1 : DY, EE

Episode 3 : BY

Episode 5 : BV

Episode 7 : BN

Episode 8 : BK, GN

Episode 9 : AR, GM

Episode 10 : AL

Episode 11 : AX

Episode 12 : AA

Enclosure

Episode 4 : BD

Episode 6 : AMA

Episode 7 : AG

Outside Enclosure

Episode 4 : BH

These samples were taken for analysis. Those which were unsuitable were not further examined: AG, AMA, BD (too small)

BH (not mortar)

XE (a soil sample, with little mortar)

Duplicate bags were not analysed, and the sample from GM was not analysed as it represented a higher disturbance of material found undisturbed in GN.

Mortar (Cont'd)

The samples of lime mortar/plaster were weighed before being dissolved in hydrochloric acid; the residue was washed and filtered and the filtrate weighed. The details of weights and constituency are given in the table, catalogued by episode. The presence of a sample in Episode 1 represents material found in the fill of a post-hole DY, sealed by layer BY of Episode 3, a mixed intermediate period between the timber structure and the stone chapel.

There is a wide range of percentages for lime and residue throughout the phases, 92.15% lime being the highest (Episode 7) and 34.32% lime, the lowest (Episode 3).

On the whole the residues were of a consistent light colour, from a fine creamy grey/brown sand to light grey. The samples from Episode 1 and 8 had the darkest filtrates. GM, in fact, is most noticeably different in appearance, without a sandy residue with small stones. The remaining filtrate is black.

EPISODE	OBJECT	SAMPLE WT	RESIDUE WT	% LIME TO TOTAL	% RESIDUE
Chapel 1	DY bag 1	4.714	0.637	86.49	13.51
3	BY bag 1	3.240	2.128	34.32	65.68
5	BV bag 2	11.913	1.095	90.81	9.19
7	BH bag 2	6.262	0.492	92.15	7.85
8	BK bag 1	5.733	1.919	66.53	33.47
8	GM bag 1	6.439	2.017	68. 67	31.33
9	AR bag 2	6.530	1.662	74.55	25.45
10	AL bag 2	5.623	1.258	77.63	22.37
11	AK bag 2	9.412	0.934	90.08	9.92
12	AE bag 2	6.400	0.875	86.33	13.67
12	AA bag 2	9.256	3.183	65.61	34.39
12	AA deposit on special stone 5	4.930	0.814	83.49	16.51
12	AA deposit on special stone 6	1.847	0.279	84.90	15.10

Clay Pipes / "Industrial Residue"

Clay pipes

Chapel

Episode 11

Layer AK, bag 3

1. Straight stem fragment, 38 mm long, eliptical section, 9 mm x 8 mm, 3 mm diameter bore. Traces of external burning.
2. Straight stem fragment, 25 mm long, 10 mm diameter, 3 mm diameter bore.

Episode 12

Layer AA, bag 2

1. Slightly curved fragment of stem near bowl, 46 mm long, eliptical section, 6 mm x 7 mm, 2 mm diameter bore.
2. Fragment of stem and bowl with flat base, 43 mm long, maximum height 39 mm, bore diameter 3 mm.
3. Straight stem fragment, 53 mm long, 9 mm diameter, bore 3 mm diameter. Two slightly incised grooves at one end.
4. Straight stem fragment, 38 mm long, 8 mm diameter, 3 mm diameter bore.
5. Straight stem fragment, 52 mm long, eliptical section 9 mm x 10 mm, 3 mm diameter bore.

"Industrial Residue"

by J Gerry McDonnell

Chapel

Episode 2

Layer CA, bag 1

Episode 7

Layer BH, bag 2

Episode 10

Layer AL, bag 1

"Industrial Residue" / Shell Metal / Miscellaneous Metal

Enclosure

Episode 4

Layer BD, bags 3 and 12

This group are clearly not slags in the true meaning of the word, ie derived from a pyrotechnological process. Their texture and structure suggest that they are of organic origin, possibly bone. In some cases they were heavily mineralised and iron oxides were present. Energy Disperaive X-Ray Analysis showed the principal element present was calcium.

Shell Metal

Fragments of shell metal, and cartridge cases, presumably dating from when the site was used for target-practice, were found in a number of layers. Since they penetrated into lower layers, their precise context is hardly significant. The material was not retained.

Chapel

Episode 11 : Layer AK

Episode 12 : Layer AE

Episode 13 : Layer AC

Enclosure

Episode 7 : Layer AG

Episode 9 : Layer AH

Episode 10 : Layer AF

Miscellaneous Metal

Chapel

Episode 2

Layer ED, bag 1 (identified by J Gerry McDonnell)

A small fragment (less than one centimetre square), of ferruginous material possibly the remnants of a very heavily corroded iron fragment.

Episode 11

Layer AK, bag 2

One 'Bandit' biscuit foil wrapper.

Miscellaneous Metal

Enclosure

Natural

Layer BC, bag 1: iron pan

Episode 1

Layer DQ, bag 1 : iron pan

Episode 4

Layer BD, bags 7, 8, 15 : miscellaneous lumps, ? iron-pan

Layer BD, bag 23 : iron-pan

Layer CH, bag 2 : iron-pan

Episode 9

Layer AM, bag 3 : nail, ? modern

RADIOCARBON SAMPLING

Soil samples were collected from the following layers for processing in the Biological Laboratory of the Department of Archaeology, Durham University, expressly to recover carbonised organic material that might be utilised for radiocarbon determinations.

Enclosure Episode 1	CD	Unsuitable.
"	DQ	Unsuitable.
Enclosure Episode 2	CC	Flotation (0.3 mm sieve) recovered 0.55 gm charcoal; residue sieved (1.7 &0.3 mm sieves) and produced bone in sorting of coarse fraction. Insufficient material.
"	EA	Flotation (0.3 mm sieve) recovered 1 gm charcoal; residue sieved (3.35, 0.85 & 0.3 mm sieves) and produced burnt material in sorting of coarse and medium fractions. Insufficient material.
"	EB	Flotation (0.3 mm sieve) recovered 3.91 gm charcoal; residue not sorted. Insufficient material.

The material recovered from the sorting of these samples was, accordingly, not sent to the Radiocarbon Dating Laboratory at the University of Glasgow.

However, it was added to the material recovered from Environmental samples and sent to the appropriate specialists, whose reports on them are below.

ENVIRONMENTAL SAMPLES

Soil samples were collected from the following layers for processing in the Biological Laboratory of the Department of Archaeology, Durham University. It was hoped to recover biological material that might shed light upon the environmental and economic aspects of the site's history, but unfortunately few samples proved to be suitable. Such material as was collected was amalgamated with that hand-picked on site, and sent to the appropriate specialists, whose reports are below. It was not appropriate to distinguish between the material from the samples and other material.

Chapel Episode 1	EV	Unsuitable.
Chapel Episode 1/2	EP	Unsuitable.
Chapel Episode 2	ER	Unsuitable.
Chapel Episode 3	BY	Unsuitable.
Chapel Episode 5	EV	Unsuitable.
Chapel Episode 9	BF	Unsuitable, but some burnt material picked out from visual sorting.
"	BL	Unsuitable.
Enclosure Natural	BO	Unsuitable.
Enclosure Episode 1	DQ	Unsuitable.
"	HI	Unsuitable.
"	HJ	Unsuitable, but some calcined bone picked out from visual sorting.
Enclosure Episode 2	GK	Washed through 1.7, 0.6 and 0.3 mm sieves; coarse and

Enclosure Episode 2	GX (cont)	medium fractions dried and sorted. Fragments of calcined bone present.
"	GZ	Washed through 1.7, 0.6 and 0.3 mm sieves; coarse and medium fractions dried and sorted. Large fragments of calcined bone present.
Enclosure Episode 3	BJ	Unsuitable.
Enclosure Episode 4	BD	Unsuitable.
"	BQ	Washed through 1.7 and 0.6 mm sieves, dried and sorted. Small fragments of charcoal present.
"	BS	Unsuitable.
"	BV	Unsuitable.
"	BW	Unsuitable.
Enclosure Episode 5	BT	Unsuitable.
"	CJ	Unsuitable.
Outside Episode 2	FC	Unsuitable, but some charcoal picked out from visual sorting.
Outside Episode 3	BJ	Unsuitable.

