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Plas Gogerddan, Dyfed: A Multi-Period Burial and Ritual Site

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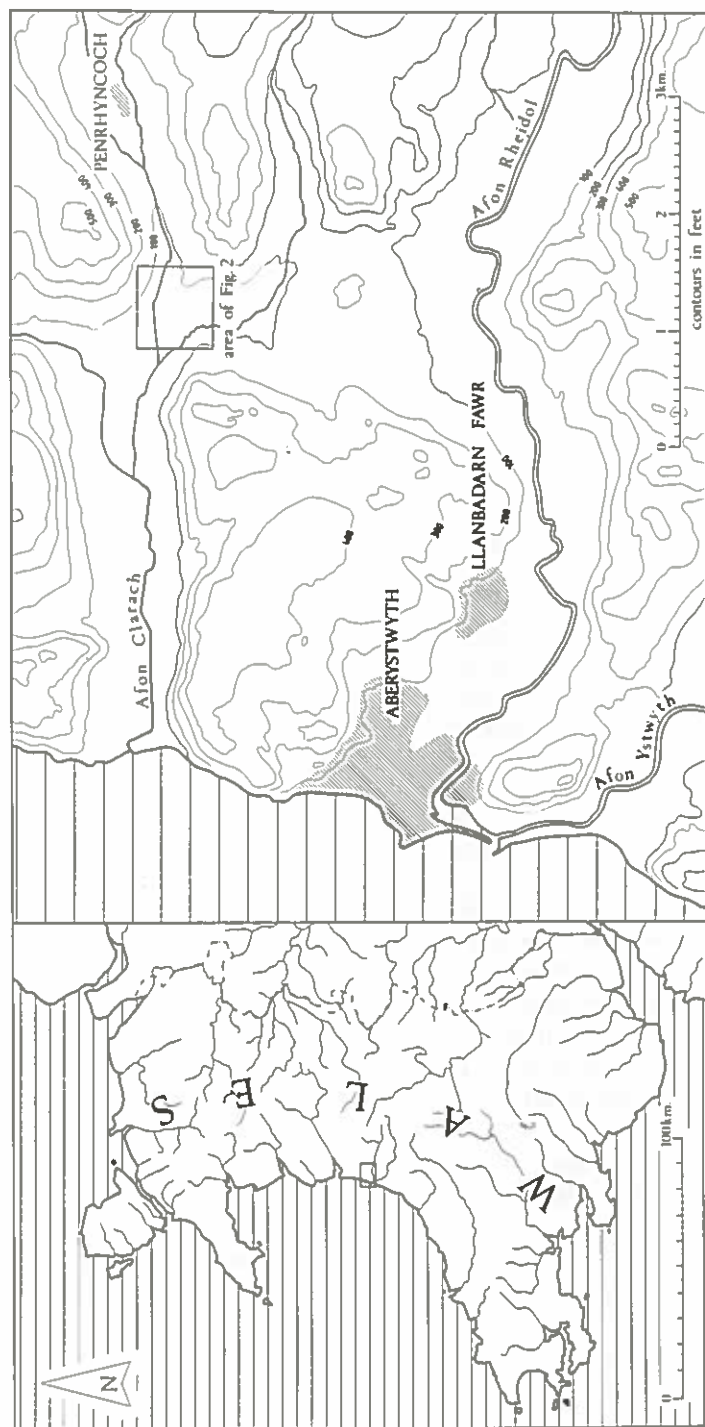
At Plas Gogerddan, evidence was discovered for human presence from the middle of the fourth millennium B.C. up to the present day. Numerous pits and post-holes were excavated around a standing stone; one of these pits was dated to the tenth-fifteenth centuries B.C. To the west of the standing stone, three ring-ditches were constructed and used in the first millennium B.C.; in association with these ring-ditches were three iron age crouched burials. In the vicinity of the standing stone lay twenty-two east-west aligned, extended inhumation graves, three of which were surrounded by rectangular timber structures. A coffin stain from one of these graves was dated to the third-seventh centuries A.D.

INTRODUCTION

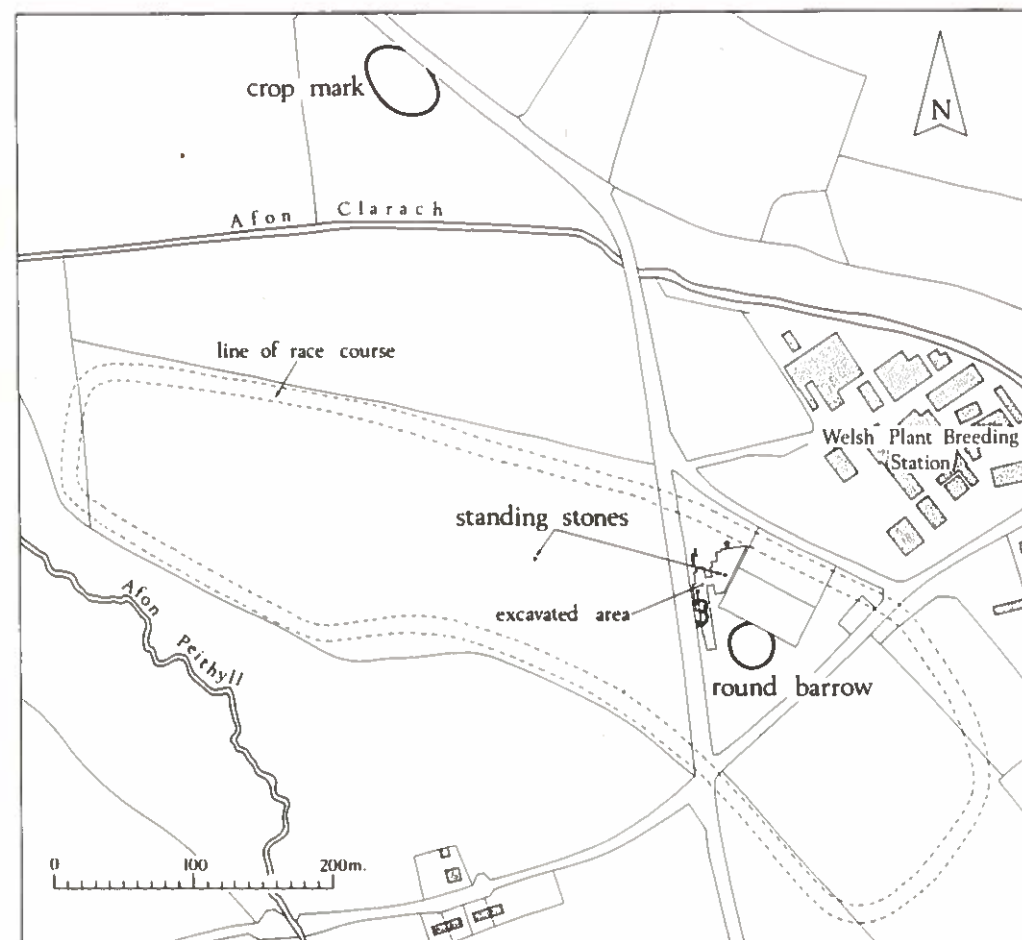
The archaeological excavations at Plas Gogerddan (N.G.R. SN 62648351) were located 4 km east of the Cardigan Bay coast, in the Afon Clarach valley, at a height of 30 m O.D., 5 km north-east of Aberystwyth (Illus. 1). The land on which the excavations took place was formerly part of the Plas Gogerddan estate, but is now used by the Welsh Plant Breeding Station and is situated in the parish of Trefeurig, previously part of the much larger parish of Llanbadarn Fawr.

The excavations were situated towards the eastern end of a low ridge between the Afon Clarach and Afon Peithyll, c. 10 m above their flood plains. An eighteenth- to nineteenth-century racecourse approximately outlines the extent of this ridge (Illus. 2). Some 200-250 m to the south-east of the excavations the valley side rises steeply up to a height of 120 m.

The solid geology of the area comprises Silurian grits, but the excavations were located upon a ridge of fluvio-glacial sands and gravels. In a small quarry, 500 m to the west of the site, these gravels were current-bedded with a size range from small boulders down to coarse sand. Ice wedges and cryoturbations were clearly visible in the quarry face, and polygonal 'marked ground' on the gravel surface of the archaeological excavation confirmed permafrost action. These periglacial features were the most



Illus. 1 Plas Gogerddan: Site location



Illus. 2 Plas Gogerddan: Map showing position of excavations in relation to other archaeological sites in the vicinity

prominent aspect of the excavation surface and tended to obscure the archaeological features.

No relict soils were discovered during the excavation. The stony, sandy-loam ploughsoil formed a distinct interface with the gravel subsoil. The ploughsoil varied in thickness from a maximum of 0.40 m down to 0.15 m on the gentle slope on the northern periphery of the excavation. The acidity of the soil meant that unburnt bone did not survive.

Two standing stones are now situated 135 m apart on the gravel ridge (Illus. 2). Located 50 m to the south of the eastern stone is a 1 m high round barrow, first recognized by A. H. A. Hogg in the 1950s. On aerial photographs a cropmark ring-ditch, 30 m in diameter, can be seen to surround this barrow, with a possible concentric inner ditch and other internal features (James 1984, 24). To the west of the

barrow a figure-of-eight cropmark (diameter of each circle *c.* 8–10 m) can be seen faintly on the same photographs, its western side cut by a road. Also visible are indeterminate cropmarks to the south-west of the western standing stone, and on a gravel terrace on the opposite bank of the Afon Clarach a distinct elliptical cropmark approximately 60 m by 30 m. All the cropmarks described above were photographed in the dry summer of 1984, when they showed up in grass.

A map by the Ordnance Survey, an original drawing of 1823, is the earliest extant record showing the standing stones, marked as 'erect stones'. Based on the Ordnance Survey's drawing was a map of 1832 (Dawson) which seems to depict three stones in a triangular formation. Workers at the Plant Breeding Station recall the removal in 1961 of a stone somewhat smaller than those which remain. This stone had been located to the west of the surviving western stone, approximately the same distance as the western stone is from the eastern, and on the same axis; its current whereabouts is unknown. Surprisingly, the standing stones were not depicted on any of the splendid eighteenth- and nineteenth-century Plas Gogerddan estate maps, despite the fact that antiquities and other boundary markers are shown on other estate maps in the National Library of Wales's Gogerddan collection. The line of the racecourse in Illus. 2 is based on such a map (Nat. Lib. Wales, RM A112). A racecourse was firmly established by 1812, though races had been run for some years previously (Prichard 1824, 109–10). The course took advantage of the gravel ridge and encircled the standing stones; indeed from either of the two surviving stones a fine prospect of the racing would have been gained. Field names offer little help in assessing the antiquity of the stones; in the eighteenth century the field of the stones was known as Cae Penrhyn (Nat. Lib. Wales, RM C22), in the nineteenth century as Cae Rasus (Nat. Lib. Wales, RM A112) and today, after construction of a road (in 1934) between the two stones, the small field in which the excavations took place is known as Cae Tricornel (Three-cornered Field).

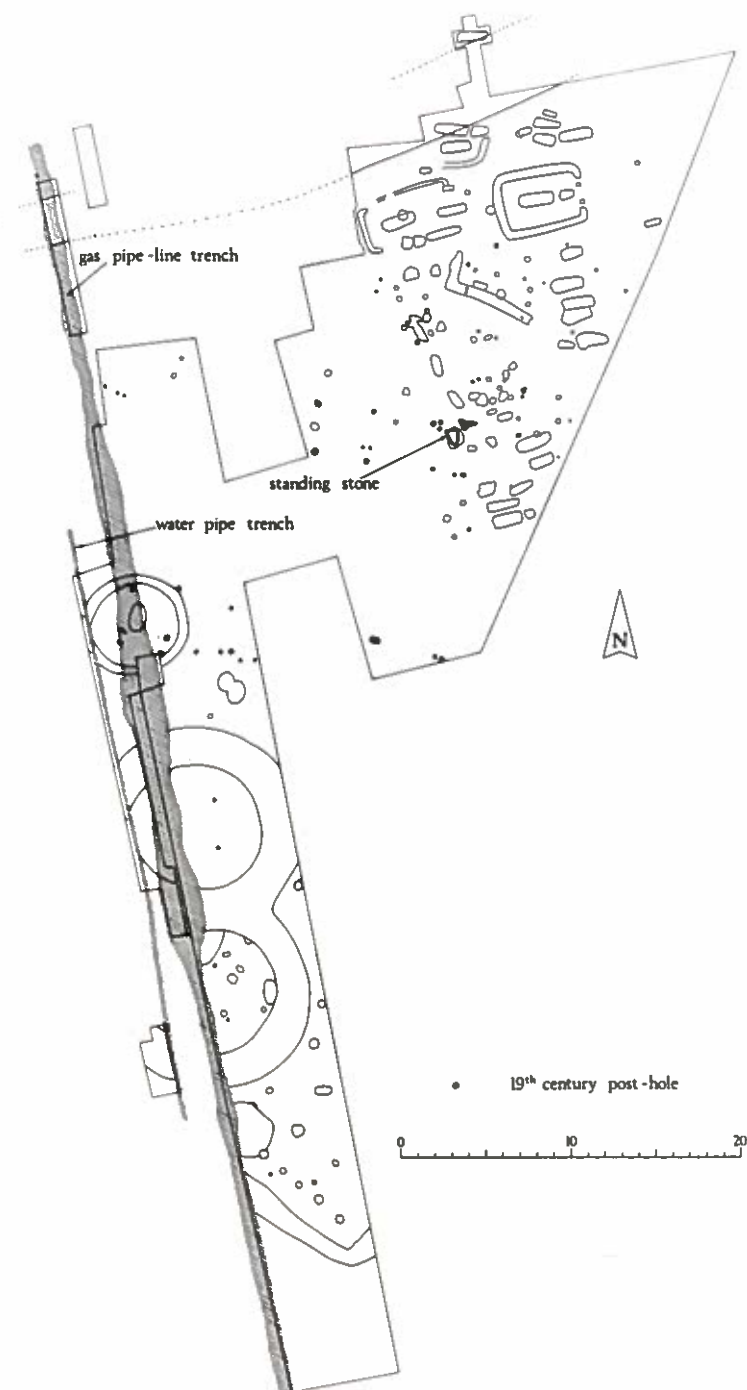
In 1986, a gas pipeline was constructed from Talybont to Aberystwyth. At Plas Gogerddan, this pipeline passed between the two standing stones and directly through the figure-of-eight cropmark. Excavations began in response to this construction work.

