Aberdaron, Meillionydd Bach Water Mains Renewal Scheme: Ground Investigation Programme

Archaeological Watching Brief

GAT Project No. 2151
Report No. 902
November, 2010

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust
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Prepared for
Dwr Cymru

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By
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Archaeological Watching Brief – Ground Investigation Programme

Summary

Gwynedd Archaeological Trust (GAT) was commissioned by Dŵr Cymru to complete an archaeological watching brief during ground investigation (GI) works associated with the proposed water mains renewal scheme at Meillionydd Bach, Aberdaron in Gwynedd.

The GI programme was programmed to locate the previous water main (which was laid in 1959) and to assess ground conditions in advance of the main works of pipe renewal.

A total of 38 test holes were monitored as part of the archaeological watching brief. Prehistoric archaeology was discovered in test hole TH 14E where a cut feature containing flints dating to the late Mesolithic or early Neolithic was identified. TH 13 contained significant peat deposits which can provide valuable evidence of the historical development of the landscape. No archaeological deposits were identified in the remainder of the test holes.

It is now known that archaeological deposits survive along the line of the existing main and could be uncovered during open cut excavations for the new main which will be monitored as part of a watching brief.

1.0 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by *Dŵr Cymru* to carry out an archaeological watching brief during ground investigation (GI) works in advance of a water mains renewal programme at Meillionydd Bach, Aberdaron, Gwynedd (centred on NGR **SH2045328767**). The water mains renewal area is located along and parallel to a network of local roads *c.*3.75km to the northeast of Aberdaron as indicated on client drawings **NP0900234/Drawing 101 (Iss. 01), NP0900234/Drawing 102 (Iss. 01)** and **NP0900234/Drawing 103 (Iss. 01)**.

A mitigation brief has not been prepared for this work by **Gwynedd Archaeological Planning Services** (GAPS), but GAPS has recommended an archaeological watching brief of all Test Holes as well as the water mains pipeline renewal.

Reference was also made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001).

2.0 BACKGROUND

According to information held within the regional Historic Environment Record (HER), the water mains renewal route is close to the location of Bodrydd Medieval Township (HER ref.: PRN 6,579; NGR SH20202860). The historic garden of Mellionydd Bach (HER ref.: NPRN 16,515; NGR SH21382862) is located to the immediate east of the renewal route. According to information held on the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) Coflein database, this garden is depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XLIV, with a formal garden, kitchen garden and pond. At the terminus of the northern spur of the renewal route is the post-medieval dwelling of Plas Newydd and it's associated garden (NPRNs 16,755 and 86,458 respectively; NGRs SH20852923 and SH20882929).

3.0 METHODOLOGY

3.1. Ground Investigation Works

- All attended test holes were excavated using a 1.5T 360° tracked excavator with a toothless ditching bucket, of 0.5m width. The length of all the test pits was variable, but

would generally be between 1.00m and 4.9m in length, the width being generally 0.5m. The depth of the test holes were dependant on the water main being observed or natural subsoil being reached. All GI works were completed by *Daniels* on behalf of *Dŵr Cymru*

3.2 Archaeological Watching Brief

- A photographic record was maintained throughout, using a digital SLR camera set to maximum resolution.
- Notations were made of all subsurface deposits on individual watching brief record sheets.
- The archive is be held by GAT under an appropriate project number (**G2151**).

4.0 RESULTS

The location of the individual trial holes monitored by GAT as an archaeological watching brief can be found in Figures 01,02 and 03. During the GI only one of the test holes (TH 14E) revealed archaeological features and artefacts, all others were void of archaeology. A brief individual description of each test hole is given below.

TH 01
Size: 1.2m x 4.5m Depth: 1.5m Orientation: E-W

Description
The test hole was widened and extended to locate a 'T' junction in the existing main. The deposits encountered consisted of 0.4m of mid grey-brown silt rich clay overlying 0.8m of a brown-orange clay subsoil. The natural was a blue-grey clay. The pipe was encountered at a depth of 1.45m.

