

**Briefing for Cambrian Mountains Meeting Nant y Moch 20<sup>th</sup> June 12.00**

***Why Nant y Moch is a Vital Study Area for Early Settlement Studies  
and Climate Change in the British Uplands***

*by*

**C.Stephen Briggs**

The uplands of western Britain have enormous potential for the study of early populations, their settlement patterns and relationships to climate, vegetation and soil. The key to an understanding of these problems is to be found in a cover of blanket peat, which began to grow sporadically at the end of the last ice advance after c 10,000 b.c. but which spread to envelope an important proportion of all land over about 200 m O.D. between c 2,500 and 1,200 b.c. At one time it was felt this peat growth could be attributed entirely to natural environmental decline of climatic origin. But over the past half century, the suspicion of causal input by human settlers has grown so that today many see peat as the result of impeded drainage, itself a serious by-product of over-intensive agricultural practices during the later Neolithic and earlier Bronze Age. Originally, the timescale defining these changes came from the establishment of vegetational history through pollen zonation within the bogs. Radiocarbon dating added credibility and refinement to this chronology, while more recently tephra (wind-borne volcanic ash) has become a significant element enabling cross-dating with geological events recorded in Iceland and the Mediterranean.

The bogs of Cardiganshire were first investigated for their vegetational and climatic interest during the 1930s, and since that time scholars have written up numerous investigations here, some of them ground-breaking. For example during the 1960s laboratory work demonstrated the existence of fire-led forest clearances during the Neolithic, even though artefacts and sites of that period are otherwise fugitive in the archaeological record.

These bogs are clearly archives of national significance holding vital data on climate and vegetation for perhaps the last 12,000 years. Yet when an environmental impact assessment was made for the windpower station on the plateau of Cefn Croes, (the ridge running almost contiguous with Nant-y-Moch and Pumlumon and to their south), neither the contract ecologists nor the archaeologists were asked to assess what effect the development might have upon peatbog. The development was devastating nonetheless, and an as yet unspecified area of peat was destroyed or drained to the detriment of both an understanding of past climatic change and of CO<sub>2</sub> regulation by this kind of vegetation at the present time. Soil scientists at Bangor University are currently assessing ways of redressing problems of hydrology that were caused at this time.

**There have been three phases of archaeological interest in the Nant y Moch area.**

The first was during the late 'fifties when plans were being made to depopulate and dam the valley. At the time, there was no county or national archaeology service as we now know it, and it was left to A.H.A.Hogg, then head of the RCAHMW in Aberystwyth, to survey the area in his spare time. The outcome was that he excavated

two early Bronze Age cairns which he had earmarked from a vertical aerial photograph, believing them to have been Iron Age huts. A possibly medieval long hut was also recognised in the reservoir area around this time. No plans were made either of the chapel or Nant y Moch farm, before they were demolished. Bones from graves at the chapel were re-interred at Parish Church in Ponterwyd.

Then, early in 1984, the 20 yr old reservoir was drained to clean out the tunnel carrying water to the hydroelectric plant in Cwm Rheidol. The outcome was to lower the water level close to empty. This brought to light man-made features covered since 1962 and meant that the number of sites potentially of Bronze Age and Medieval or Post-Medieval origin trebled, almost overnight. The denudation process was accentuated because over the years peat had incrementally floated off or slowly eroded from several patches of the old land surface. So whilst the whole valley was laid bare to view from February to September, this process enabled sight of several partial ancient landscapes.

All the sites were surveyed or photographed, and one of Hogg's original cairns was re-excavated by Ken Murphy for the Dyfed Archaeological Trust in order to document far more of its history than had been possible hitherto. Palaeoecologists were recruited to help shed more light on the vegetational contexts of the sites and monuments, and indeed to help explain the history of peat growth itself within the valley basin. Owing to unfortunate circumstances, however, none of these bog-related investigations were ever brought to fruition.

Under a third, and entirely different project regime, several surveys have been made on foot in recent years around Pumlumon under the Uplands Initiative (RCAHMW). Limited laboratory investigations from Lampeter University are also in train to set the monuments within a palaeoenvironmental framework.

**An important outcome of these surveys demonstrates the ubiquity of blanket peat throughout this part of the Cambrian Mountains; it emphasises how fundamental peat was to the economic history well-being of the area until the mid-twentieth century. However, the rate at which new discoveries of archaeological sites can be made at present is hardly comparable to that which obtained in the 1984 Nant y Moch survey, a fact emphasising how visual ground survey tends to be partial and that much will be missed under the blanket peat unless far better methods of reconnaissance are developed to record and safeguard what lies beneath. Such reconnaissance developments are therefore vital to ensure both conservation and preservation of the historic environment if or when future industrial development is permitted to go ahead in this locality.**

**It is ironic that the process of erecting the very wind turbines that are being promoted as saviours of what is believed to be a man-induced climate change is actually threatening our ability to understand the limited surviving local records of anthropogenic climate and vegetational change that are locked into these upland peat bogs.**

## Sources of information

All known sites and monuments in the area can be access online through *Coflein*

Otherwise, the most complete published sources are as indicated below:

The main text which follows is from *Archaeology in Wales* 1984 with additional comments on the importance of the area, using information from uplands surveys by the author and others, also drawing upon the Bronze Age chapter in *Cardiganshire County History* (1993) by C.S. Briggs, 124-218 in J.L. Davies, and D.J. Kirby, (eds.) vol.1, Cardiff, University of Wales Press, and the report by E.C. Marshall and K. Murphy, 'The Excavation of two Bronze Age Cairns with Associated Standing Stones in Dyfed: Parc Maen and Aber Camddwr II', *Archaeol. Cambrensis* CXL 1992, 28-76.