THE EXCAVATIONS

Excavations concentrated on an area around the eastern standing stone and in the pipeline corridor adjacent to the stone (Illus. 3).

THE STANDING STONE

Prior to excavation, the standing stone projected 1.7–1.8 m out of the turf and was inclined towards the east at an angle of 11 degrees from the vertical (Illus. 4). On its removal by a crane, the stone was found to be 2.1 m high, 1.2 m broad and 0.75 m thick; triangular in cross section at the base, rectangular mid-way up and tapering towards the top. Geologically, it was of a fine- to mid-grained Ordovician sandstone from the Plymlimon Dome. But it is probable that boulders from this geological source occur in the glacial deposits around Gogerddan (this information was provided by Dr J. R. Davies, British Geological Survey, Aberystwyth). It weighed an estimated 5–6 tons.



Illus. 3 Plas Gogerddan: Plan showing all excavated features



Illus. 4 Plas Gogerddan: The standing stone viewed from the north. The top of the unexcavated small cist, 6, can be seen in the foreground

The stone was set in a shallow socket, its western side barely below the turf. At least two layers of rough cobbling surrounded the stone; on excavation, these proved to be of recent date, they sealed sherds of wine bottles, pottery and tobacco pipe stems, all of a nineteenth century date. The stone itself was found to overlie wine bottle sherds, and several pits, possibly post-holes, in proximity to the stone were also discovered to be of nineteenth century date (Illus. 5). After excavation the stone was replaced in the socket in which it was found. The standing stone 135 m to the west, on the opposite side of the road, was of similar shape, albeit slightly smaller, and derived from the same geological source as the excavated example.

Interpretation

Clearly, the stone as it stood prior to excavation had been erected in recent times, with the triangle of small pits around it perhaps serving as sheer leg supports. The ambiguous nature of the documentary evidence neither confirms nor denies the existence of standing stones before the formation of the racecourse. On the basis of the excavated evidence presented below, it is argued that the stone was a prehistoric monument that fell, perhaps in antiquity, and was re-erected in the nineteenth century.

POSSIBLE PREHISTORIC FEATURES ASSOCIATED WITH THE STANDING STONE

Ploughing has truncated all the pits presumed to be of prehistoric date, and destroyed any stratigraphic relationships that may have existed between them. The fills of all the pits in the vicinity of the standing stone were extremely dehumified, although not necessarily contemporaneous; indeed many of the smaller pits may be of nineteenth century origin. A 10 m by 7 m area to the north of the standing stone contained the majority of the presumed prehistoric features, although there was an apparently random scatter of small pits across the site (Illus. 5). No artefacts were found in them and radiocarbon determinations provide the only dating evidence. Below is a brief description of some of the more diagnostic features.

Two metres to the north of the standing stone was a shallow pit (132). This pit, approximately the same size and shape as the base of the standing stone, was unique in that it contained two large and several smaller boulders, possibly employed as packing stones.

To the east of pit 132 were several post-holes (44, 69, 118) and other shallower, less defined features may have served a similar function; these were all grouped around a hearth (64) — a patch of subsoil discoloured deep red by intense heat. One metre to the east of the hearth a small pit (145, fill context 144) contained fragments of oak charcoal (M1/01-02) and possibly specks of burnt bone (M1/03). The charcoal provided a radiocarbon determination of 2950 ± 70 BP (CAR 993). See Table 3 for all radiocarbon dates and their calibrations.

A small cist (6) set in a shallow pit and partly cut by a modern ditch (3) was situated in the centre of the excavated area (Illus. 4). It was formed by two side slabs and a west end slab of shale. There was no floor, east end or covering slabs. Shale is not native to the site, but does outcrop on the surrounding hillsides. The fill of the cist was similar to, but less stony than the surrounding subsoil. There was no evidence to suggest that the cist had contained a burial or any other object.

Some 9–11 m to the north of the standing stone was a linear arrangement of three massive post-holes (105, 199, 195). The central post-hole (195) was the largest (Illus. 13); 0.75 m in diameter, 1.35 m deep, with a 0.50 m diameter timber stain at the base of the pit, indicating that at least the lower portion of the post had rotted *in situ*. The two post-holes either side of 195 were of slightly smaller dimensions. No timber staining was apparent in their fills, but a tapering of the profiles of the pits suggests that any timbers would have been about 0.50 m in diameter.

Towards the northern edge of the excavation a small pit (206) was cut by a later grave. The fill (205) of this pit contained charcoal and a carbonized food deposit (see below p. 24 for an analysis of the food deposit). The charcoal provided a radiocarbon determination of 4700 ± 70 BP (CAR 994).

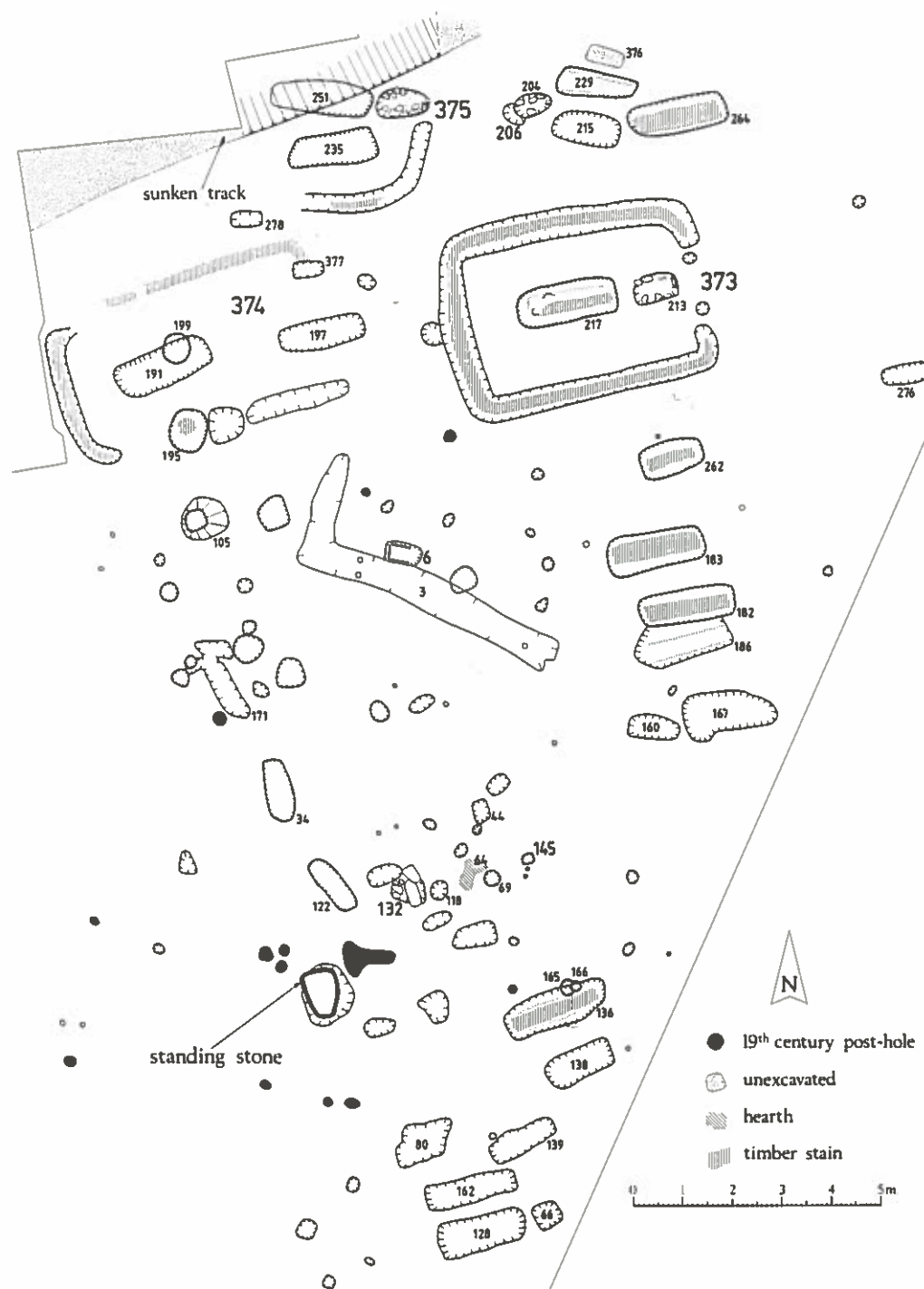
A sprinkling of other features, mostly post-holes, occurred across the site, but formed no identifiable pattern. Worth noting are two substantial post-holes (165, 166) cut by a later grave to the east of the standing stone, and a group of small pits, possibly post-holes to the south of the stone.

Interpretation

Pit 132 seems to act as a focus for the other pits and features in the area, and given its size and shape, it is suggested that it was the original site of the standing stone prior to its re-erection in the eighteenth–nineteenth century.

There is no reason to suppose that the construction of the pits, post-holes and other features was coeval. The two radiocarbon dates (4700 ± 70 BP, CAR 994 and 2950 ± 70 BP, CAR 993), both determined from fragmented wood charcoal from shallow pits, merely record a human presence on the site.

The nature of some prehistoric features is perhaps provided by the manner in which the later inhumation graves respect the location of these presumed earlier pits and post-holes (below p. 15). This implies that their location was visible when the cemetery



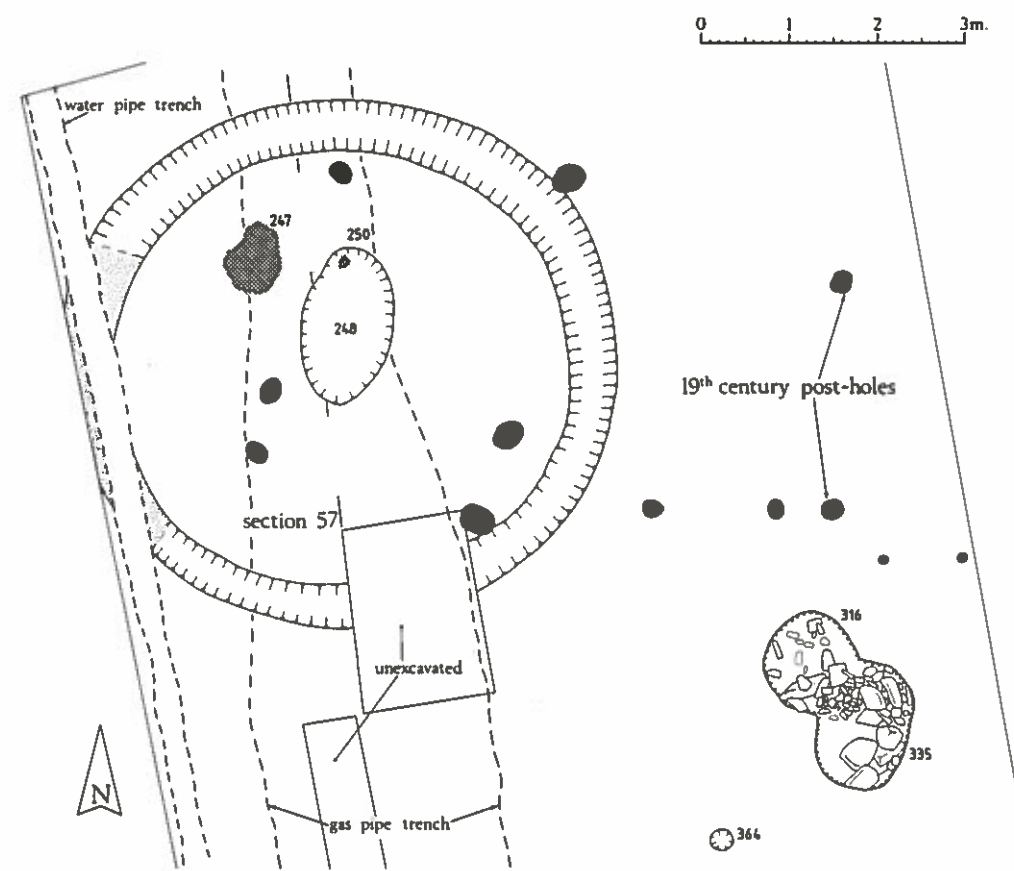
Illus. 5 Plas Gogerddan: Plan showing all excavated features around the standing stone

was laid out. Since any timber posts would have rotted in the period intervening between the prehistoric use of the site and the creation of the cemetery either an earth mound or smaller ancillary standing stones are perhaps implied.

The three massive post-holes (105, 191, 195) did not appear to form part of a building; the posts were probably very large free standing markers. It should be noted that their north-south alignment parallels that of the ring-ditches described below, perhaps indicating contemporaneous construction.

