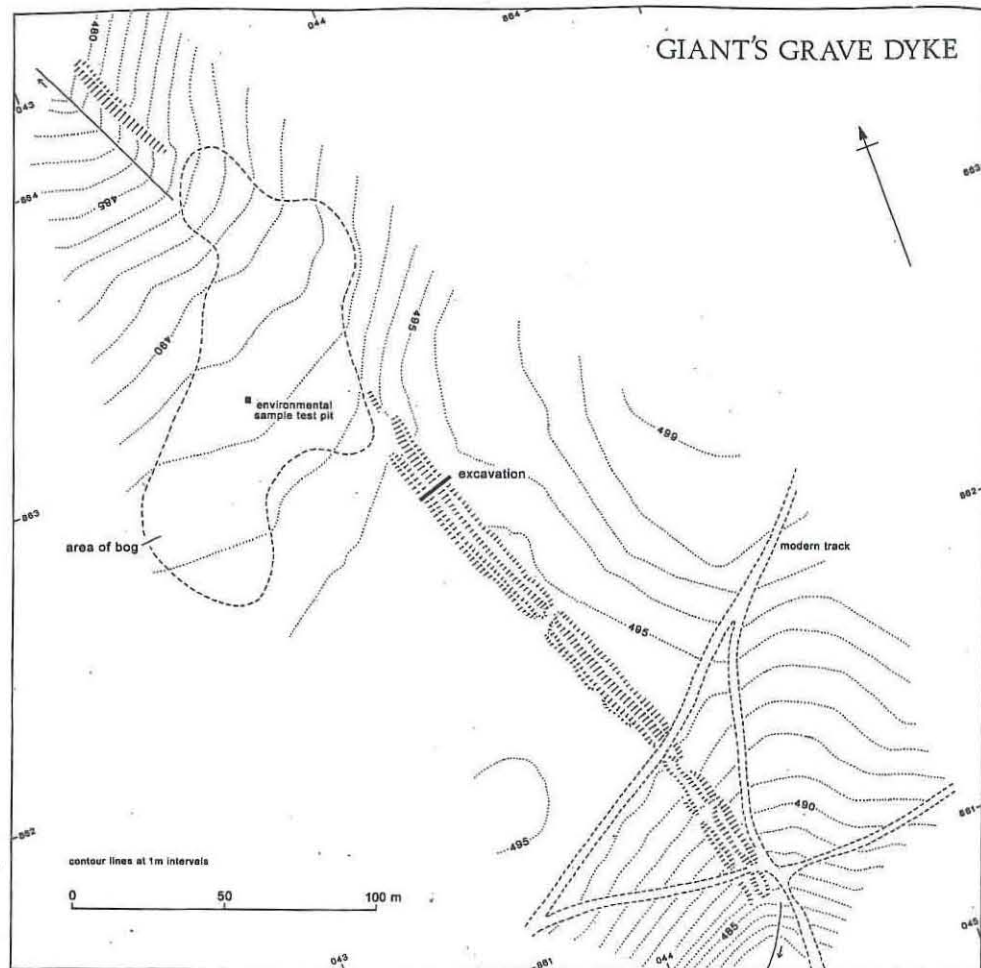


## THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

# The Short Dykes of Mid and North-East Wales

## PROJECT REPORT



CPAT Report No 592

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# **The Short Dykes of Mid and North-East Wales**

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**R Hankinson**  
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Report for Cadw: Welsh Historic Monuments

**The Clwyd-Powys Archaeological Trust**

7a Church Street, Welshpool, Powys, SY21 7DL  
tel (01938) 553670, fax (01938) 552179

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## **Short Dykes in Mid and North-East Wales**

### **Results of the environmental sampling**

#### **1 Introduction**

This report forms an addition to the two previous reports on the study of the short dykes in Mid and North-East Wales (Silvester and Hankinson 2001, Hankinson 2002). It is mainly concerned with the results of a short programme of environmental sampling at two dykes, which was carried out in 2003, and the implications of this work for our understanding of the function and dating of short dykes. No attempt has been made here to revise or repeat the sections of previous reports dealing with the general context of the dykes, the historical background to their study, or their morphology.