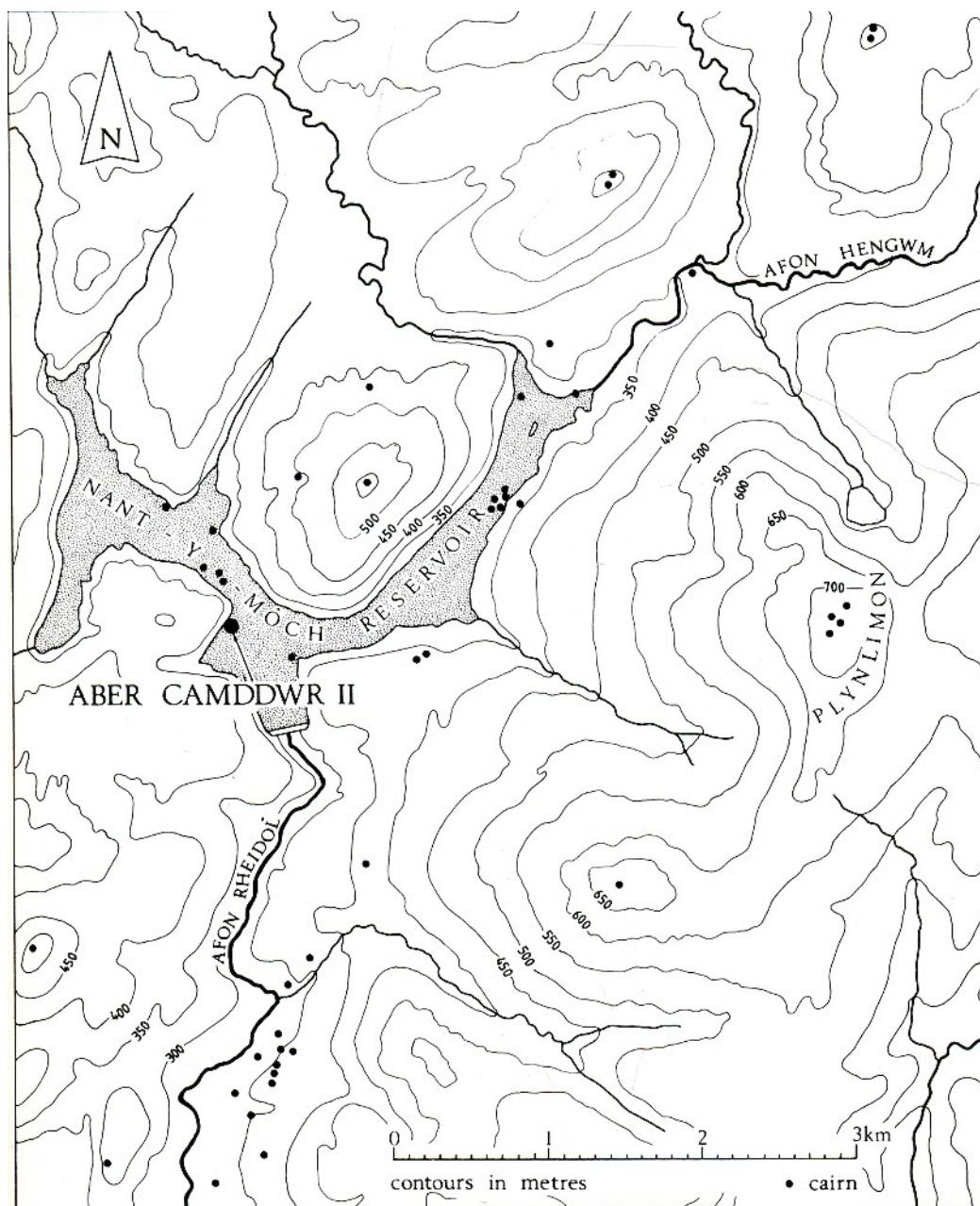
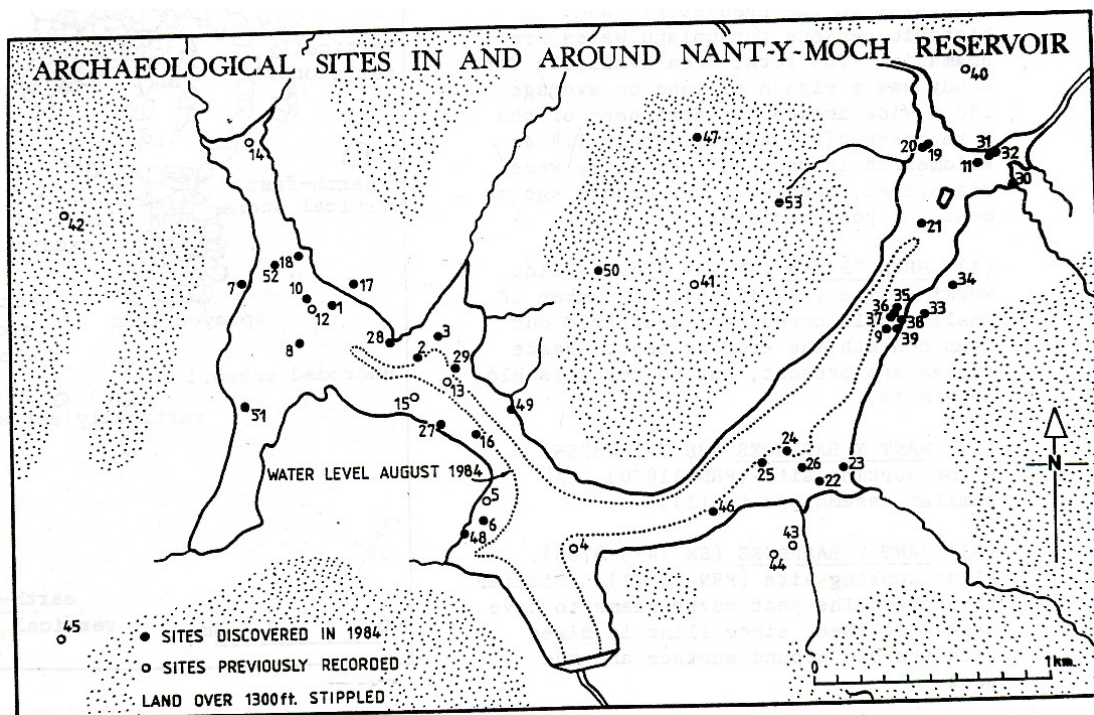