THE RING-DITCHES

Three ring-ditches were situated on the course of the gas pipeline; the presence of the two larger ones was suspected from aerial photographs. Excavation of the small, northern ring-ditch preceded the digging of the pipe trench; that of the two larger ditches followed, after the pipe was in the ground and its trench backfilled. The complete plan of the ring-ditches could not be revealed because of both the need to dump topsoil along the western edge of the pipeline corridor and the presence of a



Illus. 6 Plas Gogerddan: Plan of ring-ditch 237



Illus. 7 Plas Gogerddan: The small ring-ditch 237 during sampling for phosphorus. Viewed from the north. Gas pipes are laid across the site prior to insertion in the ground

water-pipe trench alongside the road. The road itself may have partly destroyed the western extremities of the larger ring-ditches.

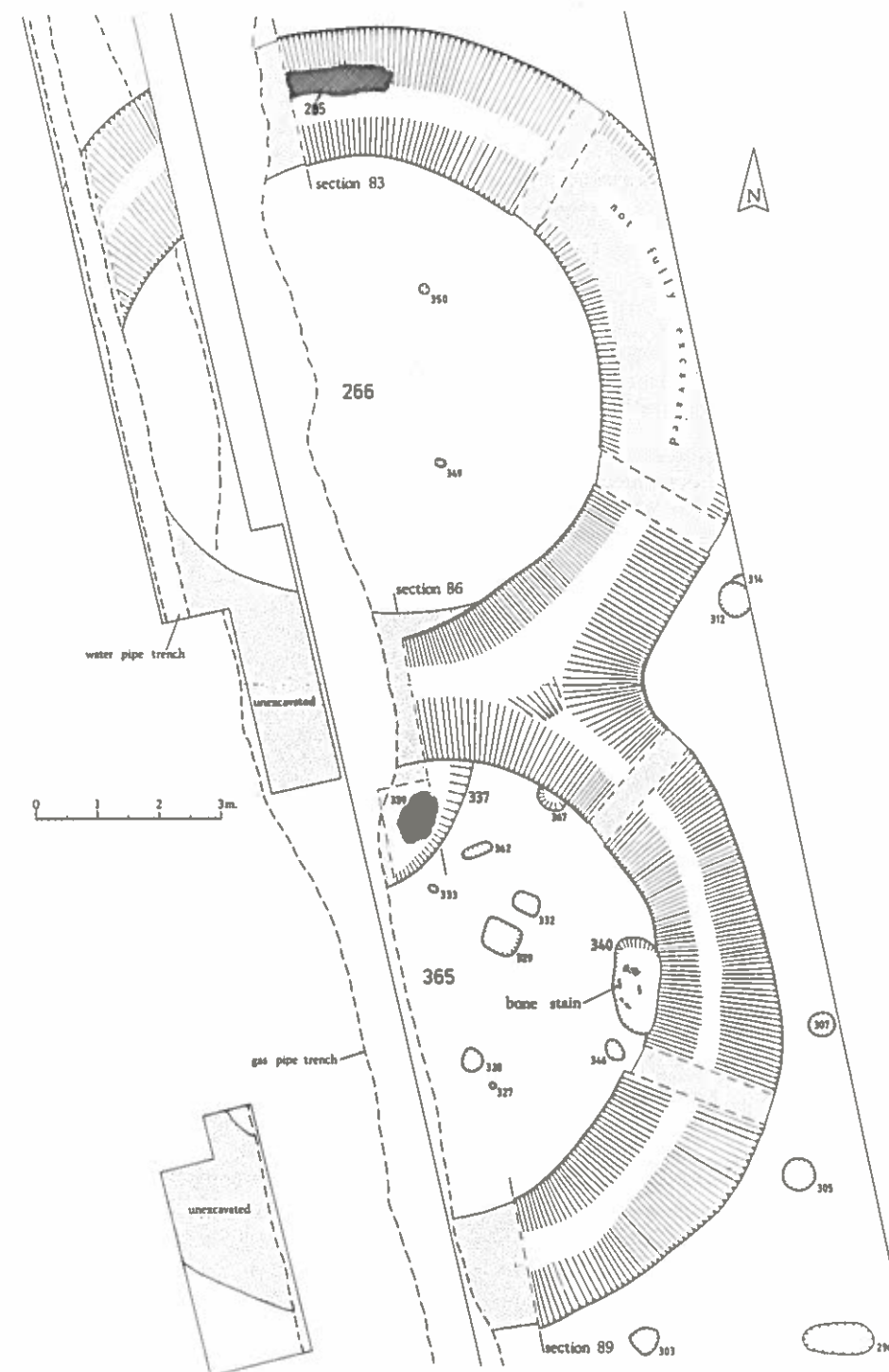
Ring-ditch 237

This ditch was externally 6 m in diameter, 0.50–0.60 m in width and 0.35 m deep, with an open V-shaped profile (Illus. 6, 7). The thin primary fill of the ditch comprised coarse sand and gravel above which was an homogeneous loam (Illus. 9).

Within the ring-ditch, slightly to north of its centre, was a shallow, flat-bottomed, oval-shaped pit (248), some 1.7 m in length, 1 m wide and 0.2 m deep, aligned north to south. Its fill was hardly distinguishable from the subsoil indicating that it had been backfilled soon after its initial excavation. Phosphate analysis suggests that this pit had contained an inhumation (Illus. M18 see M1/12). The report on this analysis by J. Crowther is included in the microfiche (M1/05–13). A small, tightly-packed deposit of charcoal (250) in the northern end of this pit had possibly been contained in an organic receptacle. To the north-west of this pit a very thin layer of charcoal (247) lay in a shallow depression; there was no evidence of *in situ* burning.

Ring-ditches 266, 365

The northernmost ring-ditch (266) was externally 12 m in diameter, 7.3 m internally; the southern ditch 11.6 m and 7.3 m (Illus. 8). The ditch of the northern ring was also slightly larger (2.35 m wide,



Illus. 8 Plas Gogerddan: Plan of ring-ditches 266 and 365

1 m deep compared with 2.15 m and 0.80 m). Evidence from the fills, where the ditches interlock, suggests that their construction and colluviation was coeval.

The fills of the ring-ditches were broadly similar around their circumferences (Illus. 9); an initial thin layer of coarse sand and gravel — material washed off the sides — was followed by a mixed layer (370) of stones and redeposited subsoil interleaved with layers of silty loam, presumably indicating periods of rapid infill followed by intervals of stabilization. When the ditches were half to two-thirds full there was a period of stabilization (269), and in the southern ditch there were indications of a turf line (269). Above this stones and gravels (368) — virtually uncontaminated redeposited subsoil — represent rapid infilling.

At the northern side of ring-ditch 266 a dense mass (285) of alder charcoal (M1/01-02) and cremated bone (M1/03), from an adult, possibly female, was incorporated in the base of layer 368. The concentrated nature of this cremation indicates an intentional deposit. A radiocarbon determination of 2150 ± 60 BP (CAR 1072) was obtained from the charcoal with the cremation.

A length of clay tobacco pipe-stem, probably of seventeenth- to eighteenth-century date, was discovered towards the surface of the upper fill (267) of ditch 266, indicating that the ring-ditches were visible into modern times. The only other artefact from the ring-ditches was a small, burnt flint flake from the fill 267.

Approximately eighty per cent of the area enclosed by the northern ditch and sixty per cent of the area enclosed by the southern ditch was archaeologically examined (Illus. 8). No evidence for central grave pits was found. No relative chronology between the ring-ditches and the majority of the features enclosed by them could be established; indeed, encompassed by the northernmost ring-ditch were just two stake-holes of unknown date. The southernmost ring-ditch enclosed several small pits of uncertain function; none were post-holes.

A large shallow pit (337) was cut by the southern ring-ditch (Illus. 9, section 86). The surviving portion appears to be a quadrant of a pit which would originally have been c. 4 m in diameter. The principal fill (339) was similar to the subsoil; however, it did contain a basal deposit of twiggy oak and gorse charcoal (M1/01-02), from which a radiocarbon determination of 2770 ± 60 BP (CAR 1073) was obtained. The projected centre of this pit lay on the major north-south axis of the ring-ditches.

Concentric with the southern ring-ditch was an arc of three pits 0.80 m beyond the outer edge of the ditch. These contained fragments of charcoal and burnt bone. They were not post-pits. A further, oval pit (296) was filled with a layered, gleyed clay which seemed to represent horizontally laid turves.

Ditch 283

This L-shaped ditch (283) delimited the southern extremity of activity associated with the ring-ditches; no archaeological features were discovered in the 8 m long strip examined to the south of it. The ditch (Illus. 10; 9, section 60) contained a charcoal deposit with fragments of burnt, possibly human bone (M1/03-04) and a hearth, in a primary context, associated with which were a few fragments of burnt bone.

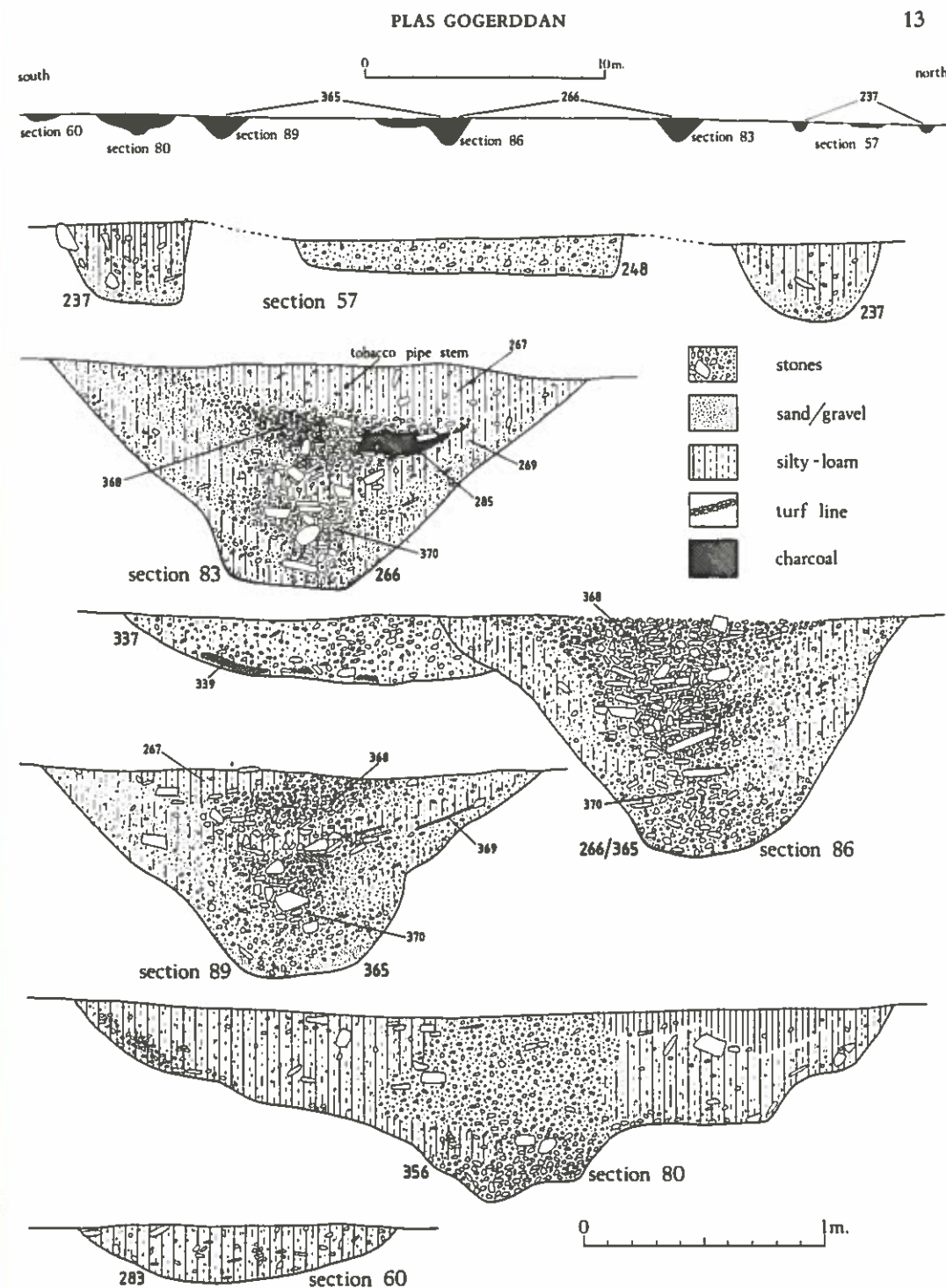
Parallel with the longest arm of the L-shaped ditch and 1.5 m to the north was an alignment of five pits (298, 286, 295, 288, 298). Only the fill of 298 indicated that it was post-hole, the fills of the other contained charcoal and some fragments of burnt bone.

The function of pit 356 is unknown. The excavated portion suggests it would originally have been a circle 3.5 m in diameter. It would appear that it was left to partly silt up before the centre was backfilled with subsoil (Illus. 9, section 80). The fill is cut by pit 298.