#### **2 Methodology**

Two short dykes were identified during the earlier site visits which appeared to have significant potential for the identification of palaeoenvironmental deposits that might have a stratigraphic relationship to the dykes. These were the Wantyn Dyke near Kerry in what was south-eastern Montgomeryshire (PRN 1053) and the Giant's Grave Dyke to the south of Caersws in southern Montgomeryshire (PRN 3711). In both cases there appeared to be some such relationship between the end of a section of earthwork and a boggy area containing peat deposits. Neither of the sections of each dyke which were targeted had been scheduled.

The initial phase of investigation consisted of the taking of auger samples at each dyke to assess the relationship between the dyke and the peat deposit. If a suitable deposit could be identified, it was proposed that an excavation be carried out in order to obtain samples for dating and to provide evidence of the environmental conditions in which the dyke was constructed.

#### **3 Results of the Auger sampling**

The initial programme of augering was undertaken on both dykes, with the samples spread over a sufficiently wide area to provide a reasonable view of the environmental potential.

##### *Wantyn Dyke*

The form of the dyke is variable through its length, but at the area in which augering was undertaken there is a short length of extant bank on the edge of an area of boggy ground. Four auger samples were taken in this vicinity: one through the short section of bank at SO 18959100; one in the tail of the bank where it meets the boggy ground at SO 18949101; a third in the boggy ground on the projected line of the dyke at SO 18939106; and the fourth 5m to its east-north-east at SO 18949106.

Unfortunately, the sampling revealed no evidence of any continuation of the dyke into the boggy area which comprised fibrous peat up to 1.0m in depth, overlying pale grey gravelly silt. Where the bank was apparent it was built up to a height of approximately 0.8m using locally-derived material, but there was no evidence of any humic material in its make-up, nor of a buried old ground surface beneath it. The auger sample in the tail of the bank where it bordered the boggy area suggested that there had been occasions when silty material had been washed from the surface of the bank. The limited extent of these silt deposits, and the potential problems which might ensue in relating them to the extant earthwork implied that only very limited returns could be anticipated from any further, more detailed examination, and it was therefore decided to concentrate the detailed sampling work on the Giants Grave Dyke.



### *Giants Grave Dyke*

The dyke consists of a main bank running north-north-west/south-south-east, with a ditch on its west side and a smaller bank on the opposite lip of the ditch (Fig. 000). Six auger samples were taken in the vicinity of the dyke. These consisted of three samples through the boggy ground on and near the projected line of the dyke towards its north-north-west end (at SO 04368633, SO 04378632 and SO 04368632), two samples from the bank to the south-south-east of the boggy area (at SO04388629 and SO 04388627) and a final sample from the smaller bank (at SO 04388626) adjacent to the latter of the two bank samples.

The samples on and near the projected line of the dyke through the boggy ground revealed an upper layer of brown fibrous peat, up to 0.6m in depth, overlying up to 0.3m of silt that contained variable amounts of peat. This lower layer was also notable for the presence of small amounts of charcoal, which hypothetically might be attributed to a period of ground clearance.

The two samples which were taken in the bank of the dyke revealed an upper layer of brown peaty silt, from 0.35m to 0.43m thick, resting on between 0.28m and 0.35m of stony grey and orange silt. The grey and orange silt was separated into two distinct layers in the sample at SO 04388627, but were mixed in the sample at SO 04388629. Underlying these soils, which appeared to define the makeup of the bank, was a thin layer of black peat, up to 0.07m thick with evident palaeoenvironmental potential. A brown peaty silt was present beneath the peat at SO 04388627. This material lay on deposits of pale grey and orange stony silt which locally comprises the natural subsoil.

The remaining sample was taken from the smaller bank, at a point where it could be directly related with the sample taken from the bank at SO 04388627. The bank appeared to be constructed entirely from peat and peaty silt, and attained a maximum height of 0.54m. A layer of mixed orange and grey clay silt, 0.16m thick, was present beneath the peat and appeared to represent the upper part of the natural subsoil, beneath which was a layer of pale grey stony silt.

