LLANGEFNI - LLANBEDRGOCH GAS PIPELINE

ARCHAEOLOGICAL WATCHING BRIEF & EXCAVATIONS (G1317)

REPORT NO. 173

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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prepared for British Gas

by A. Davidson

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August 1995

Gwynedd Archaeological Trust Report No. 173

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REPORT ON EXCAVATIONS AND WATCHING BRIEF

1.0 INTRODUCTION

1.1 British Gas proposed to lay a 200mm welded steel pipeline from north-east of Llangefni (SH 489772) to west of Llanbedrgoch (SH 505801). Gwynedd Archaeological Trust was asked in October 1992 for details of any archaeological implications of the proposal. No features of archaeological interest were noted from an examination of the Sites and Monuments Record and a preliminary walkover. However a watching brief was recommended during topsoil stripping to check for buried archaeological remains.

1.2 Subsequently Gwynedd Archaeological Trust (Contracts Section) was asked in June 1995 to prepare a Project Design (Appendix II) and estimated costs for a watching brief. The design and costs were accepted, and the fieldwork took place between 27th June and 4th July 1995.

2.0 METHODOLOGY

2.1 The construction of the pipeline was undertaken in the following manner: (i) a 10m wide swathe was stripped of topsoil along the complete length of the pipeline; (ii) the 200mm pipes were laid out and then welded together; (iii) a length of trench was dug and the pipe lowered in and then backfilled, and this was continued until the full length of pipe was buried; (iv) the topsoil was replaced and reseeded.

2.2 The identification of areas of archaeological interest was achieved by fieldwalking the stripped area before the digging of the pipe trench and noting all potential sites, usually visible as areas of burning or stone spreads. These sites were then further examined to ascertain their archaeological potential by a combination of trowelling, hoeing and brushing. One archaeological site, a burnt mound, was identified in this manner; two other areas identified by stone spreads were noted but following closer examination both were thought to be natural accumulations of stone or piles of clearance stone (see para. 3.1.2).

3.0 RESULTS

3.1 Introduction

3.1.1 The underlying geology along the length of the route is carboniferous limestone, overlain by brown earths of high base status (the Pentraeth Series), sometimes with boulder clay between. After stripping, the resulting surface dried to a hard even surface of a uniform colour, making the detection of ephemeral features very difficult.

3.1.2 Three possible sites were identified for further examination: an area of burnt stone at SH 48127868 south of Pen y fan Agosaf; an area of concentrated loose stone 125m east of the burnt stone at SH 48217872; and another area of concentrated loose stone north of Pen y fan Bellaf at SH 48217872.

3.1.3 The two areas of concentrated stone were cleaned and examined. No positive structure could be identified in either, and both were assumed to be the results of field clearance or natural concentrations of stone. Charcoal flecks were visible in the clay at the more easterly of the two sites, but these were attributed to the near location of a limekiln and associated quarries.

3.2 Burnt mound

3.2.1 The area of burnt stone was cleaned by trowelling back the loose top surface. The site consisted of a large spread of burnt, fractured stone (up to 40mm in diameter) in a dark silty clay matrix, situated at the base of an east facing slope. The area of burnt stone made visible by the stripping of topsoil measured 15m east-west and 3.5m north-south. An inner concentrated area of burning was visible measuring 6m by 3m (see fig. 2). Undulations within the surrounding ground surface indicated that the total size of the area of burnt stone measured 15m by 8m.

3.2.2 The part of the site which was to be destroyed by the laying of the pipe was excavated down to natural clay. The layer of burnt stone was 200mm thick, and consisted of basalt sandstone from the Carboniferous system, which, although not an ideal stone for heat transference, was the only stone outcropping in the area. The stone rested on a thin layer of olive-green clayey silt which in turn lay directly on the natural yellow clay. The olive-green layer was thought to be the remains of the original ground surface, possibly a buried turf layer. Two features were found cut into the natural clay: at the east end of the burnt stone was a linear slot running approximately north-south which appeared to form the edge of the burnt material, although later disturbance hindered this interpretation. The slot measured c. 200mm across and 150mm deep. It is possible that this slot was used for moving water, but further interpretation is not possible from the small length excavated. East of this slot was a modern drainage ditch, filled in with a loose dark brown clayey silt and containing 20th century pottery and iron objects. The ditch was a relatively shallow U shaped cutting, and measured c. 600mm deep and 1200mm wide across the top.