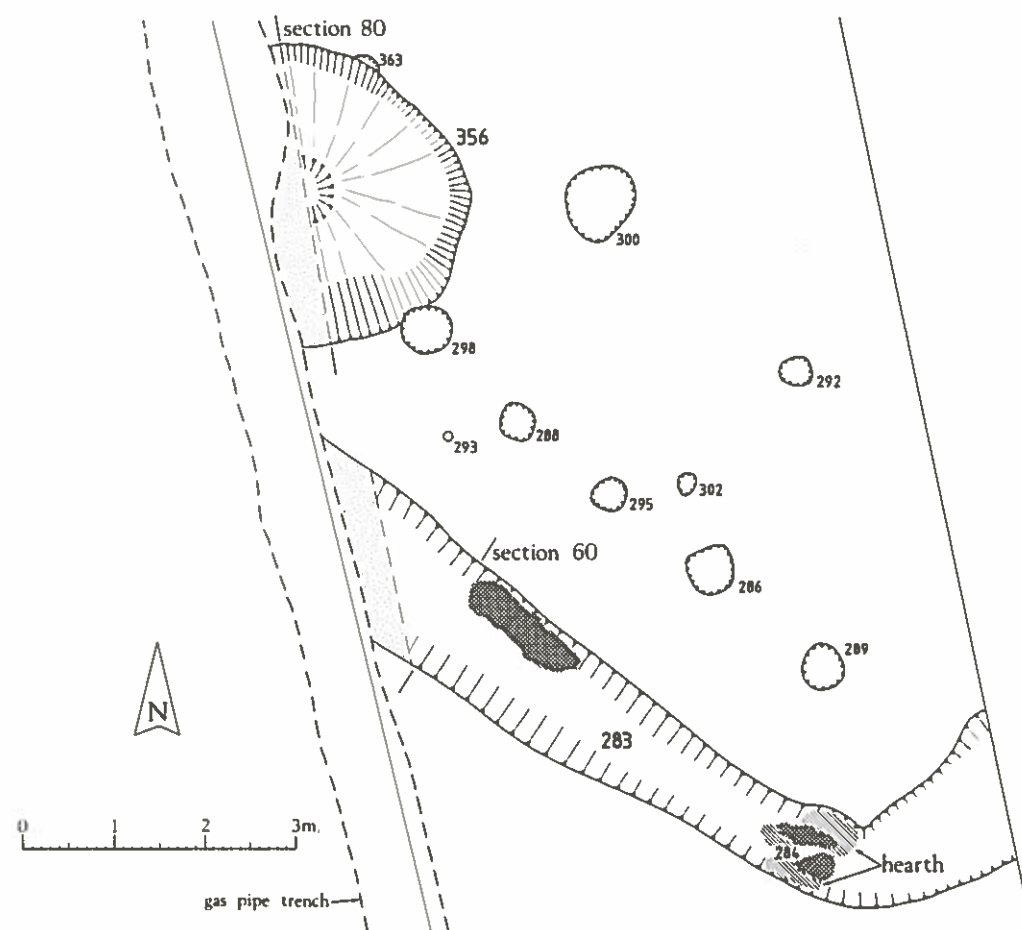
Interpretation

A *terminus post quem* for the construction of the interlocking ring-ditches is provided by the radiocarbon determination of 2770 ± 60 BP (CAR 1073), and the date of 2150 ± 60 BP (CAR 1072) obtained from a cremation indicates a period when the silting up of the ring-ditches was well advanced. The axial arrangement of all three ring-ditches implies a similar period of construction and utilization.

There was no apparent evidence for an external or internal earthwork accompanying the small ring-ditch 237. If a bank or mound had been present it cannot have been very



Illus. 9 Plas Gogerddan: Sections of ring-ditches 237, 266, and 365, ditch 283 and pit 356



Illus. 10 Plas Gogerddan: Plan of ditch 283 and associated pits

substantial if the source material was solely derived from the ditch. In contrast, the fills of the two larger ring-ditches provided evidence of earthworks within. At the ring-ditches' intersection the high proportion of boulders, stones and gravel (shown on Illus. 9, section 86) in the fill was a result of the ditch receiving double the normal eroded material — from earthworks to the north and south. There was no evidence for an earthwork bank encircling the ring-ditches.

An estimated 35–40 cubic metres of spoil would have been produced by the excavation of each of the large ring-ditches. If all of this had been heaped into the centre of the rings, two conical mounds 2.5–3.0 m high would have been created. Given the loose nature of the subsoil, the mounds, once established, would rapidly have begun to erode back into the ditches.

The shallow pit almost in the centre of the small, northernmost ring-ditch probably contained a flexed or contracted inhumation; certainly it was of the correct dimensions

for such a burial. Whilst there was no evidence for central grave pits in either of the two larger ring-ditches, burials may have been incorporated within the make-up of the mounds to be later dispersed as the mounds eroded.

The presence of minute fragments of burnt bone, possibly human, in several of the pits to the south of the ring-ditches is not easy to explain. Cremation 285 demonstrated that burnt bone does survive in the acid soils of the site, and so these pits could never have contained full, partial or even token cremations. The most likely explanation is that the fragments were derived from the hearth in ditch 283, and were present in the soil when the pits were dug; this interpretation does not however help to explain the function of the pits.

CROUCHED BURIALS 340, 316 AND 335

Pit 340 (Illus. 8) was not recognized until after the emptying of the fills from ring-ditch 365, the upper deposits of which overlay the pit. A bone stain of a crouched or contracted inhumation, with the head to the north (the direction in which the body was facing was not apparent) was evident in the bottom of the pit. Two bronze brooches (see below p. 23 nos. 354a and b) of the late first century B.C.–early first century A.D. rested on the bone stain towards the northern (head) end of the pit.

Two interlocking pits were located to the south-east of the small ring-ditch (237). Each probably contained a crouched or contracted inhumation (Illus. 6). The fills of the pits were identical except that the southernmost pit (335) contained a cluster of large boulders, arranged perhaps to replicate the shape of the inhumation below. A bone stain of indeterminate size and shape lay beneath the boulders, with a fragment of bronze (see below p. 23, no. 334) at the northern (head?) end. The interconnected pit (316) contained no detectable bone stain.

Interpretation

The crouched inhumation in pit 340 is dated by the two brooches to the first century B.C.–first century A.D., and the fragment of bronze perhaps indicates a similar date for the burial in pit 335.

It is possible that the grave 340 was dug at the same time as cremation 285 was deposited in the fill of the northernmost of the interlocking ring-ditches. Certainly, the upper fill of the ring-ditch sealed the grave (as it sealed the cremation), whilst the date of the brooches and the radiocarbon date of 2150 ± 60 BP (CAR 1072) from the cremation when calibrated at a two sigma range (390 cal. BC–05 cal. AD) are broadly compatible.

THE INHUMATION CEMETERY

Due to the lack of bone survival, the shallowness of some of the graves and the possible confusion of smaller graves with other features, the exact number of inhumations could not be counted with certainty: there were at least twenty-two graves and possibly several more (Table 1, Illus. 5). All the graves were aligned east–west. Their length and width varied from a maximum of 2.10 m by 0.93 m down to 0.66 m by 0.25 m, as did their depth — from 0.12 m to a maximum of 0.60 m below the surface of the subsoil.

In nine of the graves coffin stains were apparent. These usually took the form of a dark, rectangular soil mark (mineral replacement of timber) on the bottom of the grave

TABLE 1: Catalogue of extended inhumation graves

No.	DIMENSIONS OF GRAVE (measurements in metres)			DIMENSIONS OF COFFIN		COMMENTS
	L	W	D	L	W	
80	1.10	0.80	0.12	—	—	grave over excavated
128	2.00	0.70	0.30	—	—	
136	2.10	0.70	0.35	1.84	0.24	phosphate analysis (M1/06, Illus. M17)
138	1.43	0.64	0.23	—	—	
139	1.55	0.50	0.17	—	—	
160	1.00	0.47	0.10	—	—	
162	1.90	0.55	0.25	—	—	
167	2.00	0.93	0.30	—	—	
182	2.05	0.70	0.40	1.90	0.30	
183	2.10	0.70	0.56	1.82	0.43	
186	1.97	0.70	0.50	1.54	0.40	
191	2.02	0.86	0.36	—	—	central grave of 374
197	1.75	0.60	0.27	—	—	
215	1.40	0.70	0.35	—	—	
217	2.10	0.80	0.60	1.70	0.40	central grave of 373 bone stain present
229	1.68	0.50	0.54	1.20	0.40	date of 1580±60 BP (CAR 1045)
235	1.90	0.62	0.35	—	—	grave within 375
251	2.00	0.60	0.45	trace of coffin		central grave of 375
257	1.86	0.60	0.35	—	—	at extreme N of excavation not on Illus. 5
262	1.36	0.69	0.35	0.96	0.31	
264	2.06	0.75	0.40	1.76	0.40	
376	0.70	0.40	—	—	—	unexcavated
Possible children's graves						
276	0.94	0.40	0.30	—	—	
278	0.70	0.30	0.05	—	—	
377	0.66	0.25	0.16	—	—	
Stone-lined pits associated with graves						
204	0.80	0.45	0.13			
213	0.90	0.60	0.20	timber stain		within structure 373
234	1.10	0.60	0.26	timber stain		within structure 375

pit. In some instances only the sides of the coffin were visible as a thin discontinuous line down the edge of the grave. The best preserved stains displayed sides and a straight-edged bottom. No nails or other joining materials were discovered with the coffins. Woody fibrous material which formed part of coffin stain 231 in grave 229 provided a radiocarbon determination of 1580±60 BP (CAR 1045). This is the only dating evidence from the graves.

Grave 217 contained traces of a faint bone stain — part of the skull and left arm. The head was at the western end of the grave. Phosphate analysis confirmed the presence of a body in grave 136 (M1/06, Illus. M17).

The graves were arranged in rows or groups. Of note is the neat row of graves 167, 186, 182, 183, and 262. Within this row the only stratigraphic relationship between the graves occurred; 182 cutting 186. Three graves were specially marked, encompassed by rectangular structures (see below for their description) and other graves were aligned on these structures.

The southern-most grave (128) provided the only physical evidence for a small grave marker in the form of a small post-hole (66) at its eastern end. If all the bodies in the graves were laid with their heads at the western end, as in grave 217, then this marker would have been at the foot of the grave.

Structure 373

This was the best preserved of the three rectangular structures. It consisted of a rectangular foundation trench with an opening at the eastern end bounded by two post-holes, a central grave and a stone-lined pit. The structure was aligned with its long axis approximately east to west (Illus. 11, 12).

The foundation trench varied in width from 0.30 m to 0.50 m and on average was 0.25 m deep. The trench formed a rectangle 5.5 m externally east to west and 3.8 m north to south. A 1.50 m wide opening was present in the eastern end of the trench.

A dark soil stain ran throughout the centre of the trench; this almost certainly represented decayed timbers. This stain was 0.25 m wide and as deep as the foundation trench. It was rectilinear on the southern side and slightly bowed-out on the northern side and western end. All four corners were rounded. The structure thus represented would have been 4.5 m by 3.2 m internally. The entrance was marked at the eastern end by a 1.8 m wide gap in the stain, in which were two small post-holes set 1 m apart between their centres.

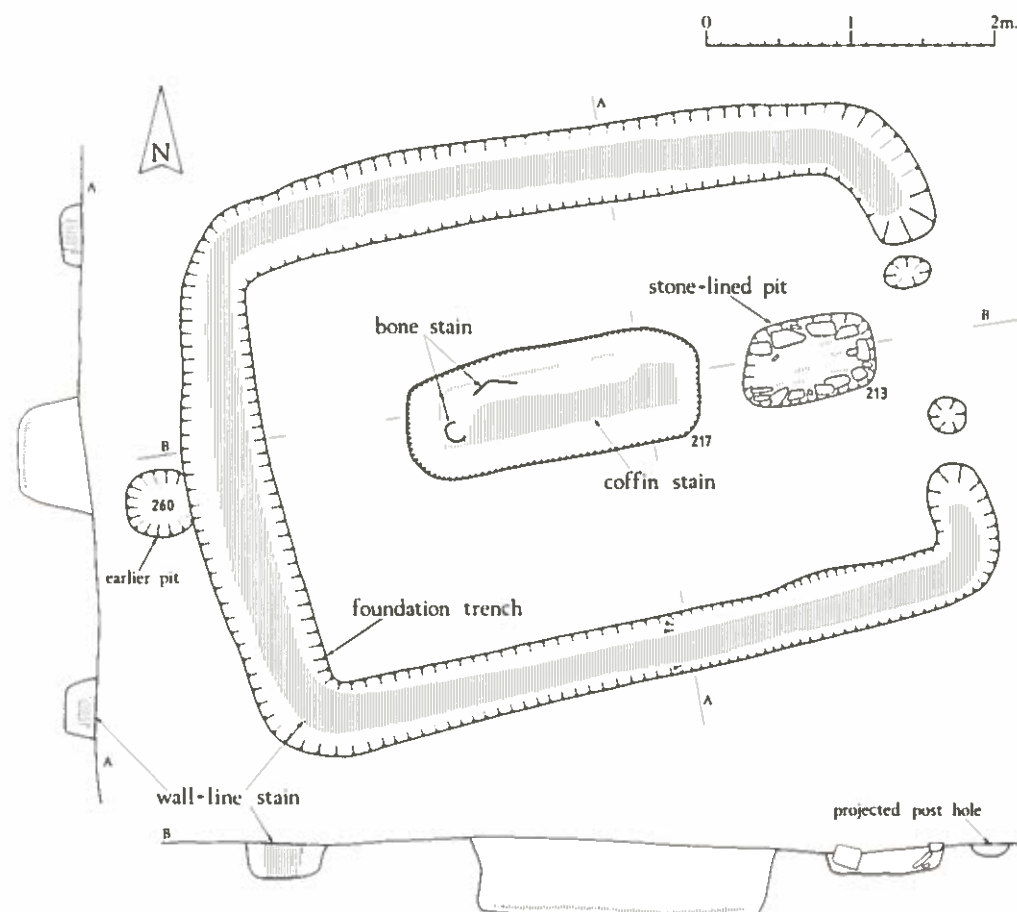
Centrally positioned within the structure and aligned upon it was a grave (217), containing a distinct coffin stain and a bone stain with the head to the west.

Between the grave and the entrance lay a stone-lined pit (213), aligned with the grave and surrounding structure. This small sub-rectangular pit was lined with rounded boulders of a type that occur naturally on the site. A number of short, linear, dark stains, forming no coherent pattern, but similar in colour and texture to the coffin stains, were discerned in the fill. Possibly a small wooden box had been placed in the pit. This pit was similar to the possible grave (204) to the north, and identical to feature 234 in structure 375. Phosphate analysis of the fills of pits 213 and 234 indicates that no body was ever inhumed in them (M1/06, Illus. M19).