Auguring demonstrated a direct relationship between the material used to construct the bank of the dyke and deposits of palaeoenvironmental potential. It was decided to proceed with a programme of excavation and detailed sampling, as outlined in the original proposals to Cadw, to obtain material that might be used to determine the potential date of the dyke and the environmental conditions in which it was constructed.

## **4 *Giants Grave Dyke excavation (Fig. 1)***

The excavation consisted of a single, hand-dug trench, 12.5m long and 1.0m wide, encompassing the earthworks. As previously described, the dyke consists of a main bank running north-north-west/south-south-east, with a ditch on its west side and a smaller bank on the opposite lip of the ditch. The trench location was centred at SO 04388627, as the earthwork at this point appeared to reveal the most comprehensive, and potentially informative, sequence of deposits (see the results of the auger sampling, above). The trench was excavated to the base of the deposits associated with the dyke construction, but localised sections of the underlying deposits were removed to determine the nature of the soils which were present prior to construction of the dyke.

The natural subsoil (27) consisted of bands of orange and grey silts and gravels, whose nature was exposed in the ditch (16) belonging to the dyke. On the west side of the ditch, the natural subsoil was overlain by pale grey-brown clay silt (28), up to 0.15m thick, with an identical layer of silt (26) being present on the east side of the ditch. Above the silt layer was black,



sticky peat, (layer 15 on the east of the ditch and layer 25 on its west side), which together defined the ground surface when the dyke was constructed.

Construction of the dyke appeared to have commenced with the removal of the peat (15 and 25) along the line of the ditch, together with the underlying clay silt (26 and 28). This material (20) was thrown up on the east side of the ditch to form the basal dump of the main bank, to a thickness of approximately 0.15m. Subsequent removal of layers of natural subsoil formed the ditch and provided material for the main bank, the latter consisting of a banded deposit of predominantly orange silts (19) and grey gravel (18). The banded material sloped moderately downwards to the east, suggesting it had been thrown up from the ditch as excavation proceeded. A further lens of material (5), overlying layer 18 on its east side, consisted of small stones in a deposit of black peat and may represent either later erosion of material from the bank or, more probably, the final stage in the creation of the bank. Depending on whether layer 5 is original bank makeup, the resulting bank (30) of the dyke was either 3.8m or 4.8m wide and at least 0.6m high. The adjoining ditch (16) had a V-shaped profile with a partially squared slot, 0.4m wide, in its base, and had an overall width of 4.0m, with a maximum depth of 1.3m.

On the west side of the ditch, a smaller bank had been created. This comprised a single dump of angular stones in loose black peat and brown powdery silt (12), 2.5m wide and 0.3m high, resting on peat layer (15). Layer 12 has some similarities to layer 5, on the east side of the main bank, supporting the suggestion that layer 5 represents part of the main bank structure, rather than an erosion event. The smaller bank may have been deliberately constructed as part of the dyke complex, but it is perhaps more likely that it represents material removed from the ditch during cleaning and dumped on its lip, presumably as this would have been more straightforward than adding it to the existing bank. This hypothesis is supported by the ditch fills which appear to retain evidence that the ditch was recut.

Subsequent to the construction of the dyke, some erosion occurred, represented by fills and lenses of material in the ditch and layers on the opposing sides of the main and smaller banks. For convenience, the layers representing erosion are dealt with according to the element of the dyke from which they originate as it is difficult to correlate layers which are not directly linked.

On the east side of the main bank, two successive erosion deposits were recorded above layer 5. The earliest of these was represented by a small lens of yellow-orange mottled stony silt (6), only 0.03m thick, which was overlain by a more extensive layer of medium-sized, flattish stones in a matrix of black peaty silt (10), with a maximum thickness of up to 0.08m. The crest of the bank was occupied by a domed layer, up to 0.2m thick, composed of small stones in a matrix of grey-brown gritty silt (3). This appears to represent the final element of the bank makeup, but erosion of this material led to the formation of a similar deposit (31) which was found to extend into the eastern part of the ditch fills.