HUMAN BONE by Dr Simon Hillson, Department of Classics and Archaeology, University of Lancaster, with contributions from Dr Dorothy A Lunt, Department of Oral Biology, University of Glasgow Dental Hospital and School.

(i) Chapel

Episode 3 DS 76 EY

Fragment of a very worn molar crown and fragment of a root (also of a molar?). This degree of attrition is consistent with an age of 45 years or more (see Brothwell 1972, 69, Fig 30).

(ii) Enclosure

Episode 1 DS 76 DQ

Submitted in two separate bags, DS 76 DQ consisted of bone fragments and tooth crowns, encased in clay and silt. The material was soaked in water and wet sieved, during the course of which a metal artifact was found (RF 147).

Skull

The bone was all greatly fragmented, but appeared mostly to represent the flat bones of a skull. Only the robust petrous temporal bone survives at all well.

Developing crowns of seventeen teeth survive: Unerupted, developing

E CBA	ABCDE
EDCBA	A DE

Deciduous incisors

Upper left and right central and lateral incisors, lower left and right central incisors, lower right lateral incisor are present. The crowns are fully formed, and roots partly formed. Calcification of the deciduous incisor crowns is complete at two months after birth (Scott & Symons, 1974), so that the stage of development reached by DS 76 DQ suggests an age of considerably older than two months.

Deciduous canines

One lower canine, and both upper canines present. Just over two-thirds of the crown is already formed. Calcification of the deciduous canines occurs

between four months before birth, and nine months after (Scott & Symons, 1974). At birth, about one-third of the crown is usually present. The stage of development reached by DS 76 DQ therefore probably represents between four and six months after birth.

Deciduous first molars.

The left and right upper first molars, and a lower first molar (probably right) survive. Most of the crown is already formed. Calcification of the deciduous first molar crown occurs between four and six months before birth, and six months after (Scott & Symons, 1974). At birth, most of the occlusal surface is already formed. The stage of development reached by DS 76 DQ therefore suggests an age of slightly less than six months after birth.

Deciduous second molars

Left and right second molars are present for both jaws. About one half of the crown is formed already. Deciduous second molar crowns calcify between four and three months before birth, and one year after (Scott & Symons, 1974). At birth, only the cusps have been formed. The stage of development reached by DS 76 DQ is consistent with an age of rather less than six months after birth.

Summary

DS 76 DQ represents a juvenile individual that had been alive for about five months after birth. It is not surprising that the rest of the skeleton did not survive as well as the teeth. Infant bone is much more fragile than adult bone, and even adult bone was not well preserved at this site.

Episode 1 DS 76 GQ

Mostly fragments of a long bone. Flattened oval cross section. Not particularly like any human bone, but it may just be the mid-shaft humerus of a not very robust individual.

Episode 4 DS 76 BS

Skull

Badly broken and much of the bone is missing.

Frontal

Most of this bone is present. It shows prominent supraorbital ridges and a sloping forehead.

Parietals

Only the more robust parts survive. There is very slight osteoporosis on the posterior part of the bones.

Occipital

Most of this bone is present. There is a prominent nuchal crest. Only the left-hand condyle survives.

Temporal

Only the most robust parts survive. The Petrous part (including the Mastoid process - which is not particularly prominent), the Tympanic part, and some of the Squamous part:

Right-hand - includes the mandibular fossa, the lower part of the squamous bone plate and the root of the zygomatic process. The supramastoid crest is not very marked, but does continue above the external auditory meatus.

Left-hand - includes only the mandibular fossa.

Maxillae

Only the more robust parts survive. This includes the alveolar process and adjacent bone. A complete upper dentition is present, both teeth and palate being relatively large. There is no evidence for the disease dental caries, but there are moderate deposits of dental calculus. A very

slight porosity and resorption of bone along the alveolar process, suggests mild periodontal disease. Dental attrition is not severe. In particular:
Third Molar - occlusal surfaces are polished, but no dentine is exposed.
Second Molar - occlusal surfaces show exposed, isolated patches of dentine.
First Molar - occlusal surfaces show continuous patches of exposed dentine.

Brothwell (1972, 69, Fig 30) has published an attrition ageing chart for Mediaeval British skulls, which should be applicable. The molar attrition in DS 76 BS corresponds to Brothwell's 25-35 years of age category.

There is no evidence of any malocclusion. Enamel hypoplasia is present in three teeth:
Third Molars - slight hypoplasia occurring during the later stages of formation of the teeth. It is not possible to estimate an age at which this hypoplasia occurred, due to the extreme variability of third molar formation times.
First Pre-Molars - slight hypoplasia occurring in a part of the tooth that was being formed at about five years of age (Hillson, 1978).
Canines - very slight hypoplasia occurring in a part of the tooth formed between four and five years of age (Hillson, 1978).

Hypoplasia is a defect of the enamel which occurs in response to vitamin D deficiency or a general rise in body temperature, such as that experienced in fever. The distribution of the hypoplasia defects in DS 75 BS suggests that one of these situations arose between four and about five years of age.

Zygomatic bones
Both left-hand and right-hand bones substantially survive.

Remaining skull bones

Parts of these survive, but are very badly broken.

Mandible

Most of this bone survives. It is only moderately robust. The mental protruberance is quite marked and the angle slightly flared. Cheek teeth are present, but first premolars, canines and incisors are missing. The pathology of the lower dentition is the same as that of the upper dentition discussed above.

Pelvis

Most of the Ischium is present, for both left-hand and right-hand sides. Parts of the Pubis survives on both sides, including the left-part portion of the pubic symphysis. Only a few parts of the Ilium survive - the acetabular region, some iliac creat and part of the right-hand auricular surface.

Sexing

The innominate bones are robust, the acetabulum is relatively large. This suggests that DS 76 BS is male, but real proof - sub pubic angle, sciatic notch and pre-auricular sulcus - is lacking.

Age

The form of the pubic symphysis suggests an age of between 24 and 39 years, using McKern and Stewart's (1957) method.

Vertebral Column

The bodies of all five lumber vertebrae are present.

The bodies of 11 out of the total 12 Thoracic vertebrae are present. The bone plates, to which the intervertebral discs were attached, are rather more undulating than is normal in the lower thoracic vertebrae. In particular, the 10th thoracic vertebra shows what may be a Schmorl's node, due to prolapse of the intervertebral disc. The facets, which formed the vertebral part of the

joints with ribs, also show some evidence of articular surface degeneration in the lower thoracic region. Parts of the Atlas and Axis, and the remaining five Cervical vertebrae are also present. All the vertebral bodies are relatively large.

Ribs

Large quantities of bone from the rib area survives.

Scapulae

These are very broken, but parts of both right-hand and left-hand scapulae survive.

Clavicles

Portions of both left-hand and right-hand clavicles survive, but neither is complete.

Humerus

Both left-hand and right-hand head, parts of shafts, both left and right trochlea, and right-hand capitulum survive.

Radius/Ulna

The proximal part of the ulna survives only on the right-hand side, the distal part on both sides. Only the distal radius survives on either side. Parts of the shafts are also present.

Wrist /Hand

For the right-hand, all bones of the wrist are present. On the left-hand, only the scaphoid, capitate and trapezium survive. Parts of the first, second, third and fourth metacarpals are present for both hands, and the proximal part of the fifth metacarpal is present for the right-hand. Parts of some of the phalanges survive in both hands.

Femur

The shafts and heads of both femora are present, but only the lateral condyle of the left-hand remains of the distal articulation.

Patella

Present for both sides.

Tibia/Fibula

Parts of the shafts and the distal articulations are present on both sides for tibia and fibula. Parts of the tibia proximal articulation also survive.

Ankles/Feet

All the ankle bones survive on both sides. Parts of the second, third and fifth metacarpals are present in both feet, with the addition of the fourth metacarpal, in the right foot, and complete first metacarpals in both feet. Parts of some phalanges survive for both feet.

Joint Disease

Apart from the individually treated example in the thoracic vertebrae, there was no evidence of joint disease.