3.2.3 The area of burnt stone was interpreted as a "burnt mound". Burnt mounds are a known sitetype consisting of a mound of burnt and fractured stone which makes up over 90% of their content, the remaining material being dark clay/silt with charcoal intrusions. Although the function of burnt mounds is somewhat enigmatic, and indeed they may have served a number of functions, there is little doubt that the burnt stone is a result of heating stone in a fire, and then using the hot stone to heat water in an adjacent pit. The mound is formed by the disused stone, which can only be used three or four times before the fracturing and

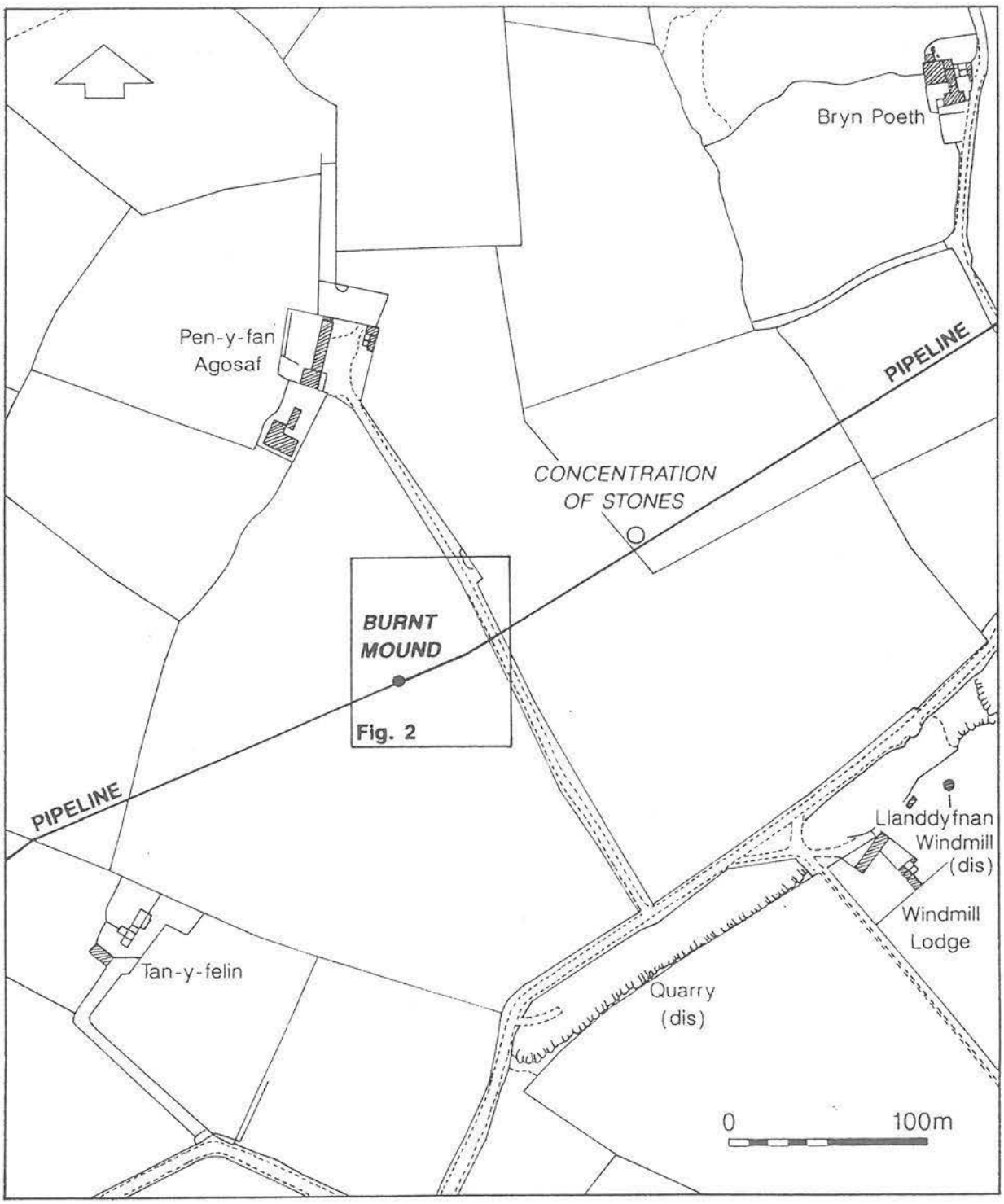

Fig. 1 Location plan.