The initial fill of the ditch consisted of a pale grey stony clay silt (24), up to 0.2m thick, which filled the squared slot at the base of the ditch and smoothed the ditch profile. The subsequent ditch deposit consisted of a lens of mid grey-brown stony silt with peat inclusions (29), up to 0.2m thick, and appeared to be of material that had slumped from the bank makeup. A layer of mixed peat and grey and orange silts (23), 0.1m thick and overlying layer 24, was present at the base of the ditch and also represents material eroded from the bank.

Further deposits originating from the main bank and partially filling the ditch were represented successively by a slump of pale grey-brown gritty silt (4), up to 0.2m thick, and a spread of eroded material (31) which extended from layer 3 (see above) at the top of the bank to the base of the ditch; a similar layer of stony grey-brown silt (9), 0.1m thick and situated on the west side of the ditch, appeared to be broadly contemporary. Subsequent erosion appeared to be represented by a thin layer of small stones in grey-brown silt (2), 0.05m thick. A layer of



yellow-orange mottled silt in black peat (8), up to 0.15m thick, appeared to be a later fill of the ditch containing some material eroded from the bank.

Following the deposition of layer 8, the ditch appeared to have been re-cut (7) and layers 3 and 8 truncated. The re-cut formed a rounded channel on the west side of the ditch, 1.0m wide and 0.4m deep, and was subsequently filled with stony black peat (22) and brown peat (21). The upper ditch fill consisted of a black silty peat (13), up to 0.2m thick. Further erosion is implied on the west side of the ditch where there was a layer, 0.05m thick, of yellow-orange mottled silt within a black peat matrix (11).

On the west side of the smaller bank, yellow, mottled grey-brown silt (17), 0.1m thick, appeared to result from the erosion of this bank. Subsequently, black, fibrous peat (14), 0.1m thick, built up against the west face of the smaller bank. More recent growth of black and brown peat (1), up to 0.2m thick, defines the local surface soil horizon.

## **5 *Giant's Grave Dyke sampling (See Fig. 1)***

A programme of sampling was undertaken at the end of the excavation by Ms A Caseldine of UCW Lampeter. The sampling strategy consisted of the removal of five monoliths, taken from the main and smaller banks, the ditch and the east side of the main bank.

A sample pit was also excavated in the boggy ground to the west of the dyke and a monolith was removed to provide a reference for the samples taken from the dyke.

At the time of writing none of the samples has been examined or analysed. It is anticipated that subject to a suitable spot being found in the Cadw palaeoenvironmental programme, the study will occur during 2004.

## **6 *Giant's Grave Dyke topographical survey (Fig. 2)***

In view of the potential importance to the study of the results obtained from the excavation and sampling of the Giant's Grave dyke, it was decided that a topographical survey should be carried out to provide an accurate plan of the surviving earthworks.

The survey was carried out using an EDM and the plan produced was then corrected to Ordnance Survey grid and datum, to facilitate future use of the results.