Episode 4 DS 76 BS "Bag 2"

Skull

Five teeth

Upper Left Second Permanent Incisor, Lower Left and Right First and Second Permanent Incisors. All teeth moderately worn, to a degree consistent with attrition on the molar teeth, reported above. Calculus deposits slightly more extensive than reported in the molars. This is not particularly surprising, as the lingual surfaces of lower incisors is a well recognised site for the accumulation of dental calculus. Enamel hypoplasia is present in the parts of the crowns which would have been forming between four and five years of age - consistent with evidence of hypoplasia for the other teeth.

Episode 4 DS 77 GC "Bag 1", "Bone No 357"

Skull

Fragments of skull bone. Not readily identifiable, but probably human and perhaps part of the occipital bone.

Episode 4 DS 76 GD

Skull

The bones are much broken, but most of the skull is present. The roofs of the orbits are slightly porotic. This condition is found in skulls throughout the world, especially in the Eastern Mediterranean and North Africa. It is called variously cribra orbitalia, usura orbitae or orbital osteoporosis. There is still speculation as to its cause, but more than one factor is likely to be involved.

Upper deciduous canines, first and second molars are present. Upper permanent first molars are fully erupted, with the first and second permanent incisors and second permanent molars in the process of eruption. One lower deciduous incisor, one lower deciduous canine, left and right first and second deciduous molars are all present. The lower permanent first molars are fully erupted, incisor, canine and second molars in the process of eruption. From this stage of eruption, age at death for DS 76 GD was probably between eight and nine years after birth.

The deciduous teeth are worn so that patches of dentine are exposed. Molars have moderate deposits of dental calculus. There is no evidence of dental caries. Slight enamel hypoplasia occurs in the cervical part of the crowns of the permanent first incisors and second molars of both jaws, also about half-way up the crown of the permanent canine. These defects would have occurred at about four years and seven years after birth (Hillson, 1978).

Parts of the post cranial skeleton survive, but the bones are too broken and incomplete for identification and analysis.

Additional analysis by Dr D A Lunt

Parts of both sides of both maxilla and mandible are present. They contain some 12 erupted deciduous teeth and six erupted permanent teeth, which are the four first permanent molars and the mandibular central incisors; these latter teeth appear just to have erupted. The mandibular lateral incisors and the maxillary central and lateral incisors have not yet erupted and in fact are lying quite deep in their crypts. The mandibular lateral incisors are lying approximately 6 mm below the occlusal plane and the maxillary central incisors about 4 mm below the occlusal plane (this figure being less easy to assess than the first), so at the maximum rate of eruption for human incisors of 1 mm per month it would have taken these teeth a further six months and four months respectively to reach the functional occlusal level. The eruption dates for the permanent incisors are usually given in textbooks as :-

Manibular central	6-7 years
Maxillary central	7-8 years
Mandibular lateral	7-8 years

On the basis of the eruption status of the child's incisors, the age would be put at 6½-7½ years.

The second molars are lying very deep in their crypts and are nowhere near the stage of emergence into the mouth (which usually occurs at 11-13 years). X-rays of the jaws show the developing permanent canines and premolars lying deeply embedded in crypts below the deciduous teeth.

However, some difficulties arise when one attempts to use the stage of development of the unerupted permanent teeth, and of the first molar roots, to provide further evidence of the age of the child. Assessment of the

developmental status using the old Logan and Kronfield drawings found in some textbooks gives the following assessment:-

Development of incisors	6-7 years
Development of canines and premolars	7-8 years
Development of first molar roots	8-9 years
Development of second molars	8-9 years

The Logan and Kronfield data are generally thought to be inaccurate in some respects, and more recent work by Moorrees, Fanning and Hunt (1963) gives a much earlier age for many stages of tooth development. Use of this chronology, taking into account mean values only and not the quite considerable variation involved gives the following results:-

Tooth		Age	
		Male	Female
1	1	6 1/4	6
2	2	6 3/4	6 1/2
3	3	8	7
4	4	8 1/2	8
5	5	8	7 1/2
6	6	7 1/4	6 3/4
7	7	8	7 3/4

There is still some discrepancy in the ages given by different teeth, but it is not quite so great.

Yet another way of assessing dental age has been devised by Demirjian and his colleagues (1973, 1976). Scores for individual teeth are summed, and the total read off from a table or graph to give the corresponding age.

When this procedure is carried out for the Dorrnese dentition, the mean values obtained are 8.1 years for a male and 7.7 years for a female.

It seems fairly obvious that the developmental stages of the premolars and second molars are advanced in comparison with the eruption status of the individual. Whether this represents early tooth development or late eruption, is difficult to say. The roots of the deciduous teeth show very little sign of resorption so this suggests that the situation may be one where tooth eruption is normal for age but the degree of development of the roots is slightly more advanced than would be expected at that age. In that case I feel that the earlier age estimates are perhaps more likely to be correct, ie 6½-7½ years.

There is no evidence of gross carious lesions in the teeth. However, the presence of soil glued into some of the interdental spaces makes it impossible to say whether very early carious lesions were present or not. There is no evidence of periodontal disease.

The teeth are well formed and there is no real evidence of hypoplasia of the enamel, even when the teeth are examined using a stereomicroscope. With this instrument it is possible to observe two exaggerated imbrication lines in the middle third of the crowns of the mandibular central incisors: these lines correspond to a developmental age of two to three years.

Identification of teeth present

Erupted	6E DC	C DE6
	6E DCBA1	1 DE6
Unerupted, developing	7 5A321	12345 7
	7 5A32	345 7

[illegible] (E) 76 GL

Parts of the petrous temporal and fragments of flat skull bones are present. The left humerus, right ulna, both femora and both tibia survive in part or whole. Two fragments of bone are included that are too large and robust to be part of the same individual.

From the state of development, (E) 76 GL probably died at birth, or just afterwards. The developing crowns of teeth should have been present at this stage, and if they had been removed, would have given a more precise idea of age at death.

ANIMAL REMAINS AND SHELLS IDENTIFICATIONS

by D James Rackham, Biological Laboratory, Department of Archaeology, University of Durham, with contributions from Alwyne Wheeler, British Museum (Natural History), and Donald A Bramwell, Fulwood, Bakewell, Derbyshire.

All identifications were made by reference to comparative specimens in the collections of the specialists named above. All were manually recorded and full catalogues by layer have been produced on the standard cataloguing coding sheets of the Biological Laboratory of the Department of Archaeology, University of Durham. The identifications have been collated by D James Rackham on the basis of information supplied to him, and Tables 6-8 present these by species within each of the three areas examined: the Chapel, the Enclosure and Outside the Enclosure. The discussion of the material in the printed text above is by D James Rackham, but takes note of comments by the other specialists.

TABLE 6 CHAPEL INTERIOR, TABLE OF VERTEBRATE AND INVERTEBRATE FINDS

Episodes	1	2	3	4	5	6	7	8	9	10	11	12	13	
Man			2											Man
Horse		1	1											Horse
Ox		3	1					(1)	3	1	1 (1)	1		Ox
Sheep or goat	1		7 (1)				1		14 (1)	3 (2)	12 (1)	13	2	Sheep or goat
Sheep									1					Sheep
Pig		17 (1)			1				2	2 (1)	6	10 (1)		Pig
Rabbit, Oryctolagus cuniculus L.									5	2	21	4 (1)	10+1	Rabbit, Oryctolagus cuniculus L.
Orkney vole, Microtus arvalis (Pallas)				+3	4				+5		1			Orkney vole, Microtus arvalis (Pallas)
Rodent, indet.											1			Rodent, indet.
Small carnivore									1					Small carnivore
Large ungulate									5	4	2			Large ungulate
Small ungulate					3				1		4	5	1	Small ungulate
Large animal		10		1					7	1	3			Large animal
Medium or large animal		30+	200+		41									Medium or large animal

Medium animal	11	9	4	2	2	40	3	4	2	Medium animal
Small or medium animal						7		2	3	Small or medium animal
Small animal								2		Small animal
Red Throated Diver, Gavia stellata (Pontoppidan)									1	Red Throated Diver, Gavia stellata (Pontoppidan)
Gannet, Sula bassana (L.)				2						Gannet, Sula bassana (L.)
Smew, Mergus albellus L.								1		Smew, Mergus albellus L.
Spotted Crake, Porzana porzana (L.)								1		Spotted Crake, Porzana porzana (L.)
Ruff, Philomachus pugnax (L.)					(1)		(1)			Ruff, Philomachus pugnax (L.)
Wader sp. (ruff or redshank size)				(1)						Wader sp. (ruff or redshank size)
Curlew, Numenius arquata (L.)							1			Curlew, Numenius arquata (L.)
Greylag goose, Anser anser (L.)						(1)				Greylag goose, Anser anser (L.)
Little Auk, Alle alle (L.)						4		15 (1)		Little Auk, Alle alle (L.)
Puffin, Fratercula arctica (L.)							(1)	1	1	Puffin, Fratercula arctica (L.)