Fig. 11. Archaeological sites in the vicinity of Aber Camddwr II

During 1984 the water level was artificially lowered for maintenance of the hydro-electric plant. The drought of the summer further lowered the water level below that expected and maintained it longer than anticipated. The level was some 25 m below the maximum. During the summer C S Briggs identified many new sites usually covered by water, and selected sites were planned by Mr K Murphy and other members of the Dyfed Archaeological Trust.

Since the valley was flooded by the construction of the dam in 1962 the blanket peat has broken up, floated to the surface and dispersed. This process has been aided by the regime of the reservoir which fluctuates annually, reflecting rainfall and more frequently when the hydroelectric generators are in use. It is within this 'tidal' range of the reservoir (approximately 10 m) that the peat has dispersed more readily, and around much of the reservoir's margin shingle and pebble beaches have developed. The sites which lie in the 'tidal range' are the most susceptible to erosion, while those which normally lie below the surface of the reservoir have suffered little damage. In some areas the former peat cover has not eroded; this is particularly noticeable in the valley which forms the SW arm of the reservoir, and may account for gaps in the distribution of sites.



Prior to 1984 a total of 12 sites were known in the 15 sq kilometres of the National Grid occupied by Nant-y-Moch reservoir. To these have been added 33 new sites, which can be divided into two broad categories: cairns probably of Bronze Age date, and settlements, most probably medieval or post-medieval.

Six cairns were known before 1984, to which can be added at least eleven more. The cairns are all situated on valley sides, often quite steep-sided. None were discovered in valley bottoms or low-lying river terraces [this, of course, remains a matter of definition!]

The medieval/post-medieval settlements (long houses and long huts) were all sited on small river terraces, usually very close to the rivers bank. Two settlements, 11 and 21,

can be linked to old fields, in particular the series of terraces at the confluence of the Hengwm and Llechwedd-mawr all appear to exhibit old field systems.

The implications for site/population densities in the prehistoric and historic periods for upland Wales are dramatic. The total area available for study was only a ribbon of land on average 150 m wide around the periphery of the 7 km reservoir approximately 1.4 sq kilometres in which 32 new sites were discovered, mostly either Bronze Age or medieval/post medieval.

(1) BRYN YR AFR (SN 744 878). Flint working site (PRN 11869). A number of small pebble cores have weathered out from beneath the eroding peat. Waste flakes are present, but no recognisable artefacts. [One of us, CSB, believes these to be from local glacial gravels and of Irish Sea origin. Examination in the then Geology Dept at UCW Aberystwyth by Dr T Palmer failed to ascertain precise lithological origins].

(2) NANT Y BARRACKS (SN 7475 8755). Flint working site (PRN 11870). A similar assemblage to (1).

(3) NANT Y BARRACKS (SN 7475 8765). Flint working site (PRN 11871). Similar to above. The peat cover seems to have been disturbed, since flint is mixed with the old ground surface and the peat.

(4) YR HENFA LAS (CAMDDWR II) (SN 7540 8670). Apparently a Ring Cairn (PRN 4130). Partly excavated by A H A Hogg in 1962 (*Arch. Camb.* 126, 1977, 24-31). This produced an urn, flints, a cremation and a child burial. This site is situated within the tidal range of the reservoir and is being severely eroded.

(5) ABER CAMDDWR I (SN 7501 8691). Kerb Cairn (PRN 4129). Excavated as (4), without any artefacts being discovered although a grave was discovered beneath the cairn. Complete denudation of the peat cover has revealed an 'annexe' measuring 2 x 1.2 m on the SW, complete with kerb and 'paved' area. Immediately to the W of the cairn is a group of five upright stones. Other vertically-set stones may either be erratics or placed there by man. The cairn and outlying structures are all built of erratics. The plan shows the site after clearance or rubble: the 1962 excavations are superimposed on the 1984 plan. The site lies within the 'tidal' range of the reservoir and is being severely eroded.