## **7 *Acknowledgements***

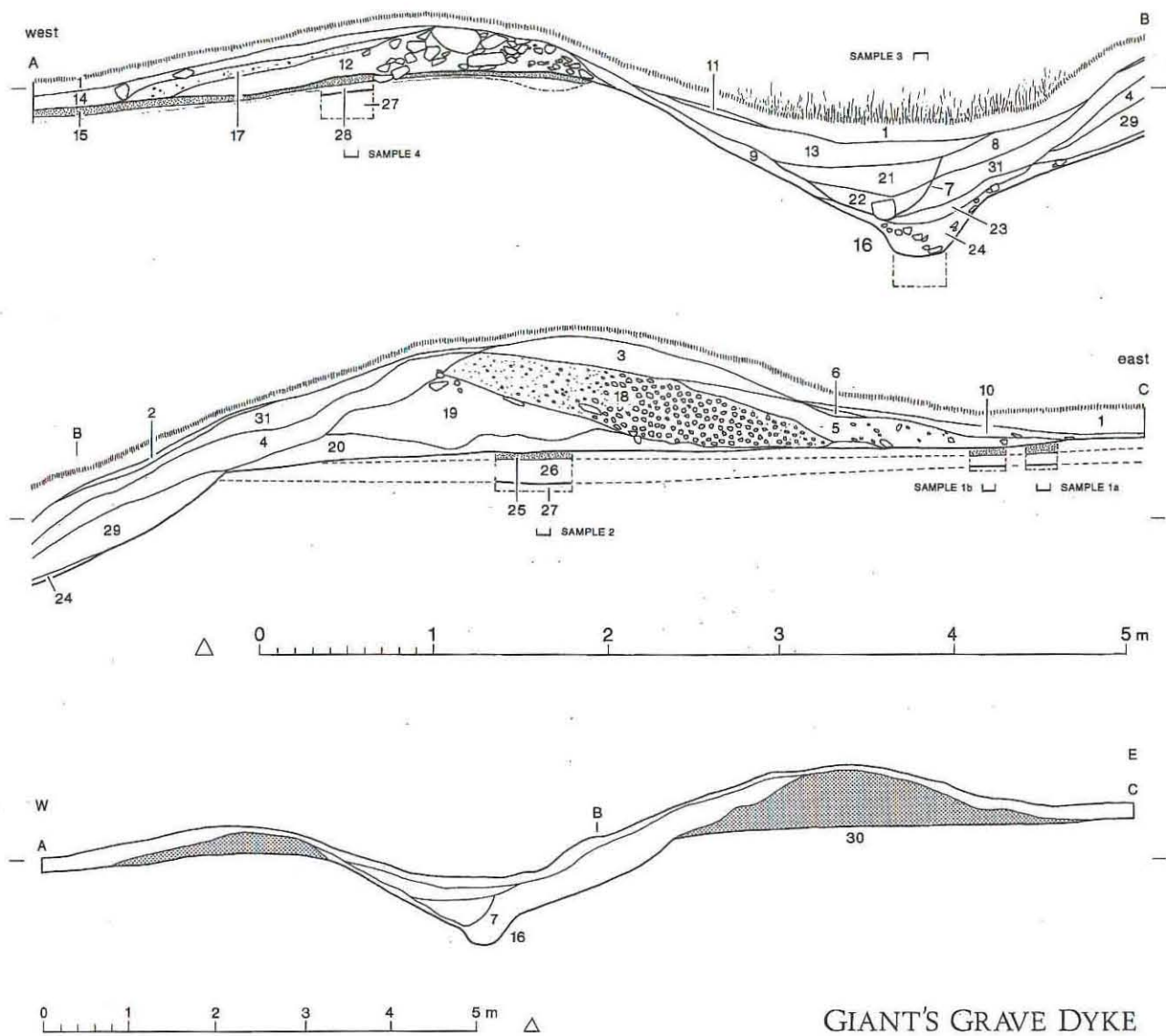
Thanks are due to Lord Davies of Llandinam for his interest in the work and his permission to carry out the excavation on the Giant's Grave Dyke, also to Mr Bowen of Glanwantyn Farm, Sarn for permission to carry out the auger sampling on the Wantyn Dyke. The writer would like to thank Mr Ian Grant, CPAT, and Miss A Thomson, Exeter University, for assistance with the excavation and sampling; Ms A Caseldine, UCW Lampeter, assisted by Professor M Walker, for her work with the sampling; and Ms W Owen and Mr B Williams, CPAT for their help with the topographical survey.