Rock Dove, *Columba livia* Gm.				(4)	(1)	(3)	(2)	Rock Dove, *Columba livia* Gm.
Domestic Dove, *Columba* sp.						(2)		Domestic Dove, *Columba* sp.
Dove sp. (Rock or domestic?)						?		Dove sp. (Rock or domestic?)
Ring Ousel, *Turdus torquatus* L.						(2)		Ring Ousel, *Turdus torquatus* L
Song Thrush, *Turdus philomelos* (L.)						(1)		Song Thrush, *Turdus philomelos* (L.)
Turdidae					1			Turdidae
Starling, *Sturnus vulgaris* L.		(1)		2				Starling, *Sturnus vulgaris* L.
Large bird, Goose sp.	1							Large bird, Goose sp.
Small bird				1				Small bird
Bird, Indeterminate	2	1	3	6	1	8	1	Bird, Indeterminate
Wrasse, *Labrus bergylta*				1				Wrasse, *Labrus bergylta*
Conger eel, *Conger conger* (L.)			4					Conger eel, *Conger conger* (L.)
Cod, *Gadus morhua* L.						2		Cod, *Gadus morhua* L.
Coalfish, *Pollachius virens*			1	1				Coalfish, *Pollachius virens*

Ling, Molva molva (L.)					1		2	1	Ling, Molva molva (L.)
Bullrout, Myoxocephalus scorpius						1	6		Bullrout, Myoxocephalus scorpius
Gadoid, cod family	2		2				1		Gadoid, cod family
Indeterminate fish	7		6		3	1	7		Indeterminate fish
Limpet, Patella vulgata L.	1	3	10+	1	18	2	1	3	Limpet, Patella vulgata L.
Top shell, indet.							1		Top shell, indet.
Periwinkle, Littorina littorea (L.)		1		1	7		1+		Periwinkle, Littorina littorea (L.)
Flat winkle, Littorina littoralis (L.)					2				Flat winkle, Littorina littoralis (L.)
Dog whelk, Nucella lapillus (L.)					6	1	1	1	Dog whelk, Nucella lapillus (L.)
Oyster, Ostrea edulis L.					1				Oyster, Ostrea edulis L.
Cockle, Cardium edule L.			1	1	6+		2+		Cockle, Cardium edule L.
Crab claw, Cancer pagurus cf.					1				Crab claw, Cancer pagurus cf.

Numbers in parentheses indicate fragments comparable with the species under which they are listed.

+ in front of a number indicates partial skeletons. + after a number indicates uncounted small fragments.

TABLE 7 ENCLOSURE, TABLE OF VERTEBRATE AND INVERTEBRATE FINDS

Episodes	1	2	3	4	5	6	7	8	9	10	
Man					3						Man
Horse				2	2						Horse
Ox	9 (2)	17 (3)		44 (2)	4	7 (2)	1				Ox
Sheep or goat	3	2		10 (4)	5 (1)	6 (1)	2	1	2		Sheep or goat
Pig	4 (1)	1 (1)		6 (1)	3 (2)	2					Pig
Rabbit, Oryctolagus cuniculus L.	1			3	1	4	2 (1)	1	4	4	Rabbit, Oryctolagus cuniculus L.
Orkney vole, Microtus arvalis (Pallas)	2										Orkney vole, Microtus arvalis (Pallas)
Rattus, Rattus sp.							1				Rattus, Rattus sp.
Rodent, indet.					1						Rodent, indet.
Seal sp.						1					Seal sp.
Whale, Cetacea sp.						(1)					Whale, Cetacea sp.
Large ungulate	1			7	2	6					Large ungulate
Small ungulate	2			2	2	1					Small ungulate
Large animal	27	9		44	8	11	1		2		Large animal
Medium or large animal	86	1167+		316+	18	15					Medium or large animal

TABLE 8 OUTSIDE ENCLOSURE. TABLE OF VERTEBRATE FINDS

Episode	1	2	3	4	5	
Ox			(1)	4	1	Ox
Pig			1		(1)	Pig
Large ungulate			2			Large ungulate
Large animal			2	2		Large animal
Medium animal		1	1	2	1	Medium animal
Small ungulate				1		Small ungulate
Medium or large animal			1	9		Medium or large animal

Numbers in parentheses indicate fragments comparable with the species under which they are listed.

+ in front of a number indicates partial skeletons.

+ after a number indicates uncounted small fragments.

Medium animal	40	25	2	57	10	3	1	2		1	Medium animal
Small animal							1				Small animal
Indet. mammal				2	4		1				Indet. mammal
Lesser black-backed gull, *Larus fuscus* L.							(2)				Lesser black-backed gull, *Larus fuscus* L.
Large bird indet.							1				Large bird indet.
Coalfish, *Pollachius virens*	1										Coalfish, *Pollachius virens*
Gadoid, indet.							1				Gadoid, indet.
Fish, indet.	4										Fish, indet.
Limpet, *Patella vulgata* L.	3				1	2			7	3	Limpet, *Patella vulgata* L.
Dog whelk, *Nucella lapillis* (L.)					(1)						Dog whelk, *Nucella lapillis* (L.)
Mussel, *Mytilus edulis* L.								1			Mussel, *Mytilus edulis* L.
Cockle, *Cardium edule* L.				1							Cockle, *Cardium edule* L.
Mussel indet. tiny	1				1						Mussel indet. tiny
Mollusc, indet							2				Mollusc, indet

Numbers in parentheses indicate fragments comparable with the species under which they are listed.

+ in front of a number indicates partial skeletons. + after a number indicates uncounted small fragments.

WOOD AND CHARCOAL IDENTIFICATIONS

by Alison M Donaldson, Biological Laboratory, Department of Archaeology, University of Durham.

(i) Chapel

Episode 2	CF	gulley
	Salix (willow)	
Episode 3	BY	Charcoal flecked clay covering timber features. Pre-stone church.
	Salix	
Episode 9	AF	grey clay covering interior. Stone church in state of decay.
	Salix	
Episode 10	AL	under collapsed wall stone.
	Salix	

(ii) Enclosure

Episode 1	CD	curving gulley cut into natural clay.
	Salix	
Episode 2	CG	burnt area.
	Salix	
	CI	burnt area.
	Salix	
	EA	burnt area.
	Salix	
	EB	burnt area.

Alnus glutinosa (alder), Salix (willow)

Episode 4	BD	grey-blue clay over most of yard, overlies burnt areas.
	Salix	
Episode 3	AM	tumble, collapse of yard wall.
	cf. Pinus (pine) - wood.	