Structure 374

The evidence for this structure was less definite than that described above; it consisted of a foundation trench at the eastern end, a stain along the northern side, a foundation trench and possible post-hole on the southern side and a central grave. The long axis of this structure was aligned approximately west-south-west to east-north-east (Illus. 13).

At the western end the foundation trench was 0.33 m wide, 0.20 m deep and some 3 m in length. It curved round to the east at both ends, then abruptly terminated. Running down the centre of the trench was a timber stain on average 0.20 m wide and the full depth of the trench.



Illus. 11 Plas Gogerddan: Plan and sections of rectangular structure 373

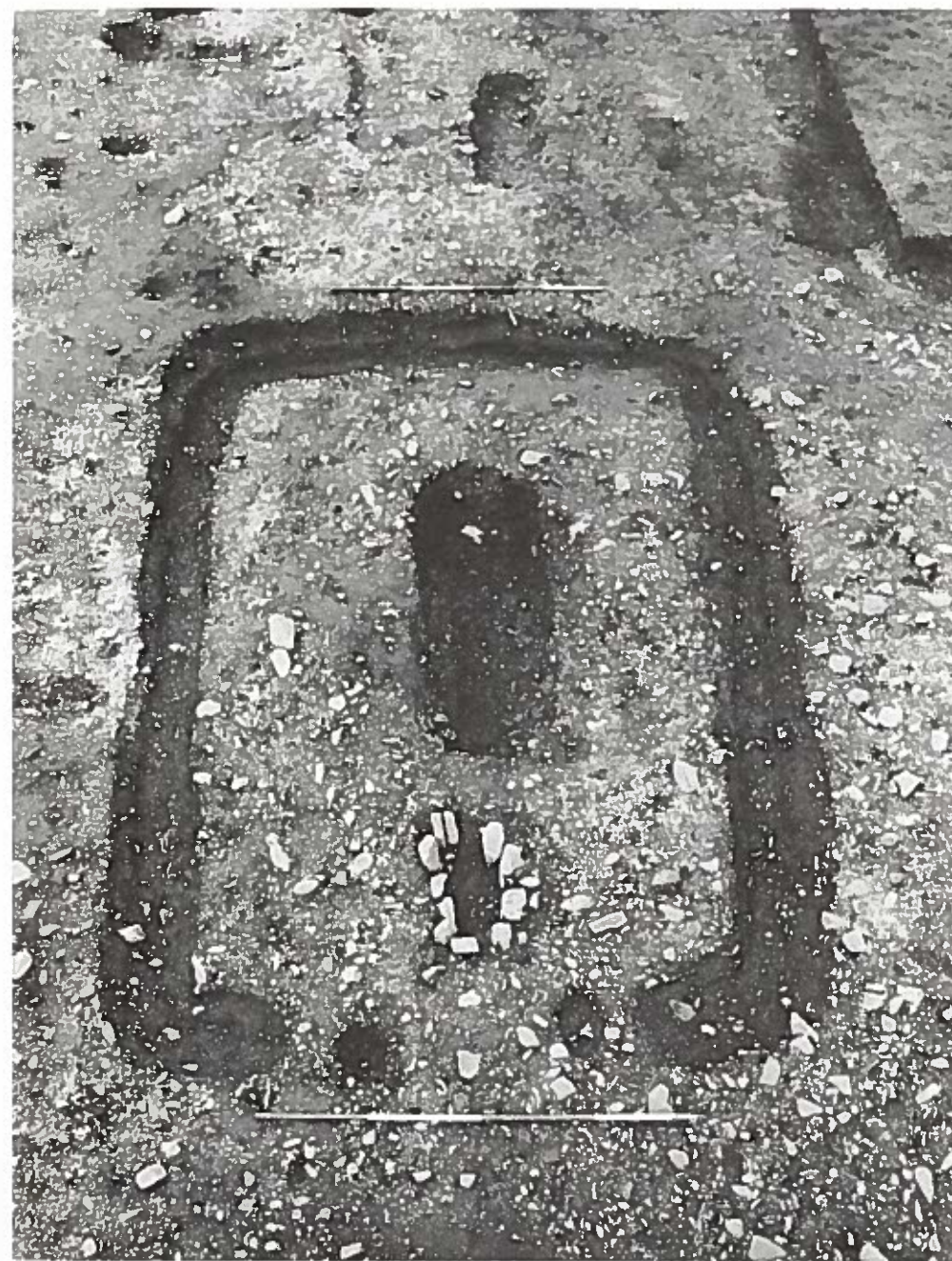
The northern side of the trench was represented only by a dark, discontinuous stain on the surface of the subsoil. The north-east corner of the structure was indicated by a turn to the south in the stain. A small, shallow, rectangular pit, an infant's grave or a prehistoric feature, represented the furthest point to which the stain could be traced.

There was no obvious entrance to this structure. If the post-hole on the southern side was contemporary with the structure, then an entrance may have been sited between it and the western end. There was no evidence for or against an entrance in the eastern end. The grave 197 probably lay across the eastern wall-line of the structure, and is therefore not contemporaneous with it — indeed, grave 197 seems more closely aligned to structure 373 than 374.

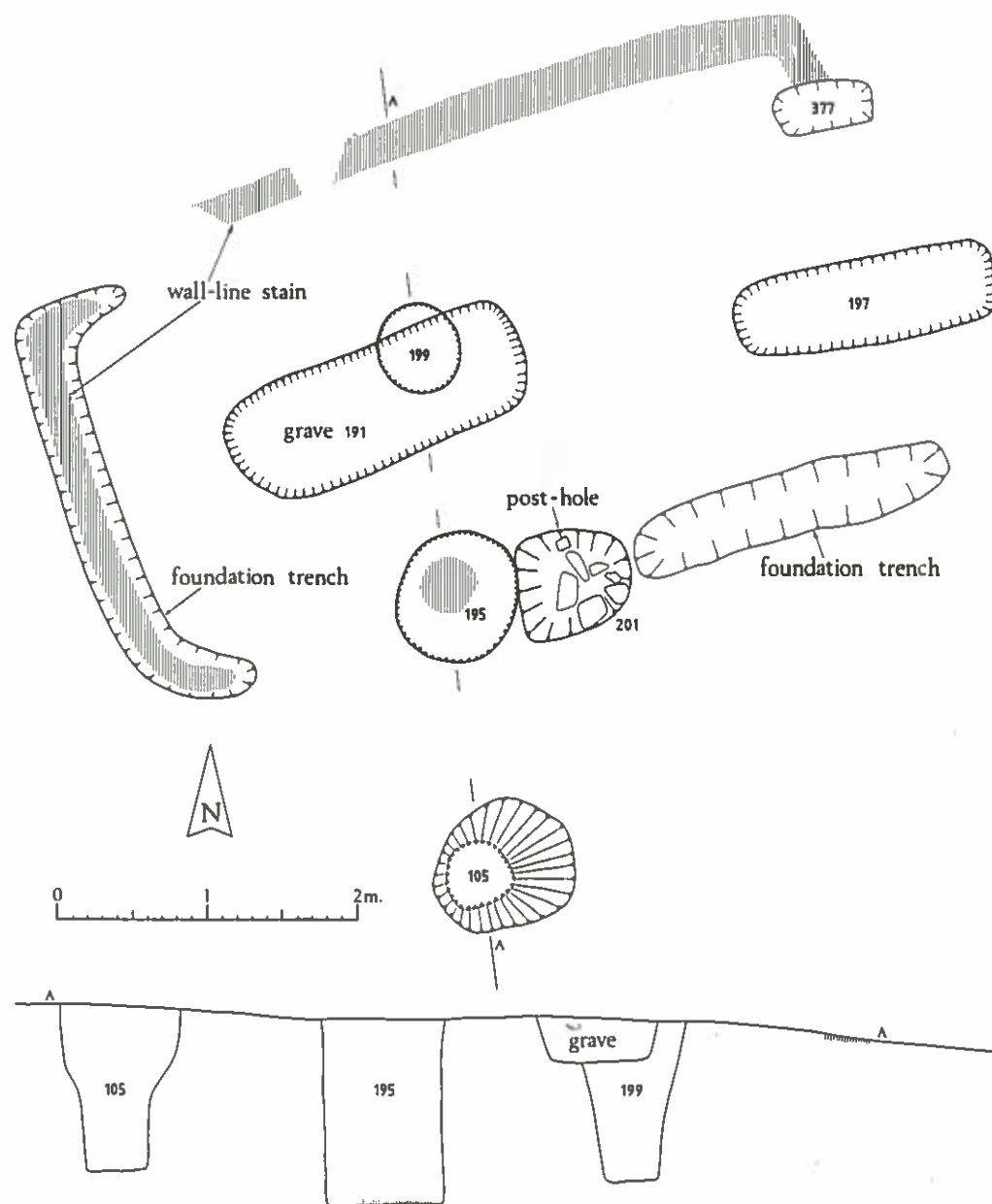
The grave within this structure contained no evidence of a bone or coffin stain. Externally, structure 373 measured 5.7 m in length and 3.5 m in width, narrowing down to 3 m in width at the western end.

Structure 375

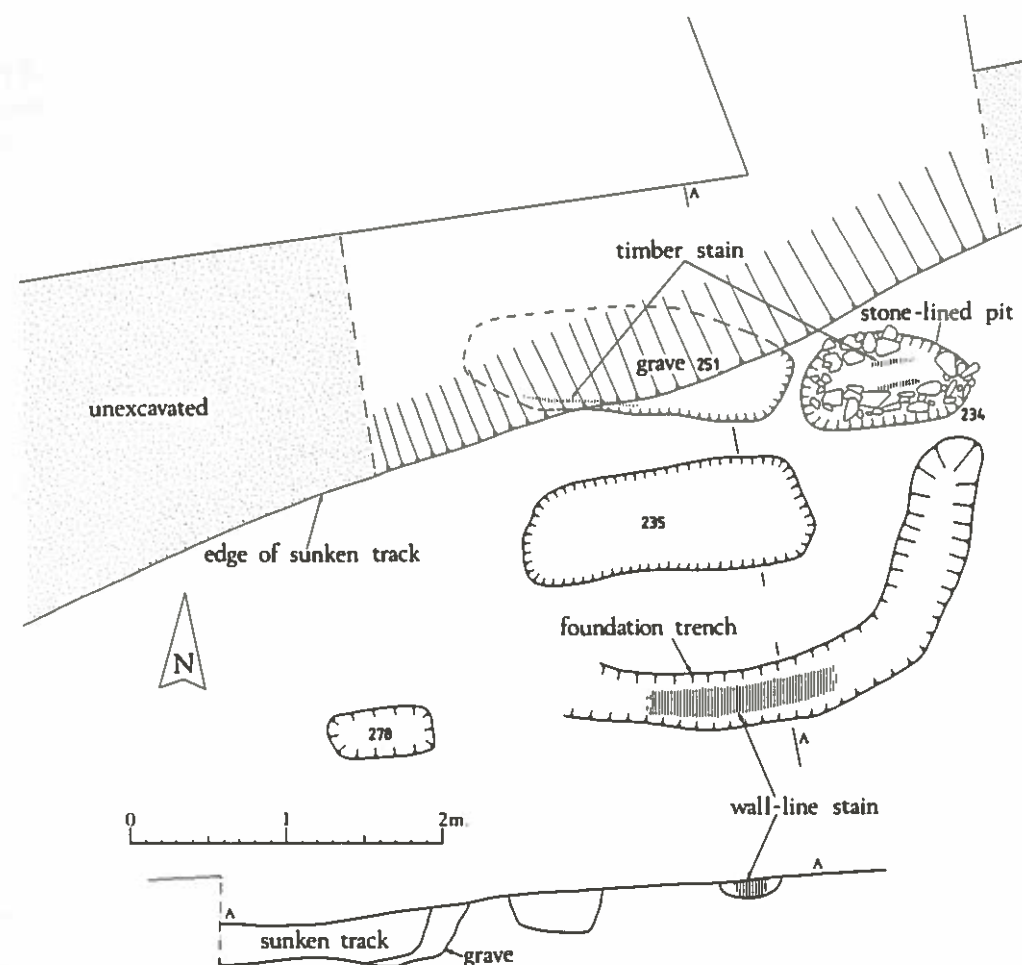
This was the least well preserved of the three rectangular structures; only the south-east corner of the external trench, part of the central grave and a stone-lined pit survived. The remainder had been cut away by a sunken trackway. A second grave within the confines of the foundation trench may not be contemporaneous with the structure (Illus. 14).



Illus. 12 Plas Gogerddan: Rectangular structure 373 viewed from the east. Scale 2 m. The timber staining down the centre of the trench has been excavated as an entity. The coffin stain in the central grave can just be made out



Illus. 13 Plas Gogerddan: Plan and section of rectangular structure 374 and pits 105, 195, and 199



Illus. 14 Plas Gogerddan: Plan and section of rectangular structure 375

The foundation trench was very shallow (7 mm on average) and faded out entirely to the west, but its northern limit was a definite terminal, probably marking the southern side of an entrance. A 0.20 m wide stain was present in the trench.

A slight trace of a coffin stain was visible in the damaged grave. The grave seemed to follow a west-north-west to east-south-east alignment; an axis possibly maintained by the surrounding structure and stone-lined pit (234).

The stone-lined pit was situated to the east of the grave and probably just inside the entrance, as in structure 373. Two parallel timber stains within the fill suggest that a small wooden box had been interred in the pit.

It was impossible to ascertain the length of structure 375. If it was of a similar design to 373, that is with a 1 m wide entrance in the eastern end, then its width would have been c. 4.5 m, greater than 373 or 374.