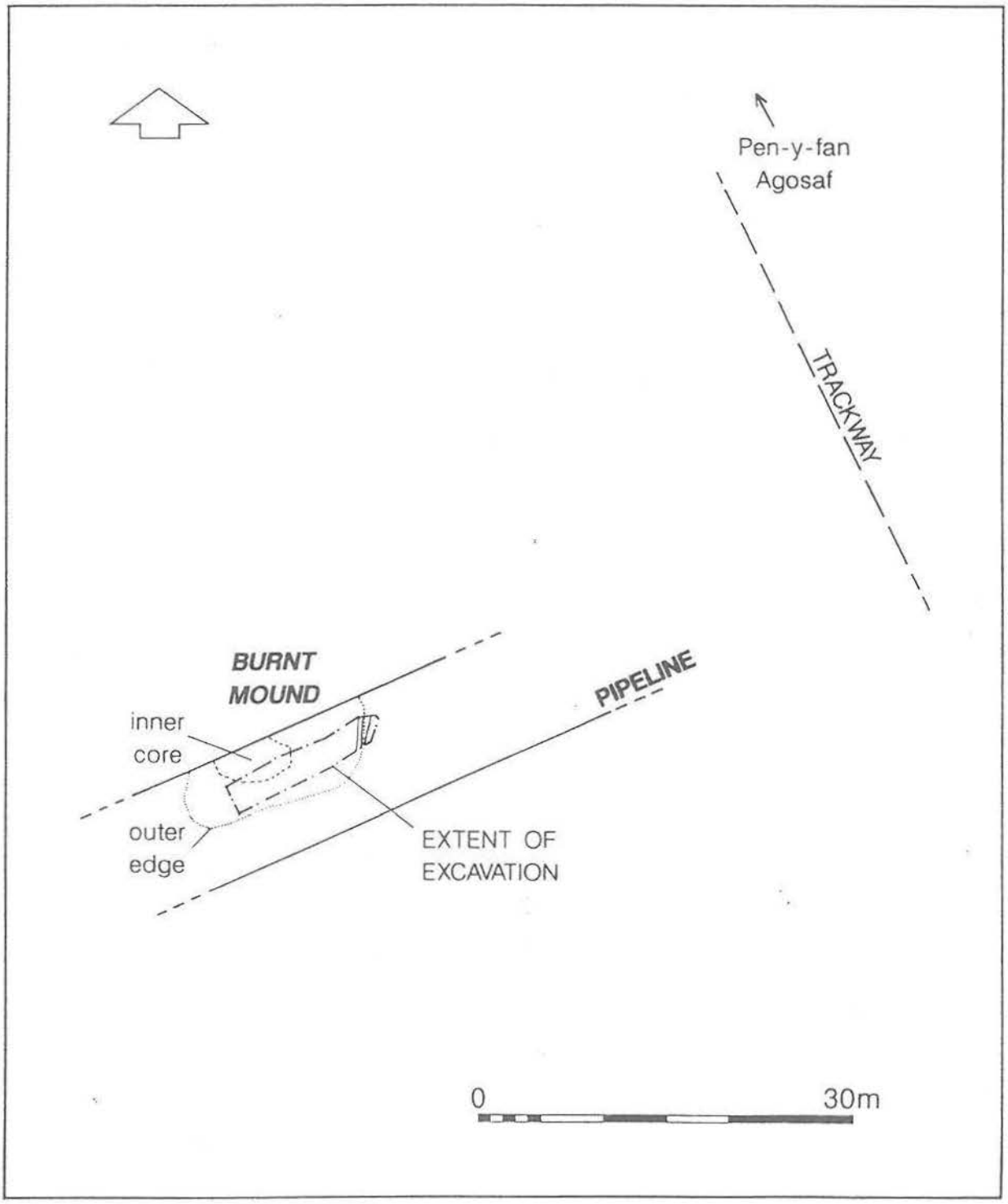

Fig. 2 Detail from E.D.M. survey.