(iii) Outside enclosure

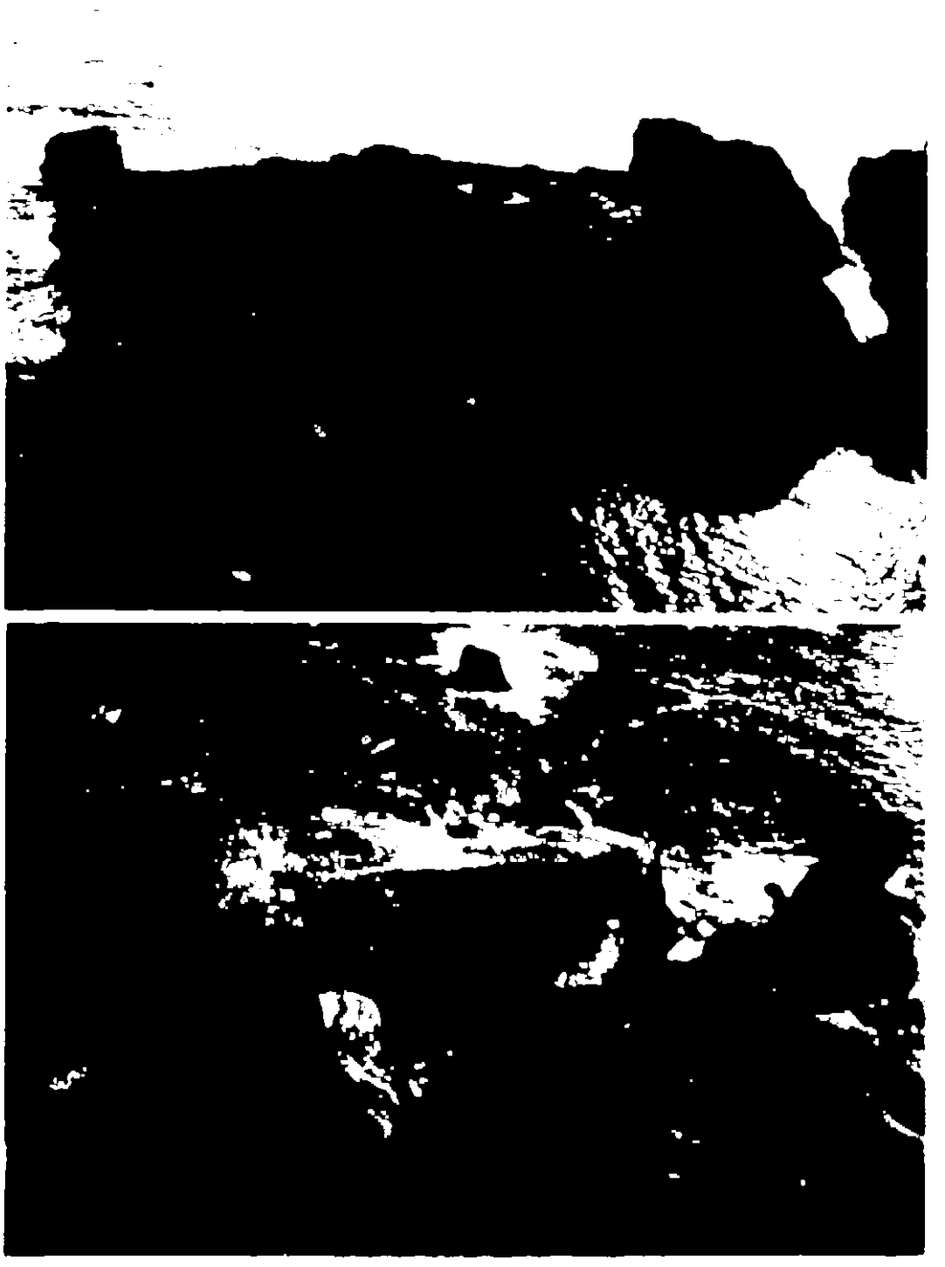
Episode 2	FC	burnt material overlying natural clay.
	Salix	

SITE RECORDING

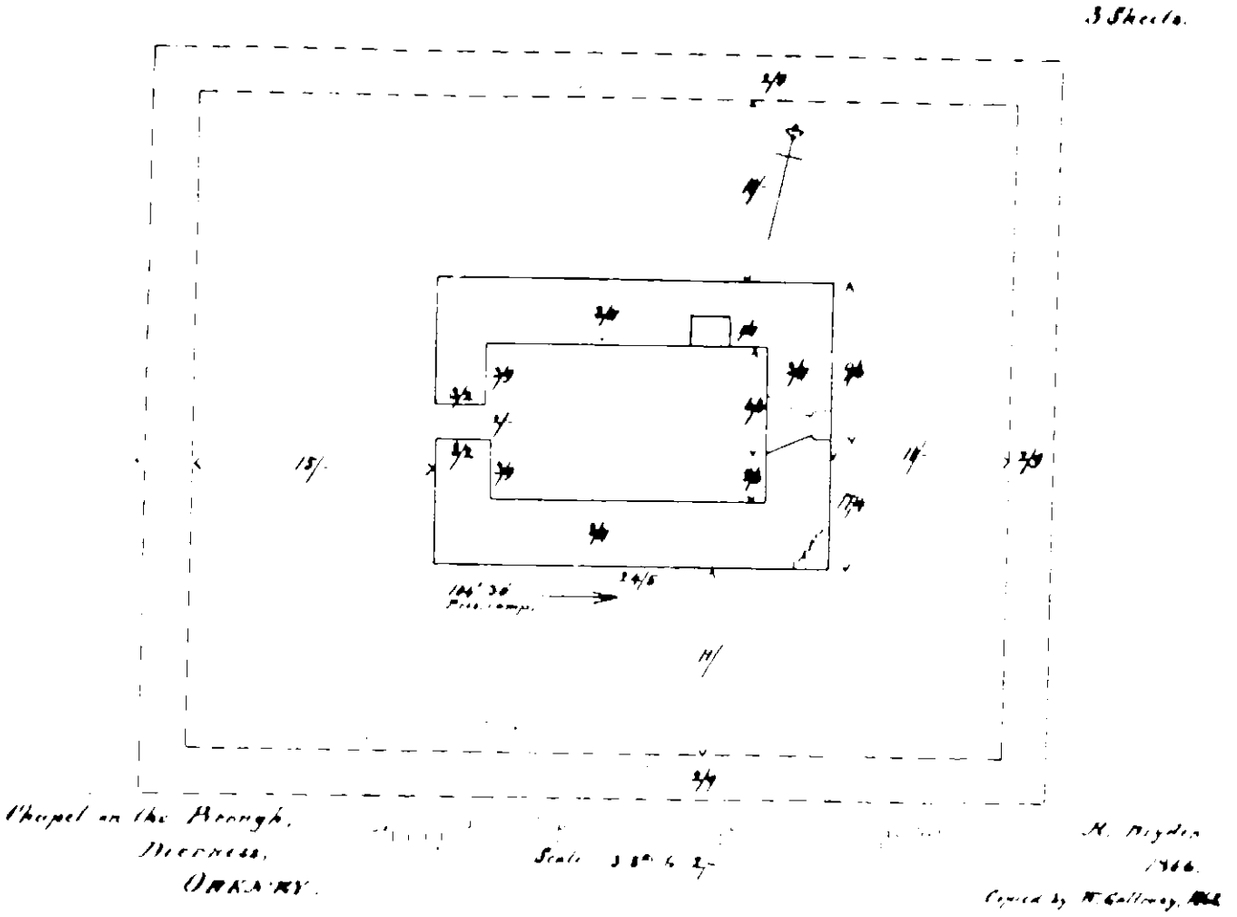
Although there were three distinct areas examined by excavation on this site (Chapel area, inside the Enclosure, Outside the Enclosure), the recording of them was carried out within one numerical layer sequence (nos. 1-194). Features were not distinguished as such by numbers or letter codes. The details of the layers were recorded in the Sitebook kept by the Assistant Supervisor. Sketch-plans of the overall relationship of the layers to each other at various stages of the excavation were added to the Sitebook, together with sections of individual small features. However, the main recording in plan and section of the layers was made separately by the Site Assistant. Plans were drawn at 1:10, and sections at 1:20 within five main subdivided areas of the site : the Chapel area, the north-east quadrant of the Enclosure, the north-west quadrant, the south-east quadrant and the south-west quadrant. The separate plans of the trial-trenches cut in 1975 were added to the quadrant plans. For ease of usage in post-excavation work the plans were reduced photographically to 1:20, and the overall Episode plans for the Chapel and Enclosure areas in the Microfiche section of the report have been created directly from these.