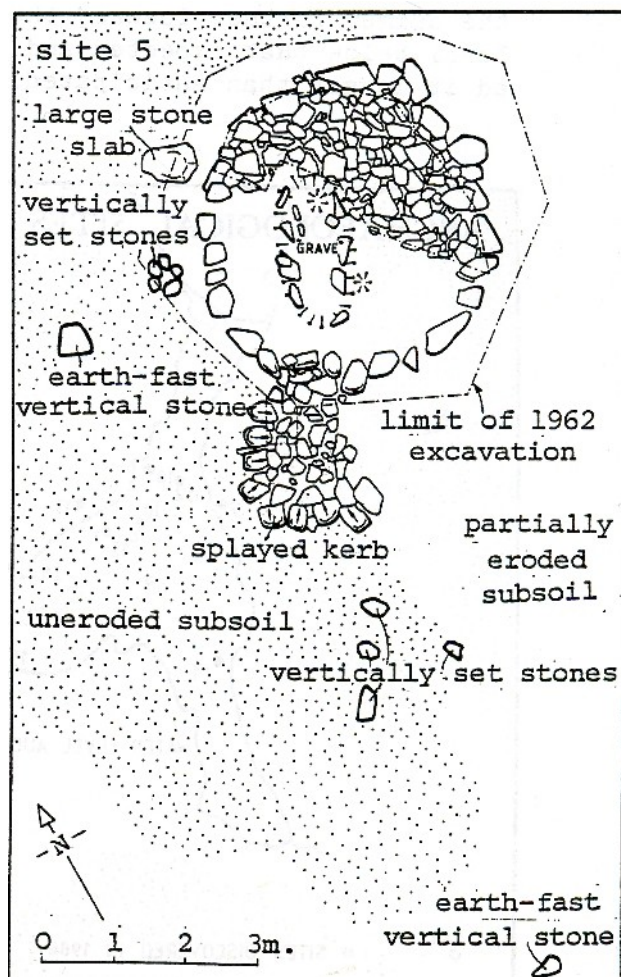
[K Murphy re-excavated the site shortly after this account was written,]

(6) Centred on SN 7500 8685. Field wall (PRN 11872). This disappears into bog and has been sectioned, without artefactual discovery, by CSB. Samples taken where wall passes to the east of Site 5. [Unfortunately, the reservoir flooded before the site was properly investigated].

(7) SN 7402 8790. Peat sample (PRN 11867). A peat monolith, believed to exhibit various phases of clearance, taken by A. Heyworth, Dept of Geography, UCW, Aberystwyth. Investigation in progress. [A Heyworth left UCW shortly afterwards and there was no outcome to this investigation.].

(8) SN 7423 8764. Peat sample (PRN 11868). Peat monolith, 2.6 m long, exhibiting charcoal in ground soil, taken by Dr F M Chambers, Dept of Geography, University of N Staffs. Investigation in progress. [This monolith was given to a research student who apparently had a breakdown, so the work was never completed and the monolith was eventually thrown away].

(9) BRYNBEDDAU (SN 7678 8766). Settlement (PRN 11873). See also sites 35-39. The remains of a rectangular, rubble-built structure some 12m long x 7m wide lies on a slight, rocky eminence. Two walls run up to and merge with its W side. The site is situated only a couple of metres below the maximum height of the reservoir, all the peat has been eroded and the site is beginning to disintegrate. Its E side and lengths of the fieldwalls are obscured by 'beach shingle';

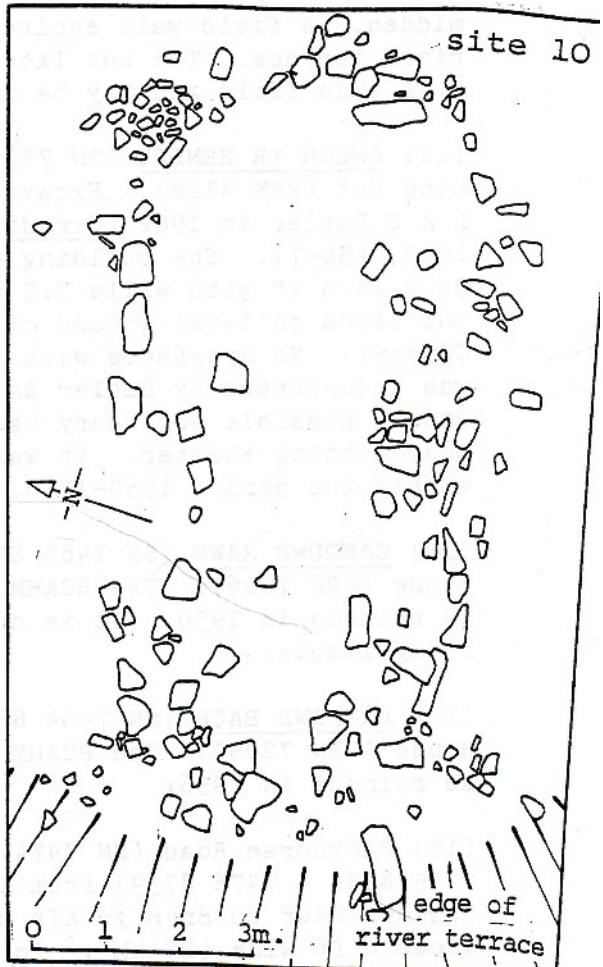


(10) BRYN YR AFR (SN 7428 8783). Long Hut (PRN 11874). Sited on the N bank of the Afon Camddwr. It measures 11 x 4.5 m, built of boulders; and is aligned E-W. An investigation core revealed a gravel deposit within, possibly its floor. A low mound, possibly the remains of a cairn, or midden, lies 4m to the south. The site is probably related to the Bryn yr Afr Mine.