It is not known if grave 235 was located in the structure by accident or design. It is more closely aligned to structure 373 than 375.

Interpretation

Rather unsatisfactorily, a single radiocarbon determination of 1580 ± 60 BP (CAR 1045) provides the only dating evidence for the inhumation cemetery. The range of this date at two sigma is 265–640 cal. AD. Since the sample which provided this date came from a coffin which may have been constructed from mature wood, it is likely that at least half a century should be added to it. The radiocarbon date can nevertheless be taken to provide an indication of the date of the cemetery, as the small number of graves perhaps indicate that burial occurred over only a few generations. However, as the limits of the cemetery were not defined, it may have been more extensive, particularly on the eastern and northern sides.

It seems probable that the three rectangular features were timber buildings, with doors in the eastern ends of 373 and 375. An equally plausible interpretation, however, is that they represent substantial palisades surrounding important graves. The rounded corners to the trenches suggest that the walls were constructed from contiguous upright posts, rather than from sleeper beams and timber framing.

Phosphate analysis on the fills of the stone-lined pits in two of the structures shows that they were not infants' graves. A more likely explanation is as receptacles for dedicatory or ritual offerings deposited in a wooden container.

No stratigraphic relationship existed between the three rectangular structures, and therefore it is not known if they stood simultaneously or sequentially. The three buildings were on slightly different alignments, perhaps suggesting that they did not stand at the same time.

Some unenclosed graves appear to have been aligned with individual structures. Structure 373 had the greatest number of graves parallel to it — the row of five to the south of it, the isolated small grave to the east (276), two to the north (264, 204), grave 235 in structure 375 and grave 197. It seems unlikely that these grave alignments imply any greater importance for 373 compared with the other two structures. There may simply have been more burials dug during the period when it was standing than during the existence of structures 374 and 375.

The group of graves to the south-east of the standing stone were possibly aligned on features outside the confines of the excavation and it should be noted that there were two alignments visible in this group.

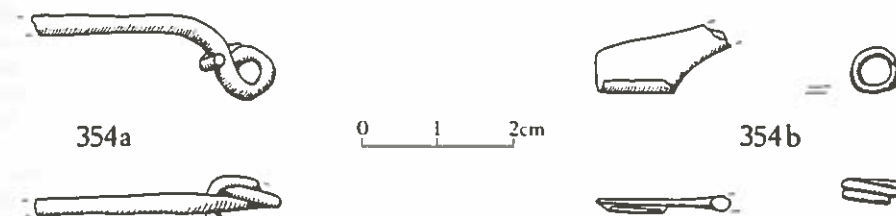
The three rectangular buildings and the unenclosed graves appear to use the presumed former position of the standing stone (pit 132) as a focus, yet at the same time they respect the general area of the prehistoric features. As suggested above, it appears that when the graves were dug these earlier features were visible.

POST-MEDIEVAL FEATURES

Many features of a nineteenth century date were discovered during the course of the excavation. These could usually be distinguished as they contained sherds of glass and/or clay-pipe stem, and their fills were far more humic than average. Only the definite nineteenth century features, that is those that contained finds, are marked on the plans (Illus. 3, 5, 6).

COPPER ALLOY OBJECTS *By H. N. Savory*

There can be little doubt that the fragments from grave 340 represent two brooches made from copper alloy (354a and b, Illus. 15), which would probably, to judge by the position in which they were found, have fastened a garment on each shoulder of the corpse. It is also likely, though unprovable, that the small fragments from grave 335 also belong to a dress-fastener of some sort.



Illus. 15 Plas Gogerddan: Copper alloy objects from grave 340. Scale 1:1

354a This was found as a single relatively large fragment. The bow of this brooch has been made of a length of bronze wire, now, in its corroded condition, approximately 2 mm thick and quite straight for most of its length, forming a low bow, with the wire at one end thinned out to a thickness of approximately 1 mm, to form a bilateral spring 6 mm in diameter, with an internal chord. It is, at any rate, possible to deduce this from what remains and to see how the wire at the foot of the bow was first coiled twice on the right hand side and then carried underneath the bow and coiled twice again on the left, so that it could be continued as a pin vertically below the bow. The overall length of this brooch fragment is 33 mm, but as the portion which would have included the foot of the brooch, and the pin, are alike missing, it is impossible to say what the original length of the brooch would have been.

354b The fragments of 354b cannot, unfortunately, be certainly reconstructed, even though they belong to various parts of a simple brooch made from a length of bronze wire approximately 1 mm thick. Most of one side, and part of the other side of a bilateral spring, 6 mm in diameter, with two coils on either side of the bow survive, but although the beginning of a chord can be seen on the better-preserved side, it is impossible now to say whether this was external or internal. The longest portion of straight wire, 20 mm long, could either be from the bow or the pin, and the other, smaller fragments are not enough to suggest that the overall length can have been much more than 35 mm. Some small, rather thicker lengths of wire, one bent, may be from the bow adjoining the spring. Unlike 354a, however, it is at least possible to say that the catch plate was of the solid variety, for a sizeable fragment of this survives (7.5 mm), representing the outer end, with part of a curled up lower edge on which the tip of the pin would have rested, and there are some small fragments which may represent the junction between the catch-plate and the bow. This, then, may have been an example of the 'Nauheim derivative' type brooch with solid catch-plate.

334 Very little can be said of the small bronze fragments from grave 335. The largest fragment, 14 mm in overall length, varies in thickness, up to 3 mm at one point, while at one relatively narrow end there is a narrow ring-like swelling; at the other end, the body is bent round almost at right angles. It is conceivable that we have here part of the open catch-plate of a brooch of La Tène II or III form, but it would be unsound to press this.

Discussion The form of the spring of brooch 354a is a precious typological indicator. The bilateral coil, is of course, an enduring feature of the La Tène brooch, which first appears on the earliest La Tène Ia brooches on the continent in the fifth century B.C., and is characteristic of British La Tène I

brooches, including those which most resemble the La Tène Ia form with the high bow (Fox 1927). The low, flattened bow of our fragment, however, most resembles that found on many continental and some British brooches of the final La Tène Ic form — Fowler's (1954, 93) type Ic (Swallowcliffe). While it appears that no recorded examples of a La Tène I brooch from Britain has an internal chord on its spring, such chords, as it happens, are quite common on La Tène Ic brooches on the continent, late fourth–early third century B.C. (Kruta 1973; Millotte 1963, pls. LXXIV, 4, 6; Henry 1933, fig. 31, 7; Hure 1931, figs. 151, 1948, 10, 194, 208–10, 293, 298, 301, 311; Bretz-Mahler 1971, figs. 10, 12–15, 18–19), and Kruta (1973, 24–29) has studied statistically the incidence of this type of chord in Bohemia. More distinctive of Britain, however, is the brooch, commonly made of iron, which has a foot evolving into the La Tène II form — Fowler's type 2a (Cold Kitchen), and is the ancestor of the purely British 'involute' form (Fowler 1954, 95). A fine series of such brooches, mainly with iron wire bows, together with many examples of the involute form, from the cemetery at Wetwang Slack in East Yorkshire, has recently been published by Dent (1982, fig. 4). None the less, although the bows of these brooches come much closer in their form to 354a, none from Wetwang or from anywhere else in Britain, as far as I am aware, have a spring with internal chord.

It is, in fact, not until the La Tène III phase (late first century B.C.–early first century A.D.) that the internal chord comes to be frequently associated with the bilateral spring on British brooches. It is now that we find two classes of brooch with such internal chords, both well represented in prehistoric associations, at the Glastonbury Lake Village. The first has an open catch-plate, derived from the La Tène II form with foot turned back and tied to the bow (Bulleid and Gray 1911; pls. XL, E 93, E 186), which may be of rod form, like 354a, or flattened, while the second has a solid catch-plate (pls. XL, E 20, E 48, E 132; fig. 43, E 246), and may also have a bow of rod or strip form. The latter type also has a continental distribution and has been called the 'Nauheim derivative' type, but is well represented in southern England; its distribution had been studied by Jope and Wilson (1957, fig. 1, pl. V) when publishing an isolated example, with rod bow, from north-eastern Ireland. If our brooch from Plas Gogerddan is interpreted as an example of the rod-bowed form it should be a connecting link between the Irish example and those found in south-western England, and could be set beside strip-bowed examples from the Welsh Marches and Penmaen-mawr in north Wales (Jope and Wilson 1957, 78). It is, however, impossible to judge from internal evidence whether 354a had an open or solid catch-plate.

Summing up, the most likely interpretation of 354a and 354b is as late La Tène brooches of the late first century B.C. or early first century A.D., and that they may be seen as inexpensive and practical necessities likely to have belonged to a person of relatively low social standing.

THE NEOLITHIC CARBONIZED PLANT REMAINS FROM PIT 206

By A. E. Caseldine

During the excavations at Plas Gogerddan samples were taken for radiocarbon dating and possible archaeobotanical analyses. Initially, charcoal was identified from four of the samples (M1/01–02) sent for radiocarbon dating. However, one of the samples, which was radiocarbon dated to 4700 ± 70 BP (CAR 994), was also found to contain carbonized grain, and therefore a full analysis was undertaken of the remaining material for charred plant remains.

Charred Plant Remains

The neolithic sample (205) containing grain was from a shallow pit (206) on the northern edge of the excavation (Illus. 5). The original size of the soil sample was c. 4–8 litres and comprised the total contents of the pit. The sample was processed by the Dyfed Archaeological Trust using the method outlined in Mantle *et al.* (1984). Unfortunately, because the sample was floated primarily for the recovery of charcoal for radiocarbon dating only a sieve with a mesh size of 1 mm was used to collect the flot. The residue was also not retained. The weight of the 1 mm flot was 70 g and approximately ten per cent was used for radiocarbon dating. The dated material was largely wood charcoal rather

than the other plant remains, which were discovered during preparation of the sample for dating. Hence the sample received by the author for analysis almost certainly contained most of the larger plant remains, assuming no major loss in the residue, but chaff and weed seeds were probably under-represented.

A comparatively small amount of wood charcoal was present in the remaining sample (M1/02, Table M4) and much of the sample (Table 2) consisted of a mix of cereal grains, chaff, crab apples (*Malus sylvestris*) and hazelnut (*Corylus avellana*) fragments.

In general the grain was quite well preserved for prehistoric material although most of it showed signs of mechanical abrasion. The majority of the grains were assignable to wheat (*Triticum*), and in particular emmer wheat (*Triticum dicoccum*). The latter was confirmed by the presence of emmer chaff, mainly glume bases and spikelet forks. Most of the grain ascribed to emmer had a relatively distinct dorsal ridge, giving the typical 'humped' appearance. However, some of the grains were rather more slender and slightly flatter. A number of the grains were drop-shaped with the greatest breadth occurring in the upper part of the grain, presumably as a result of the effects of carbonization. Pressure lines from the glumes were evident on many of the grains. In addition to those grains with a concave or flat ventral surface some of the grains had a convex ventral surface and must have developed in single-seeded spikelets. A few grains, one in particular, had a flatter and blunter appearance reminiscent of spelt wheat (*T. spelta*) and were assigned to *T. dicoccum*/*T. spelta*. However, none of the

TABLE 2: Sample 205: the charred plant remains from neolithic pit 206

CEREALS		
<i>Triticum dicoccum</i>	grain	197
	spikelet forks	90
	glume bases	205
<i>T. cf. dicoccum</i>	grain	136
	single-seeded grain	62
	spikelet forks	23
	glume bases	123
	rachis fragments	2
	basal internodes	2
<i>T. dicoccum</i> or <i>T. spelta</i>	grain	4
<i>Triticum</i> sp.	grain	315
	awn fragments	2
<i>Hordeum sativum</i>	grain	8
Cereals indeterminate	grain	89
	grain fragments	3.9g
	basal internode	1
OTHER PLANTS		
<i>Malus sylvestris</i> Mill	seeds	30
	seed fragments	93
	stalk fragments	59
	epidermal and endocarp fragments	6.5g
<i>Malus</i> and indeterminate cereal	small fragments	8.4g
<i>Corylus avellana</i> L.	nut shell fragments	117
<i>Polygonum cf. minus</i> Hudson	seeds	1

chaff was of spelt and therefore it seems unlikely that any of the latter grains were spelt. Another possibility though improbable is that these grain(s) could represent contamination from a later period. A small amount of not very well preserved barley (*Hordeum sativum*) was also present. Indeterminate grain fragments were frequent.

Most of the remainder of the sample, apart from 117 fragments of hazelnut, consisted of numerous fragments of apple including seeds, stalks, epidermis and endocarp. Only one weed seed, *Polygonum cf. minus* was identified from the sample.

The mixed grain, apple and hazelnut ('muesli') assemblage is typical of that recorded from neolithic sites in Britain, reflecting both the continuing dependence on the collection of woodland wild plants for food and the cultivation of cereals. However, the concentration of carbonized grain and apple from Plas Gogerddan is considerably greater than that recorded from other British neolithic sites (Moffett, Robinson and Straker 1989).

The sample may be interpreted as representing a combination of accidental and deliberate charring of plant remains during crop processing and food preparation activities, or alternatively the deliberate burning of waste material. The ratio (1:0.78) of wheat grain to glume bases in the sample is relatively close (particularly as the amount of chaff is probably under-represented due to only the 1 mm flot being retained during recovery of the carbonized plant remains) to the expected ratio (approximately 1:1) of glume bases to grain found in whole emmer plants. Therefore it would appear that the charring did not take place during cooking or cleaning of grain. However, the almost complete absence of weed seeds, straw nodes and culm bases may indicate that the grain had undergone various stages in crop processing (Hillman 1981, figs. 5, 7), although it could reflect other agricultural practices, or both. Separate reaping of the ears would result in the absence of weed seeds, straw nodes and bases but the presence of basal rachis nodes as well as other chaff (Hillman 1981), as in sample 205. Hence the sample could perhaps represent accidental charring during parching (although no whole spikelets were present) of ears harvested separately from the straw, or accidental or deliberate burning at a slightly later stage, perhaps after pounding but prior to removal of the chaff. The lack of weed seeds could, however, be attributed to very thorough, rough rogueing (weeding) of the crop. Equally, the virtual absence of weed and straw remains could reflect the retrieval of the charred plant remains.