In common with other excavations carried out in the 1970's by the Viking and Early Settlement Archaeological Research Project, all finds from each layer were recorded daily in a Cumulative Daily Record kept by the Finds Assistant. These daily records of finds from each layer excavated were distinguished by a bag number, and each layer number on site correlated with a two letter coding system (AA-AZ, BA-BZ, etc.), which assigned a unique code to each layer excavated (This system anticipates simultaneous excavation on a number of sites; hindsight shows that on this site the re-labelling of layers was strictly unnecessary). All references in this account to individual layers or features is made by means of this system of letter-codes. Amongst

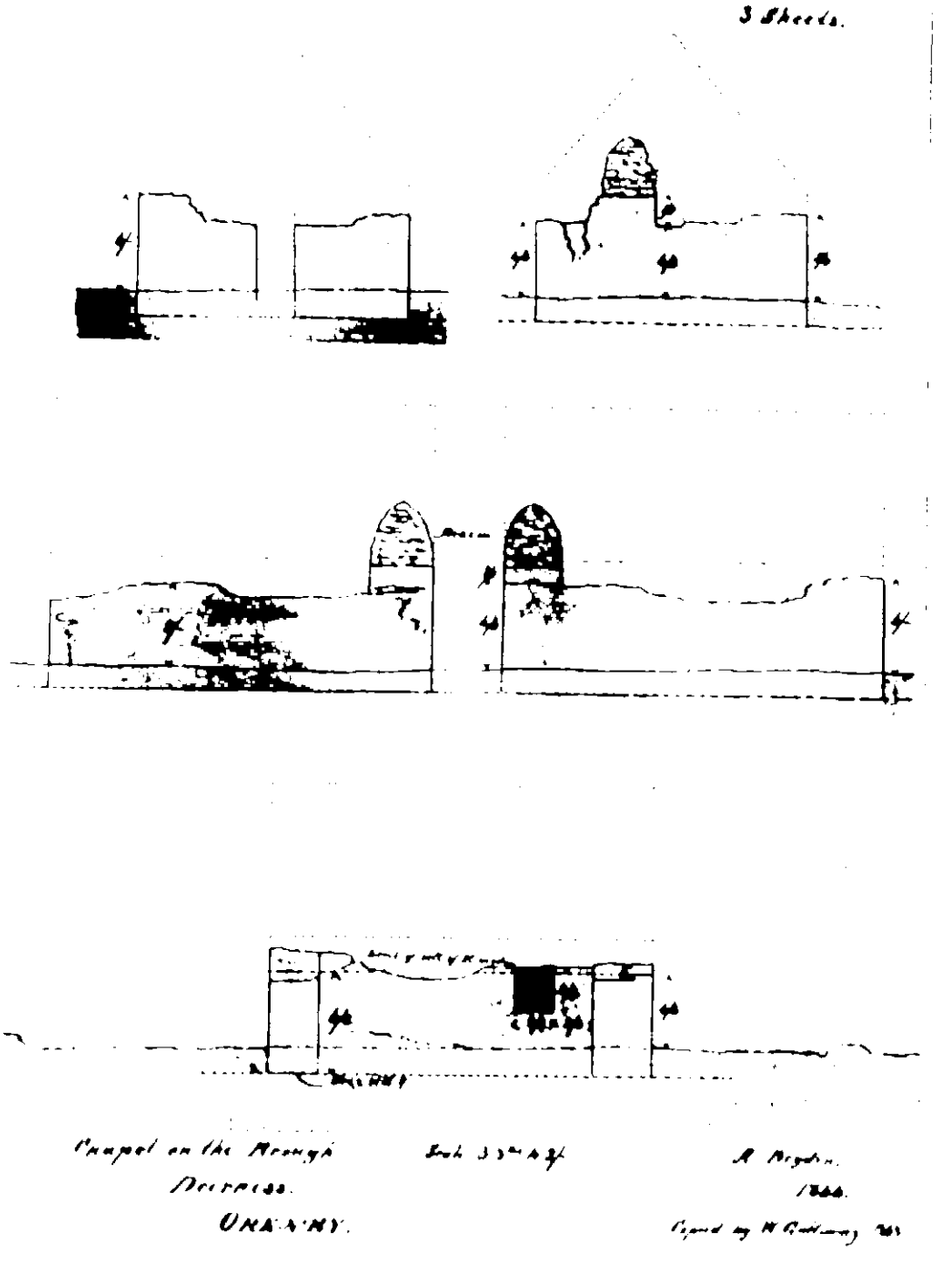
the finds made on site, a number were considered of sufficient importance at the time to merit three-dimensional recording on site, and were separately recorded in a Small Finds number sequence (no. 1 onwards), with full details entered onto record cards by the Finds Assistant. In addition, any objects noted by the Finds Assistant or Director as being of sufficient interest, were added to the Small Find sequence, although not three-dimensionally recorded on site. All Small Finds and most categories of other finds recovered were marked with site code (DS), year (75 etc.), layer code (AA etc.), and number (in the case of Small Finds).



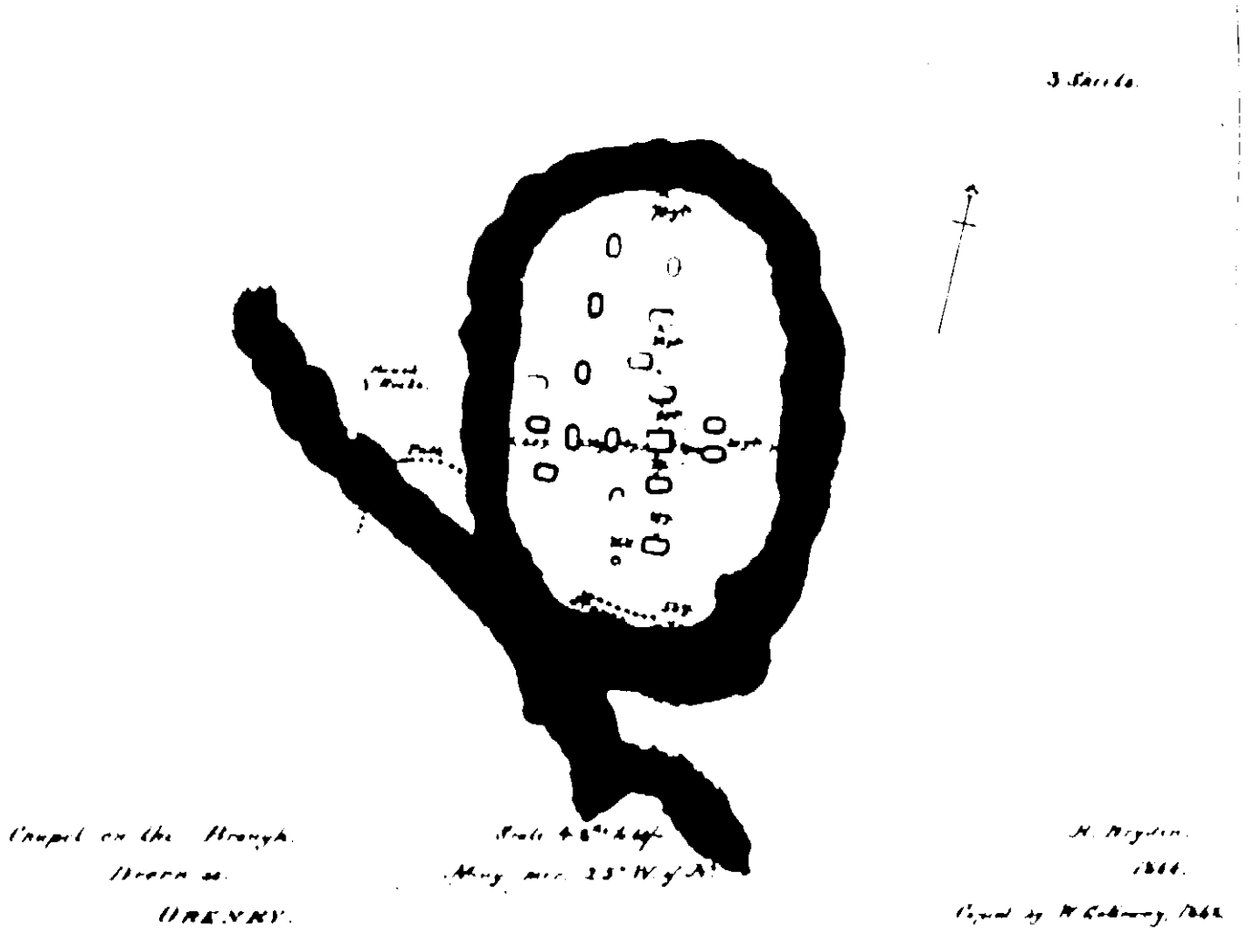
Illus 47 Brough of Deerness from NW and SW