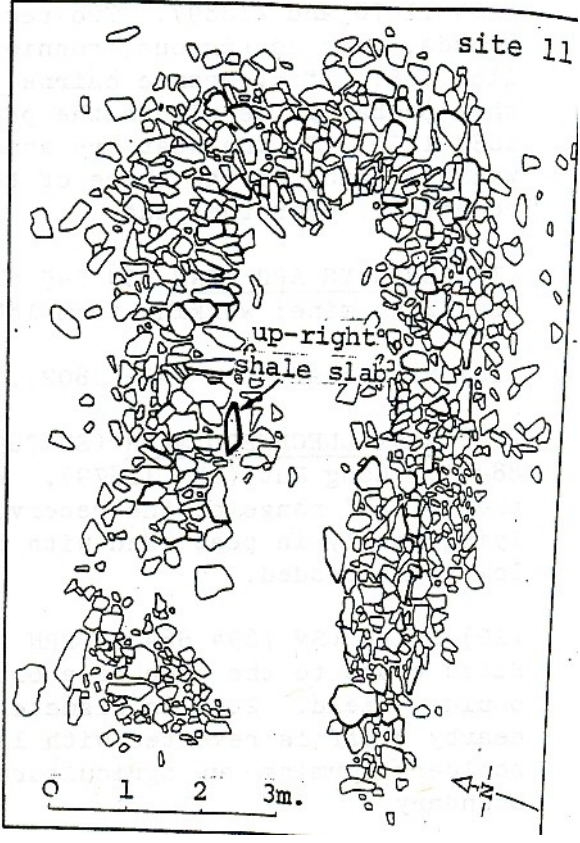
(11) BWLCH YR HENGWM (SN 7714 8834). Long Hut (PRN 11875). Situated on a terrace, and aligned E-W, it measures 10 x 4m, and stands up to 0.7 m out of the peaty silt. The top end has been badly eroded. An upright slab within the hut may have been a door jamb. 5m to the south is a low mound, possibly a midden. A field wall encircles the river terrace. The hut lies km to the K of this field and may be contemporary.

(12) BWLCH YR HENDRE (SN 7430 8777). Long Hut (PRN 4128). Excavated by L A S Butler in 1962 (*Ceredigion* 4, 1963, 450-7). The building measured 30 x 11.5 ft

with walls 3.5 ft wide, and stood on level ground close to the Camddwr. No artefacts were found. It was interpreted by Butler as a Llest, with a possible secondary use as a peat-cutting shelter. It was dated within the period 1550-1750.[There is still absolutely no artefactual or documentary evidence to confirm or contradict that dating.]



Mine..



(13) CAMDDWR MAWR (SN 7488 8746). Long House (PRN 7206). The RCAHM record it as ruinous in 1956. It is no longer recognisable.

(14) CAMDDWR BACH (SN 7404 5852). Long House (PRN 7205). The RCAHM record it as ruinous in 1956.

(15) Packhorse Road (SN 7474 87314- 7475 8736- 7476 8739) from Trumiau Camddwr Mawr to Bryn yr Aft mine. About 6 ft [c 2 m] wide (RCAHM). In use until the 1920s.

(16) Field Clearance Cairns/?Pillow Mounds (SN 7499 8722 and 7498 8723) (PRN 11875 and 11889). Two rectangular mounds, near-contiguous, running in a line SSE. If clearance cairns then they probably lie within the period 1650-1750. To the west are shadows of walls running to the shore of the reservoir, over the peat.

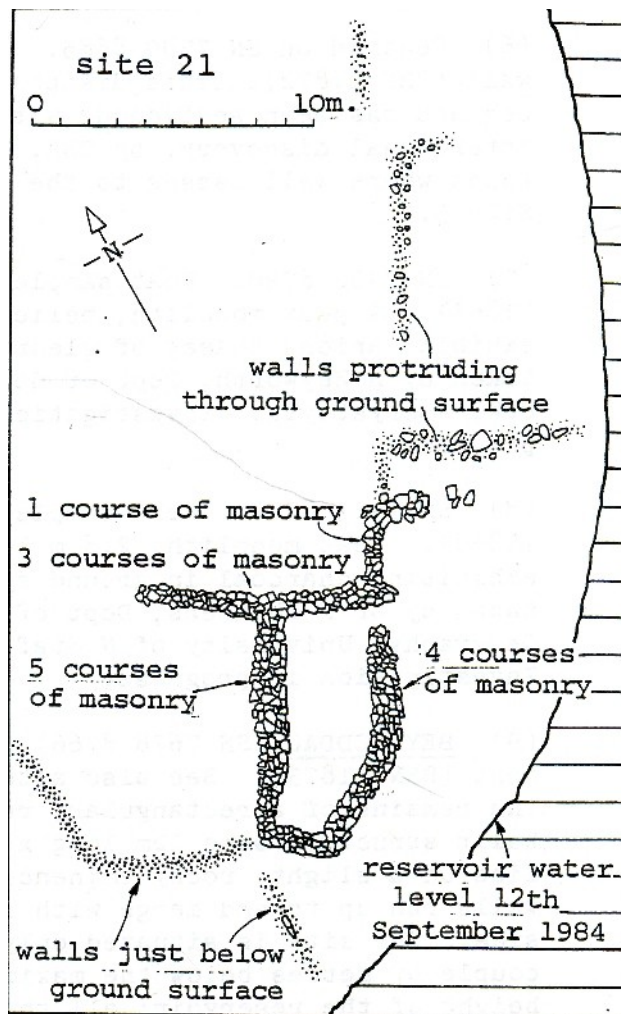
(17) BRYN YR AFR MINE (SN 7145 879). Lead/Zinc mine; working from 1881-1912.