## **8    *References***

Hankinson, R, 2002, *The Short Dykes of mid and north-east Wales*, Welshpool: CPAT

Silvester, R J & Hankinson, R, 2001, *The Short Dykes of Mid and North-East Wales*, Welshpool: CPAT





GIANT'S GRAVE DYKE

Fig. 1 Giant's Grave Dyke excavation section

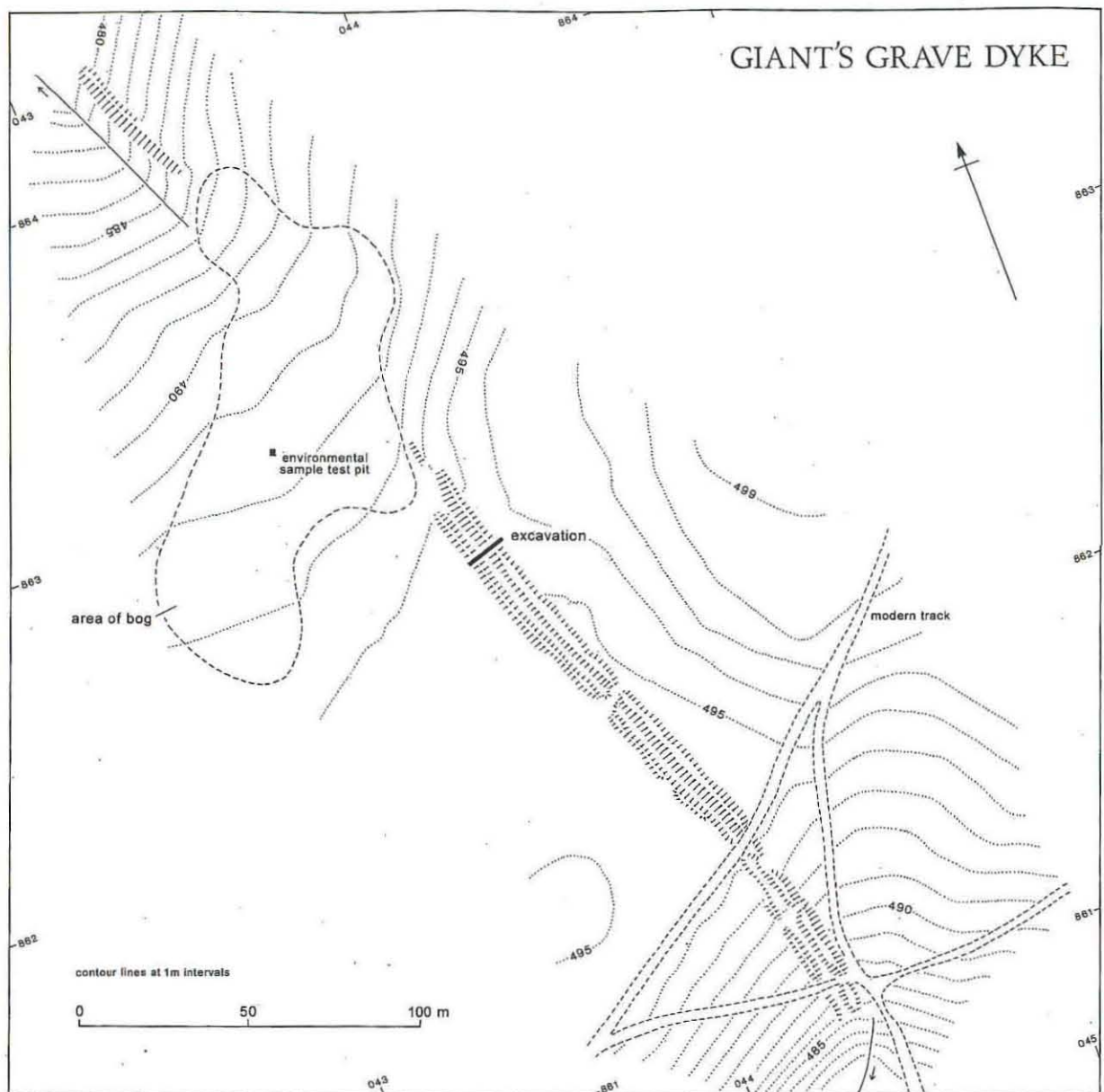


Fig. 2 Giant's Grave Dyke topographical survey