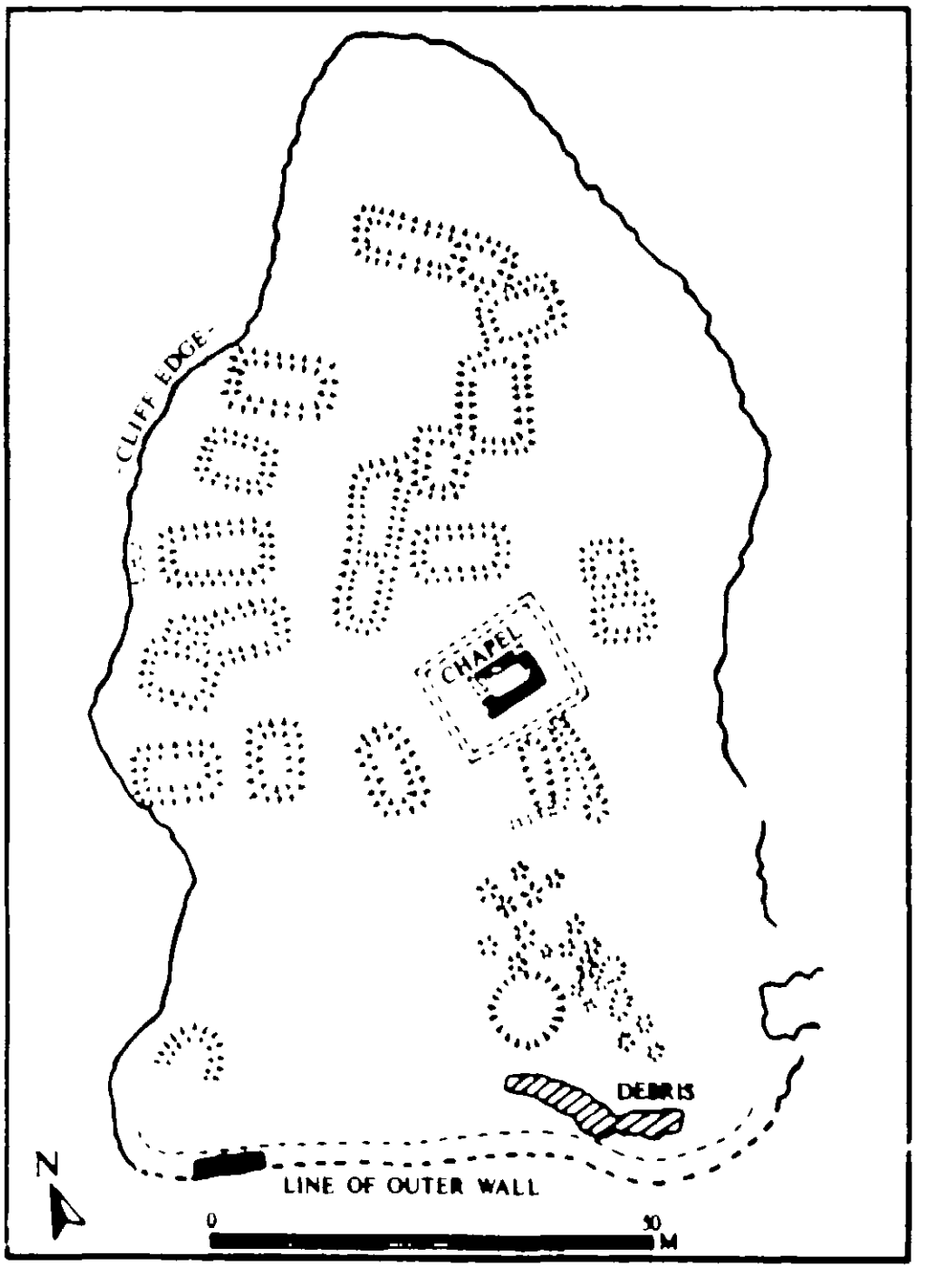
Illus 48 Plan by Sir H Dryden



Illus 49 Elevation of Chapel by Sir H Dryden



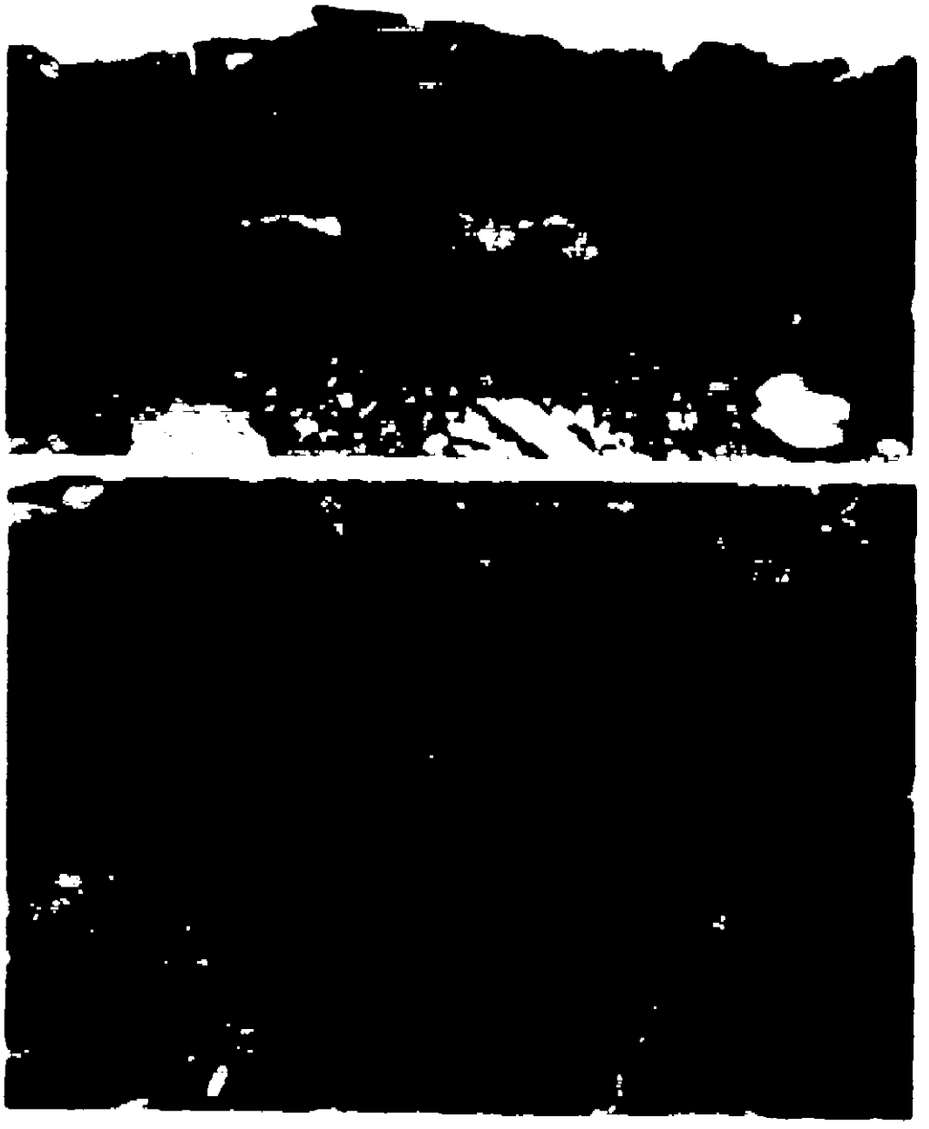
Illus 50 Survey of Brough by Sir H Dryden