Of the other plant remains, the wrinkled appearance of the apple skin perhaps indicates accidental charring whilst the apples were being dried (Helbaek 1953). No whole hazelnuts were recorded and the remains may be fragments discarded after extraction of the kernels (Moffett, Robinson, and Straker 1989). Another possible interpretation of the sample is that it could represent plant material burnt deliberately as a result of some ritual practice.

Finally, the sample confirms the importance of cereal cultivation as part of the neolithic economy in Wales and west Wales in particular, although probably on a small scale. The only other two Welsh sites excavated recently from which neolithic charred plant remains have been recovered are Trelystan where cereal grain was absent (Hillman in Britnell 1982, 198–200), and Gwernvale where cereal remains were scarce (Hillman and Moffett in prep.). Generally, cereal pollen is under-represented in pollen diagrams (Edwards 1979), and is absent or rare during the neolithic period in diagrams from west Wales (Moore 1968; Moore and Chater 1969), suggesting a predominantly pastoral economy. However, the suitability of parts of west Wales for cultivation, from the Neolithic to the present, is perhaps confirmed by the provenance of the sample being in the grounds of the Welsh Plant Breeding Station at Plas Gogerddan.

DISCUSSION

This short discussion is not intended to provide a comprehensive account of the present state of knowledge of prehistory and post-Roman archaeology in west Wales. But rather, it is presented to provide the reader with a guide to useful parallels and to act as a general introduction to areas of interest highlighted by the excavations.

The dating of standing stones is notoriously difficult, particularly in west Wales where prehistoric sites rarely produce more than a couple of datable finds. At Plas

TABLE 3: Radiocarbon Determinations

Lab No.	Context No.	Uncalibrated date	Maximum range at two sigma	Material
CAR 993	144	2950±70 BP	1410–940 cal. BC	Oak charcoal
CAR 994	205	4700±70BP	3640–3340 cal. BC	Mixed wood charcoal
CAR 1045	231	1580±60 BP	265–640 cal. AD	Fibrous wood material from coffin stain
CAR 1072	285	2150±60 BP	390 cal. BC–05 cal. AD	Mature alder charcoal
CAR 1073	339	2770±60 BP	1190–810 cal. BC	Twiggy wood charcoal

The radiocarbon determinations were provided by Dr P. Q. Dresser, Department of Plant Science, University College Cardiff, and are based on a half-life of 5,586 years. The calibrations were calibrated using a computer programme based on articles published by Pearson *et al.* (1986).

Gogerddan there are no stratigraphic grounds for assigning the erection of the standing stone to the Bronze Age: it could just as easily have been contemporary with the neolithic food deposit or the post-Roman inhumation cemetery. Indeed, it is conceivable that the standing stone did not exist until the nineteenth century A.D., when it may have been erected as a race course marker. However, a body of data is being assembled which indicates that the Bronze Age was the principal period of the erection of standing stones. At Stackpole, Dyfed (Benson *et al.* 1990, 185–92) the raising of a standing stone was dated between c. 1870 cal. BC and c. 850 cal. BC (3350±70 BP, CAR 100 and 2890±70 BP, CAR 101). The calibrated radiocarbon dates shown here are calculated at a two sigma range and are expressed at their maximum date ranges (calibrated using the University of Washington's calibration programme, Pearson *et al.* 1986). At Kerrow, Cornwall, two Trivisker urns were discovered in the socket of a standing stone (Dudley and Patchett 1954, 44–45) and at Aber Camddwr II, Dyfed (Marshall and Murphy 1991) a charcoal deposit within which stood a small, 1 m high stone was dated to between 1430–980 cal. BC (2980±70 BP, CAR 995). In most instances, as at Plas Gogerddan the stones are only datable by their association with other features — from which, however, a useful body of dating evidence is slowly being accumulated. The radiocarbon determination, calibrated to the range 1410–940 cal. BC (2950±70 BP, CAR 993), from a pit near the standing stone at Plas Gogerddan compares favourably with the dates quoted above, and with the date of 1600–1050 cal. BC (3090±100 BP, BIRM 950) obtained from excavations around a stone on Mynydd Llangyndeyrn (Ward, 1983, 41). Radiocarbon determinations from two further excavations on standing stone sites in Dyfed are earlier than most of those expressed above when calibrated at the two sigma range; 1740–1430 cal. BC (3290±70 BP, CAR 957) from Gors, Llangynog (Marshall 1986, 33) and 1750–1440 cal. BC (3305±70 BP, CAR 315) from St Ishmael's (Williams 1989, 33).

No single type of archaeological feature has been identified on standing stone sites. Usually a scatter of indeterminate pits are discovered, although the dramatic wedge-shaped setting of hundreds of small upright stones at Stackpole (Benson *et al.* 1990, figs. 9, 10 and pls. 14b, 15) demonstrates what may survive on other un-ploughed sites; the

shape of this setting perhaps recalls the arrangement of pits and post-holes at Plas Gogerddan. Cremations have been discovered at Stackpole and St Ishmaels (Wilkinson, in Williams 1989, 42), and putative timber buildings at Llangyndeyrn (Ward 1983, 40), although nothing has been discovered on other sites to compare with the massive post-holes at Plas Gogerddan. For a full description and discussion of standing stone sites of south-west Britain see Williams (1988).

Without the radiocarbon dates the three ring-ditches, together with the cremation in a ditch fill, would have been assumed to be of early bronze age date. But clearly the ring-ditches, two of which encircled mounds or barrows, were constructed between c. 1190 cal. BC and c. 05 cal. AD (2770±60 BP, CAR 1073 and 2150±60 BP, CAR 1073). Round barrows of the later Bronze Age and Iron Age are known in Britain (Grinsell 1953, 24–26), but are relatively rare in comparison with early bronze age monuments of this type. No round barrows of the first millennium B.C. are yet known from Wales. Perhaps the closest parallels to the Plas Gogerddan ring-ditches are found in Ireland where several ring-barrows, usually surrounding more than one cremation, have been excavated and provisionally dated to the later Bronze Age (Raftery 1981, 173–77). These monuments are up to 30 m in diameter; considerably larger than the Plas Gogerddan ring-ditches.

In the light of the neolithic, bronze age and iron age dates from Plas Gogerddan the date of the large, unexcavated round barrow 50 m to the south of the standing stone is open to speculation.

It is clear from the gazetteer of iron age burials that a good deal of caution needs to be exercised when discussing the tenuous and disparate evidence for funerary rites of the Iron Age in Wales. (See Appendix below p. 30, for these burials and references). Only at Plas Gogerddan and Gellinog Wen (Hughes 1909) are burials associated with artefacts of the Iron Age, and radiocarbon determinations have been obtained from just three cremations, Plas Gogerddan, Castell Buckett and Ystrad-Hynod and one inhumation, The Devil's Quoit. Other skeletal remains are assigned to the Iron Age because of their association with, or proximity to, settlements. The final class of evidence suggesting the identification of burials comes from artefacts (e.g., mirrors, spoons, and hanging bowls) with which there was no skeletal material, either because of the nature of the discovery (construction work and agricultural clearance of last century), or because bone has disintegrated in the acid soils which cover most of Wales. On this last point it is worth noting that the majority of inhumations are from areas of limestone geology and wind-blown sand, over which alkaline soil is the norm.

In total some twenty-one burial sites of the Iron Age are known from Wales; with about forty-five to fifty individuals represented. Of these approximately thirty-five are inhumations, six or seven cremations and the remainder indeterminate.

Two distinct locations for iron age burial seem to be evident in Wales: first, in or around hillforts, of which some 200 inhumation examples have been recognized by Whimster (1981, 191) in southern England; second, at bronze age ritual/funerary monuments as secondary cremations and inhumations. In Wales the different funerary rites, extended inhumation, crouched or flexed inhumation and cremation occur without prejudice to site type.

Eleven hillforts in Wales have produced evidence of iron age burial; the most common type being crouched or flexed inhumations in, or immediately outside defensive ditches, as at Crockysdam Camp, Mynnydd Bychan, Nash Point and Llanmelin. While the several burials reported from within and without the defences of Coygan Camp are probably in the same tradition, as are the cremations outside the defences of Drim Camp and Castell Buckett. The mixture of animal and human bones in this latter deposit perhaps indicates a less formal approach to the disposal of the dead.

In addition to the Castell Buckett deposit other sites have provided evidence either for pre-burial interference with human remains or for unceremonious treatment of corpses. Five human metacarpals were discovered in the occupation deposits at Coygan Camp and a skeleton in a midden in Greenala Camp. The bones of one of the skeletons at Nash Point had been mutilated before burial. Possibly the three crushed infants' skeletons from The Devil's Quoit should be considered in the same broad group as the above, although it seems more likely that these represent the remains of ritual.

The re-use of bronze age monuments for iron age inhumations and cremations appears to have been a fairly common phenomenon among the limited number of burials known of the period in northern Britain (Whimster 1981, 401–16). A similar situation seems to have prevailed in Wales; at Plas Gogerddan three crouched inhumations and a cremation were discovered in association with earlier ring-ditches, and the three infant skeletons already mentioned at The Devil's Quoit standing stone, Stackpole, were sited near an adult burial. The dispersed late bronze age or early iron age cremation at Ystrad-Hynod was clearly deposited in a pre-existing cairn, and it is suspected that the mirror handle and helmet from Llanwrda and spoons from Castell Nadolig were similarly sited. Fox and Pollard (1973, 37–39) have demonstrated that the British occurrence of La Tène mirrors is usually in association with burials, and it is considered that the same applies to spoons, when found as pairs. It is unfortunate that the other examples of these items from Wales, spoons from Ffynnogion and a mirror and platter from Llechwedd du bach, lack detailed provenance.

The only examples where excavation or chance discovery has revealed evidence of formal cemeteries are at Plashyatt, situated below Coygan Camp, Plas Gogerddan and possibly The Warren, Myrthyr Mawr.

Bronze age ritual and burial sites and iron age settlements were used for inhumations into the post-Roman period. In total, five excavated sites in Wales now have examples of rectangular features associated with east-west aligned graves: Plas Gogerddan, Dyfed; Tandderwen, Clwyd; and Arfryn, Capel Eithin and Llandegai in Gwynedd. At Llandegai a rectangular trench, 4.2 m by 3.6 m, was considered to be the foundation for a small timber building, and onto this feature were aligned over thirty graves (Houlder 1968, 221, pl. XXXIIa). This cemetery was cut across the levelled site of a cursus, and nearby were two henge monuments and other prehistoric sites. Similarly at Tandderwen, nine rectangular ditched enclosures and thirty-nine east-west aligned graves were found in association with bronze age ring-ditches and unenclosed bronze age cremation burials (Brassil *et al.* 1991). Here, though, the rectangular ditched enclosures were not interpreted as foundation trenches for buildings; indeed the largest ditch, 9 m by 8.5 m, was clearly too wide for a roof span. The excavators suggested that material from the ditches was either heaped to form an internal mound or an external bank. Two

radiocarbon determinations were obtained from poorly preserved wood in two separate graves, presumably the remains of coffins. These dates of 1440 ± 60 BP (CAP 984) and 1090 ± 70 BP (CAR 1234) suggest a seventh to tenth century A.D. date range for the Tandderwen cemetery. At Arfryn and Capel Eithin small rectangular timber buildings were found in association with graves, some of which appeared to be of the Christian dead (White 1972; 1981), although the phasing and dating of these sites has not been finalized.

There is a superficial similarity between the Welsh rectangular structures/ditched enclosures and a type of site recently recognized in Scotland. As yet only one of these sites has been excavated, at Boysack Mills, Angus (Close-Brooks 1984, 91-94); here a burial in the centrally placed grave of a 5 m square ditch was accompanied by a pin datable to the second or possibly third centuries A.D.

It has been generally assumed that the earliest recognizable christian burial type in Wales is the long cist, or lintel grave, as found at Arfryn (White 1972) and Bayvil Dyfed (James 1987). A grave from the latter site was radiocarbon dated to the late seventh-eighth century A.D. (1290 ± 60 BP). Long cist graves of a slightly later date from Llanychlwydog Church, Dyfed have been proven to be Christian (Murphy 1987: 87-88). It is tempting to see the graves at Plas Gogerddan, Tandderwen and Llandegla as existing parallel to or earlier than long cists, with the inhumation method following the Christian practice established elsewhere in Britain by the end of the Roman period (Thomas 1985, 228-39).