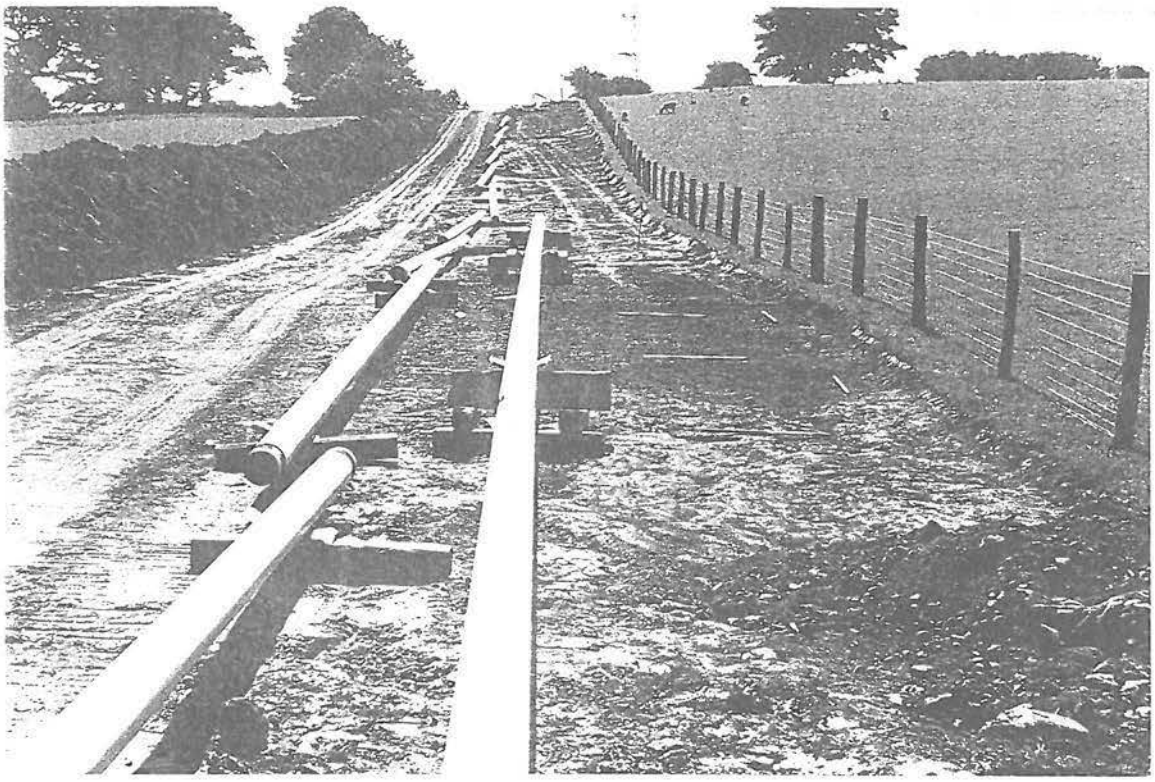

Plate 1: Site of burnt mound after initial clearance.