TH 05
Size: 2m x 0.5m Depth: 1m Orientation: N-S

Description
Test hole excavated to test ground conditions. A dark orange-brown stone rich topsoil 0.3m thick consisting of approximately 50% rounded stone with a clayey silt matrix overlying 0.7m of yellow-orange natural clay. Post medieval pottery was observed in the topsoil.

TH 06
(Plates 1-2)
Size: 2m x 0.5m Depth: 1.2m Orientation: N-S

Description
Test hole excavated to test ground conditions. 0.4m of dark orange-brown clay rich silt topsoil overlay 0.8m of yellow-orange natural clay. A number of larger stones which may have been natural were clipped at the southern end of the trench.

TH 07
Size: 1.6m x 0.5m Depth: 1.25m Orientation: N-S

Description
Test hole was excavated in a small private layby to locate the existing water main. 0.05m of laid broken slate hardcore and 0.4m of mottled orange-brown compacted clay overlay 0.25m of a dark orange-brown silt-clay subsoil. The compacted clay layer sealed the cut for the existing water

main and was likely to have been laid during the construction of the layby. The natural was light yellow-orange clay. The pipe was located at a depth of 1.2m.

TH 08
(Plates 2-3)
Size: 2m x 0.5m Depth: 1m Orientation: N-S

Description
Test hole was located in a fairly wet field across the road from Tynllyn cottage and was excavated to test ground conditions. A layer of topsoil 0.25m thick consisting of mid grey-brown clay rich silt overlay 0.1m of grey-yellow sand. Both of these layers contained a fairly large amount of post medieval domestic material, probably rubbish from the nearby cottage. 0.65m of brown-orange clay underlay the upper deposits. Iron panning could be seen between the deposits.

TH 09
Size: 1.6m x 0.5m Depth: 1m Orientation: NNE-SSW

Description
Test hole was located in a fairly wet field and was excavated to locate the existing main. 0.2m of dark orange-brown topsoil consisting of clay rich silt overlay 0.15m of a mid grey clay rich silt subsoil, beneath these layers was a mid yellow-orange clay. The main was located at a depth of 0.95m.

TH 10
Size: 1.8m x 0.5m Depth: 1.1m Orientation: NE-SW

Description
Test hole excavated in a fairly flat field, used as pasture, to test ground conditions. The deposits encountered consisted of 0.35m of mid grey-brown silt-clay topsoil overlying a mottled grey-orange clay.

TH 11
Test hole 11 was positioned in a pasture field to locate the existing water main. A total of 3 trenches were excavated in this area.

Size: 1.6m x 0.5m Depth: 1m Orientation: N-S

Description
The deposits in the test holes consisted of 0.3m of mid grey-brown clay rich silt topsoil overlying a grey-orange clay. The water main was encountered at a depth of 0.9m.

- TH 11A was also orientated N-S and was excavated to a depth of 1m.
- TH 11B was also orientated N-S and was excavated to a depth of 1.35m.

Deposits were identical in all 3 trenches.

TH 13
(Plates 5-6)
Size: 2.3m x 0.5m Depth: 0.8m Orientation: NE-SW

Description
The test hole was located in a low point of a silage field at the base of a gradual slope, and was excavated to locate the existing water main. 0.3m of mid brown-gray silt-clay topsoil overlay 0.5m of dark brown-black peat. Below the peat was a mid grey clay. The existing main was located at a depth of 0.6m.

TH 14
Test hole 14 was positioned in a silage field to locate the existing water main. A total of 6 test holes were excavated before the pipe was located, prehistoric features were identified in test hole 14E.

Size: 2.5m x 0.5m Depth: 1.2m Orientation: NNE-SSW

Description
The test hole was located on the edge of a drainage ditch running along the northern field boundary. Deposits encountered consisted of 0.45m of grey-brown silt rich clay which overlay 0.4m of mottled brown-orange clay. The natural was a mid yellow-orange clay. The existing main was located at a depth of 1.15m.