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APPENDIX: GAZETTEER OF IRON AGE BURIALS IN WALES

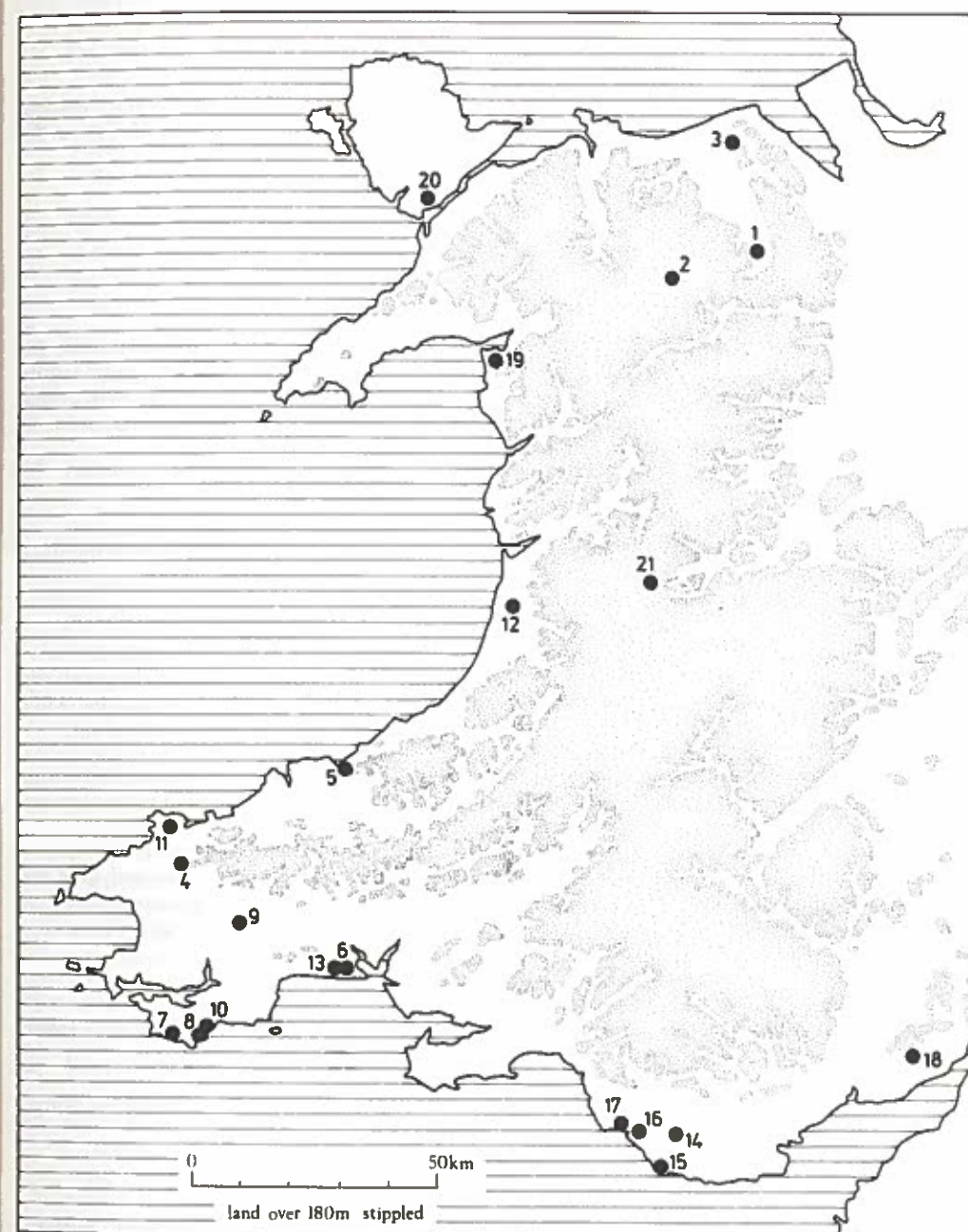
By K. Murphy and G. Williams

The distribution of burials is shown on Illus. 16.

CLWYD

1. Ffynnogion, Llanarmon Dyffryn Clwyd, SJ 131560

Pair of spoons found during railway construction in 1861. No other evidence for a burial. Barnwell 1862, 208-10; Savory 1976, 41, 61, fig. 36.



Illus. 16 Plas Gogerddan: Distribution of iron age burials in Wales

2. *Ty-tan-y-foel Farm, Cerrigydrudion, SH 952505*
Hanging bowl found in 1924 in a cist. No trace of a burial.
Savory 1976, 26–27, 55, fig. 5; Whimster 1981, 174, 417.
3. *Moel Hiraddug, Cwm, SJ 0678*
Two inhumations some 5 m inside the ramparts of a hillfort, sealed by metal track that ran through the entrance of the hillfort. Not associated with finds, but probably iron age date, at the latest.
Davies 1970, 9–10.

DYFED

4. *Castell Buckett, Letterston, SM 950310*
Two shallow interlocking hollows containing cremated bone were discovered outside the ramparts of a hillfort. The northern-most hollow contained the remains of one, and possibly two adults and a child. In the southern pit were bones of a ?female adult. In both samples animal bone was present and human skull vault fragments were scarce. A radiocarbon determination of 2340 ± 60 BP (CAR 588) was obtained from charcoal in the northern hollow.
Williams 1985, 13–15.
5. *Castell Nadolig, Penbryn, SN 298504*
A pair of La Tène spoons was discovered in 1829 when a 'heap of stones' was removed from the internal area of a hillfort.
Barnwell 1862, 214–15, fig.; Savory 1976, 41, 61, fig. 36.5.
6. *Coygan Camp, Llanddowror, SN 284091*
(i) In 1842 during quarrying a rock cut cist covered by a 1.5 m diameter, 0.30 m thick slab and containing a contracted skeleton was discovered, either within or just outside the ramparts of a hillfort.
Gents. Mag. 1842, 472–74; Wainwright 1967, 6; Whimster 1981, 174, 417.
(ii) Excavations inside the hillfort produced a pair of La Tène bracelets and two serpentine rings, perhaps from dispersed burials. Five human metacarpals were also found in the iron age deposits.
Wainwright 1967, 40–42, 44, 83, 164, 191–92, fig. 21, pl. VIII; Whimster 1981, 174, 417.
(iii) A slightly flexed adult female skeleton was discovered resting on sub-soil near the southern entrance of the hillfort. It was covered by Romano-British occupation deposits. A third century A.D. date for this burial was favoured by the excavator, although an earlier period for its deposition was not ruled out.
Wainwright 1967, 55–56, 195–203.
(iv) Flexed skeleton of a female child, 6–7 years old, lying on subsoil near south entrance to hillfort and covered by Romano-British occupation debris. A mortarium sherd was found between its ribs. Date as for (iii) above.
Wainwright 1967, 55–56, 195–203, fig. 6, pl. VIIb.
(v) Two skeletons are reported as coming from the slope below the eastern side of the camp.
Curtis 1880, 138.
See also No. 13.
7. *Crocksydiam Camp, Warren, SR 935943*
An inhumation found in the late eighteenth century in the fill of a defensive ditch of a hillfort. From Crocksydiam Camp or the nearby Buckspool Camp. The burial was accompanied by a bronze brooch.
Fenton 1811, 412; Laws 1908, 105; R.C.A.H.M. 1925, 20; Benson *et al.* 1990, 241.

8. *The Devil's Quoit, Stackpole, SR 981951*
(i) Crouched adult skeleton, head to the north, facing east, sited symmetrically in a setting of small upright stones associated with an early/middle bronze age standing stone. A long bone of the skeleton provided a radiocarbon determination of 2110 ± 60 BP (CAR 104).
(ii) Twisted child inhumation, aged 2.5–3 years, deposited in the base of a small pit, possibly a post-hole. Close by and broadly contemporary with (i), above.
(iii) Skeleton of a ?peri-natal infant, twisted and crushed. Situated adjacent to (ii), above.
(iv) Twisted and crushed 14–18 month old child's skeleton sited close to (ii) and (iii), above.
Benson *et al.* 1990, 228.
9. *Drim Camp, Llawhaden, SN 067194*
A cist containing an adult male cremation discovered outside the defences of a small iron age defended site.
Mytum 1981, 32–33.
10. *Greenala Camp, Stackpole Elidor, SN 006965*
Within a hillfort, on the edge of a sea-cliff a skeleton with a broken skull was found in a 'kitchen midden'.
Laws 1908, 104; R.C.A.H.M. 1925, 387.
11. *Llanwnda, SN 93 NW*
A mirror handle was discovered with some sepulchral remains in a cairn during road widening in 1826. A bronze helmet may also have come from the same cairn; if so, a male and a female burial are implied.
Anon. 1879, 65; Boon 1980, 743–44.
12. *Plas Gogerddan, Trefeurig, SN 626835*
(i) Cremation of an adult ?female in the upper fill of a ring-ditch. Charcoal in association radiocarbon dated to 2150 ± 60 BP (CAR 1072).
(ii) Stain of a contracted inhumation accompanied by two La Tène brooches. The grave for this burial was cut into the edge of a ring-ditch.
(iii) Stain of a contracted inhumation accompanied by a bronze ?brooch.
(iv) A pit interlocking with the grave pit of (iii), above, and of similar dimensions, though no body stain in this pit.
13. *Plashyatt, Llanddowror, SN 282096*
Early in 1875 seven or eight slab built cists, c. 1 m by c. 0.80 m were discovered. Every cist was covered by a heavy slab and contained a contracted inhumation of an adult or ?adolescent child. A bone handle and the tang of an iron knife are recorded as coming from the same field. Plashyatt is situated immediately to the west and below Coygan Camp (see no. 5, above).
Curtis 1880, 138; R.C.A.H.M. 1917, 188; Wainwright 1967, 6.

GLAMORGAN

14. *Mynydd Bychan, Pen-llin, SS 963756*
(i) Male adult flexed inhumation, buried on lip of defensive ditch of hillfort — partly in upper fill of ditch. Assigned to phase II of the site, A.D. 50–100.
Savory 1950, 249; 1954, 98, fig. 26; 1955, 16, pl. III.3.
(ii) Young adult female inhumation accompanied by a catch plate of an iron brooch. Sited and phased as (i), above.
Savory 1950, 249; 1954, 98–99, fig. 26; 1955, 16, 42, fig. 4.2.
(iii) Disturbed inhumation, sex and age indeterminate, accompanied by two iron bow brooches of a type dated to the decades either side of the Roman conquest.
Savory 1954, 98–99, fig. 26; 1955, 16, 41, fig. 4.1.

15. *Nash Point, Marcroes, SS 914684*

(i) Crouched inhumation of an adult male, with head to the west, found in the lower fill of a defensive ditch of an outwork associated with a hillfort. The bones had been mutilated before interment.

Savory 1945-48a, 59-60; 1948-50, 40.

(ii) Extended inhumation with head to the south-west. Removed before properly examined, but probably was in a similar situation as (i), above.

Savory 1945-48a, 59-60; 1948-50, 40.

16. *Ogmore Down, St Brides, SS 8876*

Two inhumations discovered in 1818 were found to be wearing helmets and were accompanied by unusual objects; barbed iron daggers, 'brass' skull caps, an iron chain, etc. Objects dated to either the fourth-third centuries B.C. or first century A.D.

Anon. 1872, 553-56, pl. 36; R.C.A.H.M. 1976, 6; Savory 1976, 40; Whimster 1981, 175, 418.

17. *The Warren, Merthyr Mawr, SS 855771*

Iron age settlements are known of on The Warren, and these together with the burials, below, lie in or on wind-blown sand, unlike bronze age sites, which are sited on the old ground surface and sealed by wind-blown sand. Several hundred metres separate the individual burials.

(i) Cist 0.50 m by 0.30 m containing disturbed, crouched, child inhumation. The cist may have been the central feature of a cairn or barrow. A ribbed bronze ring was found close to the cist.

Savory 1945-48b, 59, pls. 3, 4; Whimster 1981, 174, 418.

(ii) Cairn 1.8 m by 1.2 m covered a crouched inhumation.

Savory 1952, 170-01; 1956, 54; Whimster 1981, 174, 418.

(iii) Crouched ?female skeleton aged between 20 and 30 years found at same general level as a 'burnt mound'. Five metres from the burial a penannular brooch was found.

Savory 1956, 53-54.

(iv) Crouched inhumation of a mature male with the head to the west and facing south-east, uncovered by a storm in 1923.

Wheeler 1925, 161-63.

(v) Crouched inhumation found beneath a small cairn.

Savory 1973, 51-52.

GWENT

18. *Llanmelin, Caerwent, ST460925*

(i) Adult male skeleton, 25-40 years old, in fill of ditch of annexe to a hillfort. Skull smashed when found, other found, other bones missing.

Nash-Williams 1933, 264, 310, figs. 26, 55; Whimster 1981, 174, 417.

(ii) Adult female skeleton found immediately outside defensive ditch of hillfort's annexe. Many bones missing.

Nash-Williams 1933, 264, 310, figs. 32, 36; Whimster 1981, 174, 417.

GWYNEDD

19. *Llechweidd du bach, Pant Fadog, SH 59453207*

A La Tène mirror and a platter found together in c. 1880.

Fox 1925, 254-57.

20. *Gellinog Wen, Llangainwen, SH 459658*

Partial cist containing an extended inhumation, accompanied by a La Tène sword and suspension ring.

Hughes 1909, 256-57; Savory 1976, 30, 40, 61, fig. 30; Whimster 1981, 174, 418.

POWYS

21. *Ystrad-Hynod, Llanidloes Without, SN 970882*

Scattered secondary cremation of a child or young woman found in a cairn. Radiocarbon dated to 2480±145 BP (NPL 241).

ApSimon 1973, 45, 49, 53.

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CONTENTS OF THE MICROFICHE

Charcoal identification by A. E. Caseldine
 Table M4: Charcoal identification

M1/01
 M1/02

Cremated bone by J. L. Wilkinson

Soil Phosphorus by J. Crowther

Table M5: Soil phosphorus, gravel content

Table M6: Soil phosphorus, silt+clay content

Table M7: Soil phosphorus, phosphorus concentration of different soil texture classes

Table M8: Soil phosphorus, phosphorus in silt/clay fraction

Illus. M17: Distribution of gravel, silt+clay and in and around grave 136

Illus. M18: Distribution of gravel, silt+clay and in and around pit 248

Illus. M19: Distribution of phosphorus in and around pits 213 and 234

M1/03

M1/05-06

M1/07

M1/08

M1/09

M1/10

M1/11

M1/12

M1/13

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