Plate 2: Site of burnt mound during excavation.

splitting of the stone caused by the sudden change in temperature reduces the effectiveness of the stone to transfer heat. The mounds are always located adjacent to a water supply, usually a stream or a spring. The size of the pit varies, but at a mound recently excavated at Clynnog, Caernarfonshire, (Kelly 1992) the principal pit measured 1.75m by 1.35m by 0.55m deep. On some sites where waterlogging has preserved wood remains the pit has been shown to have wood sides. It seems likely that the resulting hot water was used for cooking, although dying and fulling of textiles and use as a sauna have also been suggested (Buckley, 1990, and Hodder and Barfield, 1991). Burnt mounds appear to have been used from the Early Bronze Age (c. 2000 BC) to historic times, although the main period of use is Prehistoric. The mound at Clynnog showed two concentrated periods of use, one around 2000 BC and the other around 1000 BC.

3.2.4 A mesolithic flint point was found amongst the burnt stone (see Appendix I for full description). This is thought to be a projectile point dating from the earlier Mesolithic (6,000 - 8,000 BC) and is most likely to be a stray find with no associated settlement.

4. SUMMARY

4.1.1 The route of a gas pipeline running from Llangefni to Llanbedrgoch, c. 5km long, was walked following the removal of topsoil. One definite site, a burnt mound of Prehistoric date, was identified and examined prior to the digging of the pipe trench. Two other potential sites were examined but were found to be natural features.

4.1.2 The area of the burnt mound examined was found to consist of a 200mm deep layer of burnt, fractured stone, separated from the yellow natural clay by a thin olive-green layer thought to represent the original ground surface. A linear slot appeared to mark the eastern limit of the mound, and may have been used for conveying water.

4.1.3 A flint point of early mesolithic date (6,000 - 8,000 BC) was found within the burnt stone. This is thought to be earlier in date than the mound which is assumed to be of Bronze Age date (c. 2,000 BC).

5. BIBLIOGRAPHY

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Hodder M. A. and Barfield L. H. (ed.), 1991, *Burnt Mounds and Hot Stone Technology*

Kelly R., 1992, The excavation of a burnt mound at Graeanog, Clynnog, in 1983, *Archaelogia Cambrensis Vol CXLI*

RCAHMW, 1937, *An Inventory of the Ancient Monuments of Anglesey*

6. ACKNOWLEDGEMENTS

British Gas funded the entire project, and have been helpful and supportive throughout. Particular thanks are due to Lyndon Vickery and Iwan Jones from British Gas, and Gareth Williams acting for the Contractors.

Thanks also go to Dr. D Jenkins, UWB, for help with the identification of stone samples.

APPENDIX I

Description of flint point by G H Smith

Obliquely backed point

Description

Length 23mm; breadth 9mm; depth 2mm (incomplete length).

Mid brown flint, made on a thin, parallel sided flake from a carefully worked core. It is a point, with fine abrupt retouch to form a straight oblique edge on the right side, with the unworked distal end forming the base. The hip is broken off and the original length was c. 29mm.

Comment

The type of retouch and shape are sufficiently distinctive to be certain that this is not just a casually retouched flake but a deliberate form: a large , simple, obliquely backed microlith. This type is generally regard as a projectile point. By analogy with Southern British industries this type would be described as of Earlier Mesolithic date, and probably predating c. 6,500 BC after which smaller more varied geometric microliths began to be used (Jacobi 1987, p. 164). Locally, it can be closely compared to points from Trwyn Du, Aberffraw, with which radiocarbon dates in the mid 7th millennium BC were associated (uncalibrated) indicating a true date within the 8th millennium BC (Lynch 1991, pp 48-51 and 327-8). Flint projectile points are often found in isolation as a result of loss during hunting and a single piece lithe this is likely to be a stray find with no contemporary occupation nearby.

Bibliography

Jacobi, R. M., 1987, Misanthropic Miscellany: Musings on British Early Flandrian Archaeology in P Rowley-Conwy *et al* eds, *Mesolithic North-West Europe: Recent Trends.*

Lynch, F., 1992, *Prehistoric Anglesey.*

APPENDIX II

PROJECT DESIGN FOR ARCHAEOLOGICAL WATCHING BRIEF ALONG THE LLANBEDRGOCH - LLANGEFNI GAS PIPELINE (G1317)

Prepared for British Gas 05/06/95

1. PROJECT BACKGROUND

British Gas are proposing to lay a 200mm welded steel pipeline from Llangefni to Llanbedrgoch. The length of the route has been field walked, and no significant archaeological sites were noted. However a watching brief was recommended, and British Gas have asked Gwynedd Archaeological Trust to provide a project design and costs for carrying out the project.