- TH 14A measured 4.8m x 0.5m and 0.9m deep, and was orientated NE-SW. Deposits encountered consisted of 0.3m of mid grey-brown clay rich silt overlying 0.4m of brown-orange clay subsoil. The natural subsoil was mid yellow-orange clay.

- TH 14B measured 4.5m x 0.5m and 0.9m deep, and was orientated NW-SE. It was excavated in a layby east of the field where test hole 14 was located. Deposits encountered consisted of 0.5m of hardcore rubble including modern building material overlaying 0.2m of brown-orange clay subsoil. The natural was a light yellow-orange clay.

- TH 14C measured 7m x 0.5m and 0.6m deep, and was orientated NW-SE. Deposits encountered consisted of 0.4m of grey-orange silt rich clay topsoil which overlay 0.2m of grey clay. Grey gravel was encountered at the base of the test hole.

- TH 14D measured 4.4m x 0.5m and 0.7m deep, and was orientated NW-SE. It was located in the same layby as TH 14B. Deposits encountered consisted of 0.25m of mixed stone hardcore overlying 0.4m of brown-orange clay subsoil. The natural was a light yellow-orange clay.

- TH 14E *(Plates 11-14)* was the only test hole which contained archaeological deposits. The test hole measured 4.5m x 0.5m and 1m deep, and was orientated NNE-SSW. It was located on a flat plateau which overlooked the location of TH 13.

  Deposits and features encountered consisted of:

  - E1401 – Topsoil, 0.25m of mid grey-brown silt rich clay.
  - E1402 – Subsoil, 0.4m of mottled brown-orange clay.
  - E1403 – Cut of pit, fairly shallow sides with a rounded base, 0.35m deep and 1.5m wide.
  - E1404 – Upper fill of pit, 0.15m deep, mid grey-brown silt rich clay, similar to the topsoil.
  - E1405 – Lower fill of pit, 0.2m deep, mid grey clay containing charcoal and flint.

  The feature encountered was almost certainly prehistoric in date as a worked flint fragment was recovered from the lower deposit. Other worked flint fragments found in the spoil heap produced during the excavation of the test hole are likely to have come from the same feature as it was clearly truncated during excavation. In all 5 pieces of flint were recovered. One of these had been struck from a blade core and had been utilised as a cutting tool, blade technology of this kind is generally late Mesolithic to early Neolithic in date (*pers. comm.* George Smith). Another fragment is likely to have been produced during core rejuvenation and is also likely to date from a similar period. The remaining fragments were not diagnostic but could be said to be debitage from tool making.

TH 18
TH 18 was located in a field used as pasture, and was originally intended to test ground conditions; however as TH19 initially failed to locate the existing main further trenches were excavated in the vicinity of TH18 in order to aid detection. Excavation of the initial test hole was not observed, excavation of the additional 3 test holes was monitored.

- TH 18A was 2.5m x 0.5m and 0.55m deep, and orientated N-S. Deposits encountered consisted of 0.25m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil, the natural was light orange-yellow clay.

- TH 18B was 3.2m x 0.5m and 0.6m deep, and orientated N-S. Deposits encountered consisted of 0.25m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil, the natural was light orange-yellow clay.

- TH 18C was 2.2m x 0.5m and 0.95m deep, and orientated E-W. Deposits encountered consisted of 0.25m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil, the natural was light orange-yellow clay. The existing main was found at a depth of 0.9m.

TH 19
TH 19 was located in a field used as pasture and was intended to locate the existing water main. In total 12 test holes were excavated in this area, this was largely due to the location of the existing main on the plans provided being very inaccurate. TH 19 was not observed, the excavation of all other trenches in this area was monitored.

- TH 19A was 4.7m x 0.5m and 0.4m deep, and orientated E-W. Deposits encountered consisted of 0.25m of mid orange-brown clay rich silt topsoil overlying 0.15m of mid brown-orange silt-clay subsoil. The existing main was not encountered.