(18) Mine shaft (SN 7423 8802).

(19) NANT LLECHWEDD MAWR (SN 7695 8844). Long Hut (PRN 11879). Within the tidal range of the reservoir; lying partly in peat, and with its lower end eroded.

(20) Cairn (SN 7694 8843) (PRN 11880). Sited close to the edge of a bluff in a boulder field. 2.5m in diameter. The nearby bluff is revetted with large boulders forming an agricultural boundary.

(21) BWLCH GRAIG GOCH (SN 7692 8809). Long Hut (PRN 11881). Sited on a terrace of the R. Rheidol. It is rectangular, measuring 9 by 4 m, and stands 5 courses high, with its lower part buried to a depth of 0.5 m in peat. The tops of further subsidiary buildings or field boundaries are just visible through the peat. The site may be prehistoric, although it is more likely to be medieval or post-medieval. It is sited some 18m below the top of the reservoir and is unlikely to be uncovered in the normal 'tidal' cycle.



(22) Enclosure (SN 76146 8698). An enclosure of over 3m square with walls upstanding to a height of 0.75m. It appears to be a sheepfold of uncertain age, possibly re-used in more recent times.

(23) SN 7655 8701. A small cairn c.3m in diameter (PRN 11883). Concentrically built with larger stones on the outside. It could be a field clearance or a kerb cairn. Sited just below the top of the reservoir and badly damaged by erosion.

(24) NANT-Y-MOCH FARMHOUSE (SN 7632 8711) (PRN 22397). Levelled in 1962.

(25) CHAPEL (site of) (SN 7621 8706). Levelled in 1962. Burials re-interred at Ponterwyd.

(26) SM 7640 8704. ?Fold (PRN 11884).

(27) SN 7486 8725. A ?Bronze Age clearance or funerary cairn (PRN 11885).

(28) SM 7463 8764. A ruinous clearance or funerary cairn (PRN 11886).

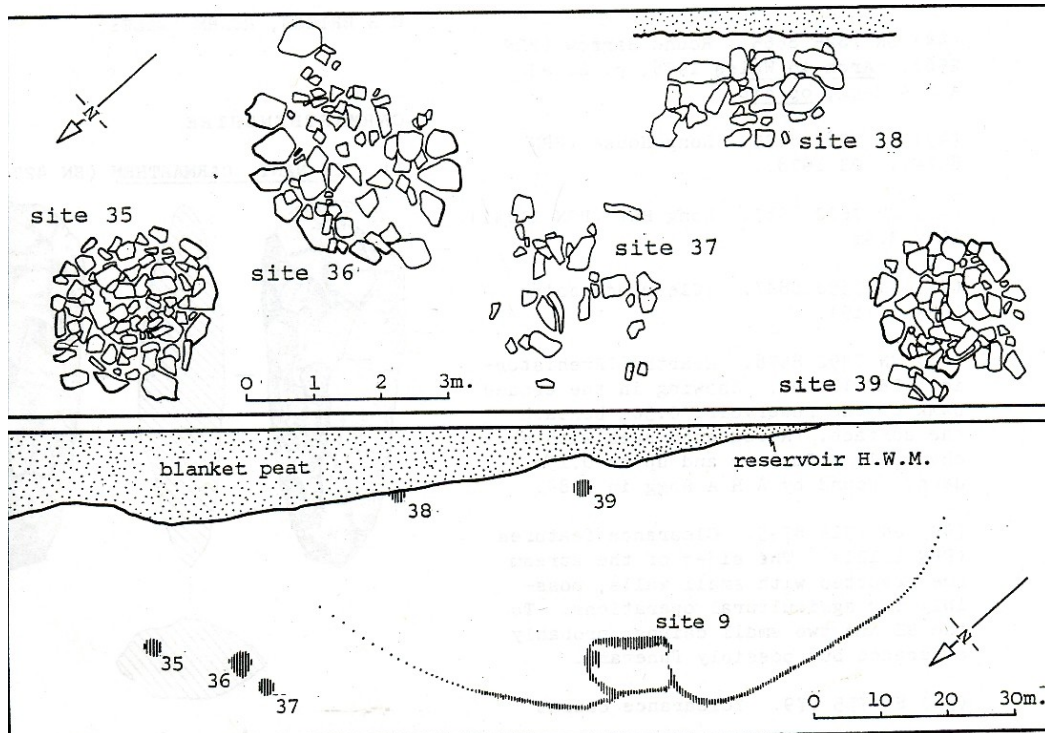
(29) SN 7491 8752. Clearance cairn (PRN 11887).