2.0 ARCHAEOLOGICAL BACKGROUND

The pipeline runs through an area where Prehistoric, Roman and Medieval sites have been previously noted. The results of the monitoring of other pipeline construction projects in Gwynedd would suggest that additional sites lie along the length of the pipeline. These are usually noted by concentrations of burning, although areas of compacted stone or clay features may also indicate an archaeological site.

3. ARCHAEOLOGICAL AIMS

The aims of this work will be to:

(i) walk the length of the pipeline following top-soil stripping to check for archaeological remains;

(ii) identify the significance of any archaeology discovered during the walkover;

(iii) record the location and nature of any archaeological remains discovered;

(iv) make recommendations for any further work thought to be necessary.

4. PROGRAMME OF WORK

4.1 Introduction

The archaeological work will be conducted in phases, to accompany the top soil stripping and the digging of the pipeline trench. The pipeline will be walked following the stripping of the topsoil, and all potential sites identified. These will then be cleaned up by trowelling, and the nature and significance of the feature recorded. If the features revealed can be understood and recorded with no further work required, then they will be photographed, described and located on the OS 1:2,500 plans. However if the features are too complex to allow this, then recommendations will be made for further work.

4.2 Recording methods

All recording will involve written descriptions on standard Gwynedd Archaeological Trust context forms, scaled plans and sections where appropriate, scaled black and white photographs and colour slides at 35mm format.

4.3 Final report

Following the completion of the fieldwork, a final report will be produced for submission to the clients. The report will detail and synthesise the results of the recording and evaluation work. It will be to an acceptable publication standard and will comprise:

a) a copy of the agreed Project Design;

b) a scale plan showing the location of features recorded and described;

c) plans and sections at an appropriate scale of each trench;

e) other illustrations as appropriate;

f) a description of the archaeology revealed including its extent and character, an interpretation and date, and an assessment of the importance (regionally/nationally) and condition (quality and state of preservation) of known archaeological and historical remains identified;

f) a full bibliography of all sources consulted; and

g) all specialist reports.

The report will be compiled using WordStar7 software. The client will be supplied with one hard copy of the report with further copies at cost (a copy of the report can also be supplied on disc if required in WordStar 6/7 or ASCII format). A copy will also be lodged with the Gwynedd Sites and Monuments Record on the understanding that this will become a public document after an appropriate period of time (generally not exceeding six months).

The time allowed for this report covers the watching brief only, and does not include reporting on any further work which may arise.

5. DEPOSITION OF ARCHIVES

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled, and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the Site and Monuments Record) within six months of the completion of the project.

6. PERSONNEL

The work will be supervised by the Trust's Projects Manager Mr Andrew Davidson. The work will be undertaken by one of the Trust's Archaeological Field Officers experienced in the relevant skills/periods required and carried out by trained Project Assistants.

7. TIMING

Should the project design and costings be judged acceptable by the client, The Trust would be able to make personnel available to carry out the work programme identified above with one weeks notice.

A report will be available four weeks after the end of the fieldwork

8. DEPOSITION OF FINDS

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Often many of these finds become unstable (ie they begin to disintegrate) when removed from the ground. All finds are the property of the land owner, however, it is Trust policy to recommend that all finds are donated to an appropriate museum where they can receive specialist treatment and study. At the very least the Trust would request access to the finds for a reasonable period to allow for study and publication.

9. HEALTH & SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (1991; 1993 supplement)

10. INSURANCE

The Trust holds public liability insurance with an indemnity limit of £2,500,000 through Russell, Scanlon Limited Insurance Brokers, Wellington Circus, Nottingham NG1 5AJ (policy 01 1017386 COM).

11. OTHER

Any queries concerning the above should be directed to Mr Andrew Davidson at the Gwynedd Archaeological Trust Offices, Garth Road, Bangor. Telephone (01248) 352535.