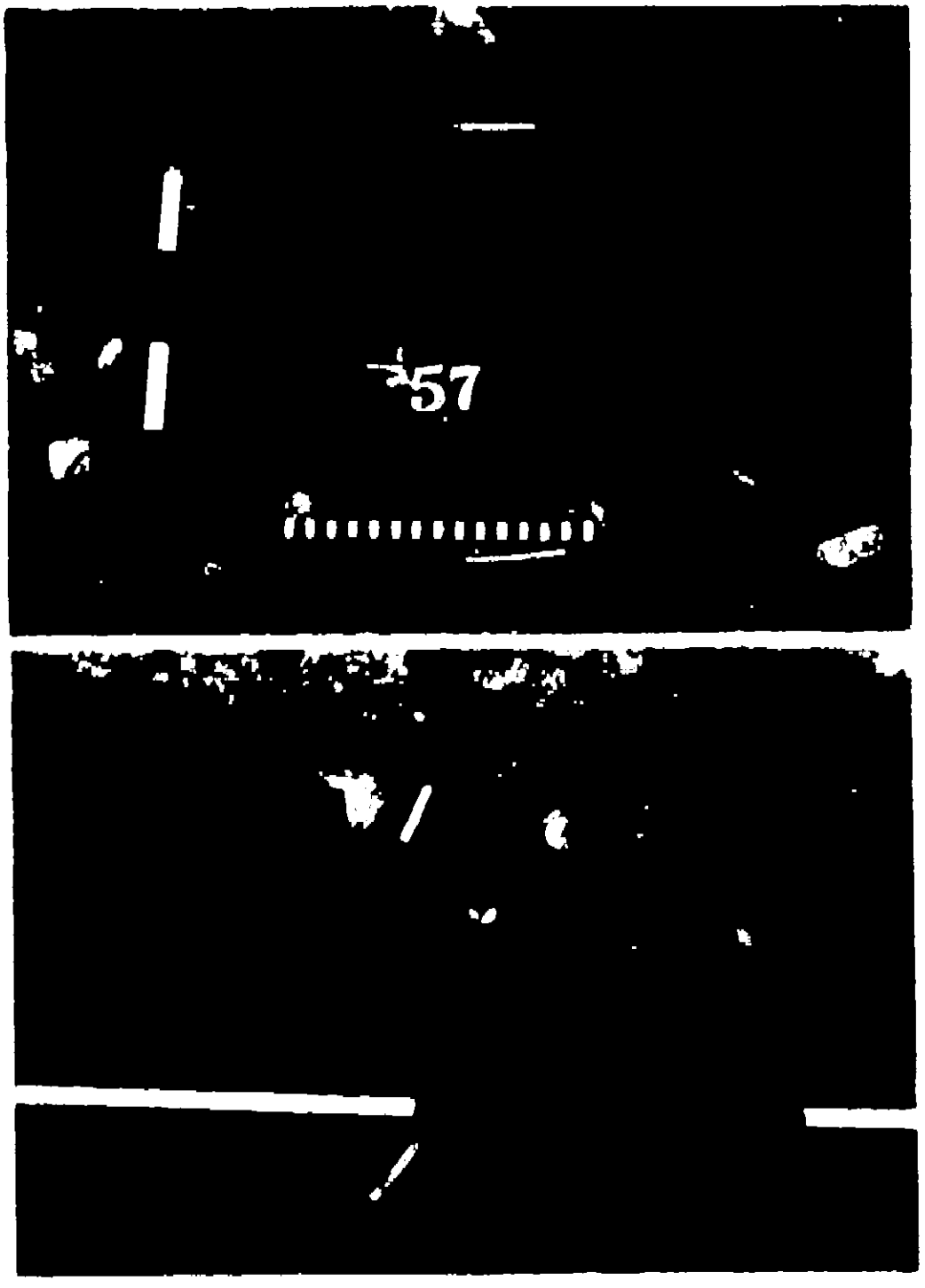
Illus 51 Survey of Brough by RCAHMS

Illus 52a S and E walls of Chapel, June 1974 (SDD)
b E and W walls of Chapel, June 1974 (SDD)

Illus 53 Interior W end of Chapel, June 1974 (SDD)

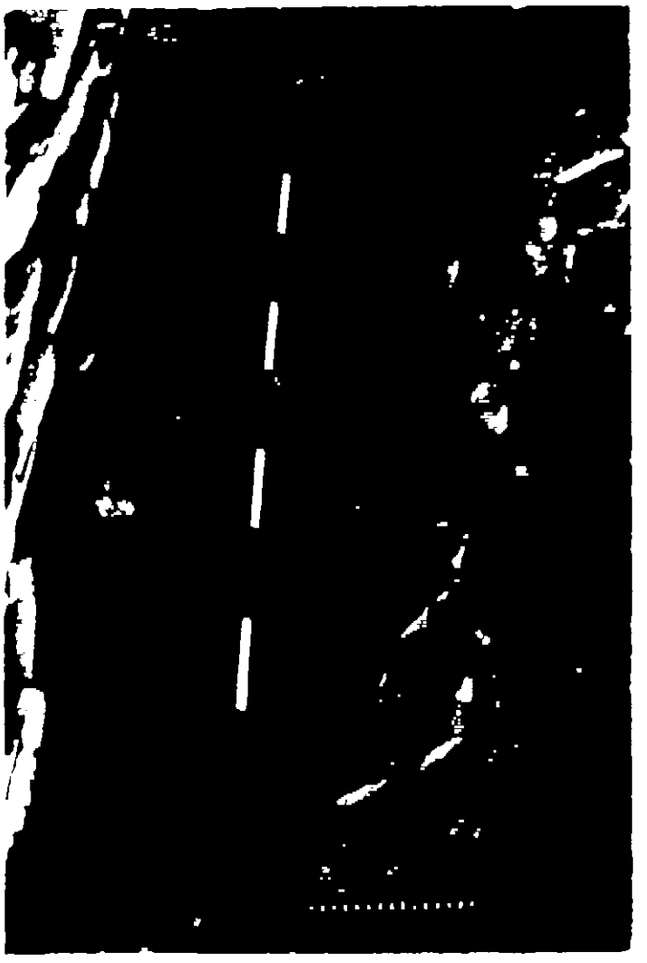


Illus 54a Interior E end of Chapel, June 1974 (SDD)
b Altar and E end of Chapel, June 1974 (SDD)



Illus 55a Timber altar before excavation, from west
b Timber altar after excavation, from east

Illus 56a East timber wall and altar, from south
b Postholes and features at west end, partially below stone Chapel wall



Illus 57a Slab covering of adult grave to S of Chapel
b South bench from north

Illus 58 Vertical photomontage of Chapel (J Dickson)

POTTERY: PETROLOGICAL ANALYSIS

David F Williams
(University of Southampton)

Four basic categories of pottery fabric have been defined.

Fifteen sherds were submitted of pottery, and two fragments of what were originally thought to be moulds, for fabric examination in thin section under the petrological microscope. The object of the analysis was twofold: first, to determine the rock and mineral content of the samples, and to see if there were any noticeable fabric differences in the material submitted, and second, if possible, to suggest whether the sherds were likely to have been made in the area of Deerness. All the examples were firstly studied macroscopically with the aid of a binocular microscope (x 20). Munsell colour charts are referred to, together with free descriptive terms.

FABRIC 1

D875 AR40, AR52, AR60, D876 BV91

Hard, rough sandy fabric, reddish-brown to light-red throughout (5 YR 6/3 to 2.5 YR 6/6). Thin sectioning shows a ground-mass of quartz grains, average size 0.15 mm and under, together with a scatter of larger grains up to 1.20 mm across, sandstone, discrete grains of plagioclase and potash felspar, flecks of mica and a little granite in one or two of the sherds.

FABRIC 2

D875 AR44, AR50, AR61, AR65, AR68a, BF54c,
D876 BD92, BD94, BD117,
?mould D876 BD104, BD110

Hard, rough sandy fabric, containing prominent inclusions of sandstone, normally light to dark shades of reddish-grey in colour (5YR 4/2). Sherd

AR68a has vegetable impressions on the outside surfaces. Thin sectioning shows a similar range of inclusions to Fabric 1, but with more frequent and slightly larger quartz grains and pieces of sandstone, producing a coarser texture. In addition, sherds AR68a and BF54c contain a small number of elongate vesicles, suggesting that chopped grass or chaff may have been present.

FABRIC 3

D676 BT81

Hard, rough slightly sandy fabric, dark grey throughout (5 YR 4/1). Thin sectioning shows a fairly clean clay matrix containing a scatter of quartz grains, flecks of mica and frequent fine-grained pieces of sandstone.

FABRIC 4

D676 BN79

Small rim heavily charged with pieces of shell. Not sectioned.

COMMENTS

The Brough of Deerness is situated on Middle Eday Sandstone deposits, which are often coarse and pebbly, the latter consisting largely of granite, quartzite and vein quartz. Given the petrology of the above samples, there is, therefore, no reason to suspect anything else but a fairly local origin for the pottery.