(30) MAESNANT. Site of farmhouse (SN 7729 8828) (PRN 22399). An 18<sup>th</sup>-century or earlier farm, which fell out of use in the 19<sup>th</sup> century.

(31) SN 7720 8838. Burnt Mound (PRN 11876). A spread of reddened stones on the north bank of the Hengwm.

(32) SN 7722 8839. ?Bronze Age clearance or funerary cairn (PRN 11888) -

(33) SN 7690 8769. Clearance or Funerary cairn (PRN 11840). A group of stones protruding through the peat. Apparently badly damaged; possibly associated with sites 35-



(34) GRAIG GOCH (SN 7704 8782). Long House (PRN 11890). Sited in a sheltered hollow outside the reservoir limits. Peat has been cut from a bog NW of the house.

(35) SN 7680 8776. Clearance or Funerary Cairn (PRN 11891). A cairn of iron-stained stones 2.3m in diameter. Larger stones form a kerb.

(36) SN 7680 8772. Clearance or Funerary cairn (PRN 11892). 3m in diameter with a kerb of large stones. The SE side has been destroyed.

(37) SN 7678 8770. Clearance or Funerary Cairn (PRN 11893). A scatter of stones 2.2m in diameter.

(38) SN 7681 8768. ?Clearance or /Funerary Cairn (PRN 11894). A group of boulders eroding out of the peat on the edge of the reservoir. Possibly a cairn c. 2.3m in diameter.

(39) SN 7679 8765. Clearance/Funerary Cairn (PRN 11895). 2m in diameter, with a kerb.

(40) SN 703 816. Cairn (PRN 6236). OS 1964.

(41) SN 7595 8785. Cairns (PRN 6233). OS 1964. A pair of much denuded cairns, one having a shelter built out of it.

(42) SN 7324 8819. Cairn (PRN 4127). OS 1964.

(43) SN 7632 8667. Cairn (PRN 7645).

(44) SN 7625 8665. Round Barrow (PRN 256). *Arch in Wales* 1976, p. 21 and A H A Hogg, *op cit*.

- (45) SN 7317 8635. Long House (PRN 8574). OS 1978.
- (46) SN 7602 8687. Long Hut (PRN 11841). 10 x 3.5m.
- (47) SN 7595 88217. ?Clearance cairn (PRN 11119).
- (48) SN V492 8678. Hearth (?Prehistoric) (PRN 11120). Showing in the eroded bank of the reservoir, 0.30m beneath the surface. A reddened area with some charcoal, 2.5m long and up to 0.15m deep. Found by A H A Hogg in 1984.
- (49) SN 7514 8735. Clearance features (PRN 11121). The sides of the stream are revetted with small walls, possibly for agricultural operations, to the SE are two small cairns; probably clearance but possibly funerary.
- (50) SN 755 879. ?Clearance cairns (PRN 11122). On steep ground, amid dangerous depths of peat.
- (51) SN 7400 8735. Hut base, or hay/peatstack base (PRN 21460). Flat stones set in a circle c. 2.5m in diameter.
- (52) SN 7414 8797. ?Stone drain/Cist (PRN 21461). Large, flat stones set into the ground; 2.5m long, 1m wide and about 0.4m deep. ?Associated with industrial process.
- (53) SN 7629 6820. Trial level/ Mining trench (PRN 21462).

C S BRIGGS, RCAHM (WALES)

Surveys by K MURPHY, Dyfed Archaeological Trust

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Accounts of the two cairns at Aber Camddwr (1-2)

From C.S. Briggs, THE BRONZE AGE in *Cardiganshire County History* I, 1993 (p. 175),

In the Nant y Moch Valley at a height of 330m above O.D., two cairns, noted from aerial photographs were excavated by A.H.A. Hogg in 1955 and 1962, (1) prior to the flooding of the valley. Further survey and excavation was undertaken during drought and reservoir engineering operations from 1984 to 1986.(2)

(1) The Ring Cairn, about 10.0 m in diameter, surrounded by a band of small stones about 2.0 m. wide and 0.5 m. high, had a central neat rock-cut pit containing a small 'collared urn'. Around this were six shallow hollows in a ring about 2.75 m in diameter, outside which was a depression with the headless dismembered remains of a child, burnt in situ and covered with flat slabs. Occupying the central space were 30 irregularly placed stake holes. Several other pits were noted, some containing charcoal; an unstratified fire-damaged flint scraper 3.5 cm by 0.9 cm and steeply trimmed at the non-bulbar end of the flake, was also found.

The urn (now National Museum of Wales no.64. 59.2), is of brown ware, 14.0 cm high, 13.6 cm in diameter at the mouth, 15.0 cm high at the shoulder and with a flat base 7.5 cm. in diameter. Its interior was blackened and the exterior surface decorated with parallel sloping cord impressions, between which a fainter series sloped in the opposite direction. The shallow neck was ornamented with three equidistant horizontal rows of small oval pits, each placed diagonally: the shoulder

bore a row of similar pits end to end.(3) A tiny fragment of polished stone axe was also discovered here in 1986 by James Barfoot.

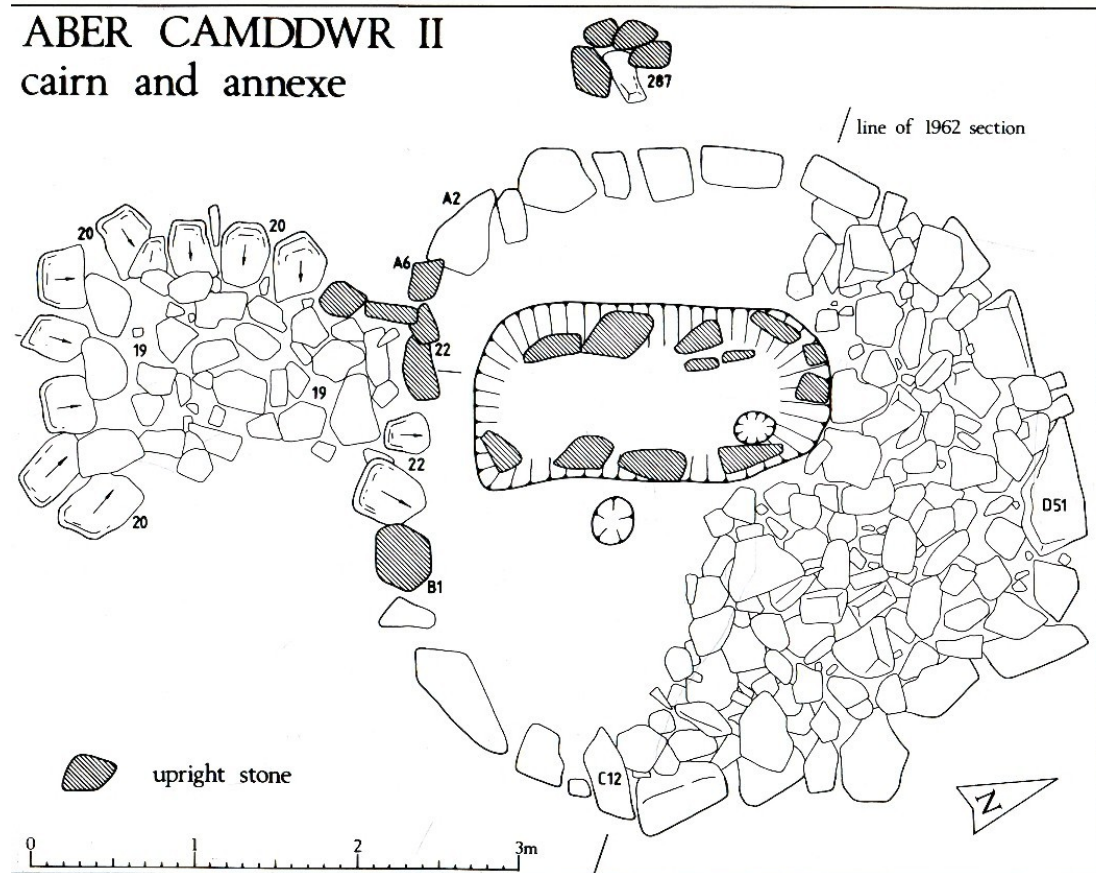


Fig. 13. Aber Camddwr II: cairn, annexe and central pit after removal of 'backfill from 1962 excavations

(2) The second site, a kerb cairn some 3.3 m by 3.75 m in diameter and 0.3 m high, produced no finds when first excavated. Within the interior was an empty hollow area 2.0 m by 0.75 m and 0.4 m deep. This may have housed a burial which had not survived the soil conditions.

When the water level was lowered in 1984 and 1986 a denuded square annexe was revealed to the S.E. of the cairn. Excavation by K. Murphy for the Dyfed Archaeological Trust revealed evidence of *in situ* burning beneath this feature. Several pits, two of them charcoal-filled, probably held large upright stones. Two of them contained indications of timber stakes.

Overall, there was a large number of stakeholes, but these formed no obvious pattern, except for an alignment on the south side of the cairn. Some appeared to have been markers pre-dating the upright stones. A small Bronze Age sherd was discovered in a stakehole beneath one of the main kerbstones, and the only other artifact, a perforated spindle-whorl, was a stray find.(3) Charcoal from beneath the annexe yielded C14 dates calibrated to around 1550 B.C., and from pits around the cairn, to 1200-1100 B.C. The cairn was moved en masse during 1986 as part of an M.S.C.-N.A.C.R.O. Conservation Scheme, and it now overlooks the reservoir from a site some 100 m to the S.S.W.

1. Hogg, *Arch. Camb.* 126, (1977), 24-33; Leighton, *Proc. Prehist.Soc.* 50, (1984), 332-3.

2. Griffiths, *Arch. Camb.* (1977), 33-5; Savory, *Guide Catalogue* (1980), 152 (no. 456); Longworth, *Corpus of Collared Urns*, (1984), 320, no. 2069).

3. By Miss E. O'Tuomey, who kindly donated it to the Ceredigion Museum.

4. Murphy, *Archaeol. in Wales* 26 (1986), 26, 31 and E.C. Marshall and K. Murphy, 'The Excavation of two Bronze Age Cairns with Associated Standing Stones in Dyfed: Parc Maen and Aber Camddwr II', *Archaeol. Cambrensis* CXL 1992, 28-76.

ring cairn            Cwmrheidol            7510 8690

(O.S. SN 78 N.E. 2).

kerb cairn            Trefeirig            7510 8690

(O.S. SN 78 N.E. 7).