- TH 19B was 3.6m x 0.5m and 0.55m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was not located.

- TH 19C was 2m x 0.5m and 0.95m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.25m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 0.95m.

- TH 19D was 2.5m x 0.5m and 1.05m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 1.0m.

- TH 19E was 5m x 0.5m and 1m deep, and orientated E-W. Deposits encountered consisted of 0.35m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was not located.

- TH 19F was 5m x 0.5m and 0.9m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was not located.

- TH 19G was 2.5m x 0.5m and 0.8m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was not located.

- TH 19H was 4m x 0.5m and 0.95m deep, and orientated E-W. Deposits encountered consisted of 0.35m of mid orange-brown clay rich silt topsoil overlying 0.25m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 0.9m.

- TH 19I *(Plate 07)* was 2.3m x 0.5m and 1.05m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 1m.

- TH 19J was 1.7m x 0.5m and 0.9m deep, and orientated E-W. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.25m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 0.9m.

- TH 19K *(Plate 08)* was 4.9m x 0.5m and 1m deep, and orientated N-S. Deposits encountered consisted of 0.3m of mid orange-brown clay rich silt topsoil overlying 0.2m of mid brown-orange silt-clay subsoil. The natural was light orange-yellow clay. The existing main was located at a depth of 1m.

TH 20
TH 20 was located in a field that was not to be investigated in the original design; however as the existing main was not at the location shown on the Welsh Water plans it was necessary to identify the true location. Two test holes were excavated to aid the locating of the existing main in TH 21 and TH 22.

Size: 2.3m x 0.5m Depth: 0.7m Orientation: N-S

Description
Deposits encountered consisted of 0.45m of mid orange-brown clay rich silt topsoil overlying 0.25m of mid brown-orange silt-clay subsoil. The natural was orange-yellow sand rich clay containing a small amount of stone. The existing main was located at a depth of 0.7m.

TH 20A measured 1.1m x 1.5m and 1.05m deep, and orientated NE-SW. The deposits in the trench were identical to those in TH20. The existing main was located at a depth of 1m.

TH 21
(Plate 09)
Size: 10m x 0.5m Depth: 1m Orientation: NW-SE

Description
The test hole was initially excavated to identify ground conditions and later extended to locate the existing water main. Deposits encountered consisted of 0.4m of mid orange-brown clay rich silt topsoil overlying 0.1m of mid brown-orange silt-clay subsoil. The natural was orange-yellow sand rich clay containing a fair amount of small stones. Existing main was encountered at a depth of 0.9m.

TH 24
Size: 1m x 0.6m Depth: 0.6m Orientation: E-W

Description

The test hole was located on a verge on the side of a tarmacadam track in order to test ground conditions. 0.25m of loose dark grey-brown clay rich silt topsoil overlay 0.15m of light grey-brown clay rich silt subsoil. The natural was light yellow-orange clay.

TH 27
(Plate 10)
Size: 4.9m x 0.5m Depth: 0.9m Orientation: E-W

Description
This additional test hole was excavated in the same field as TH 20 and TH 21 so that the line of the existing main could be traced. 0.5m of mid orange-brown clay rich silt topsoil overlay 0.2m of mid brown-orange silt-clay subsoil. The natural was orange-yellow stone rich sandy clay. The existing main was located at a depth of 0.9m.

5.0 CONCLUSIONS

A total of 36 trial holes were monitored during the archaeological watching brief. One of these trial holes, TH 14E, revealed definite evidence of prehistoric activity in the form of cut features and flint artefacts.
A second test hole, TH 13, revealed significant peat deposits which can provide valuable paeleoenvironmental information through preserved floral and faunal remains.
There is the possibility that the marshy area where TH 13 was located may have been a small lake or pond at some time. This is supported by the name of a nearby house, Tynllyn, which means ‘smallholding by the lake’ when translated into English.

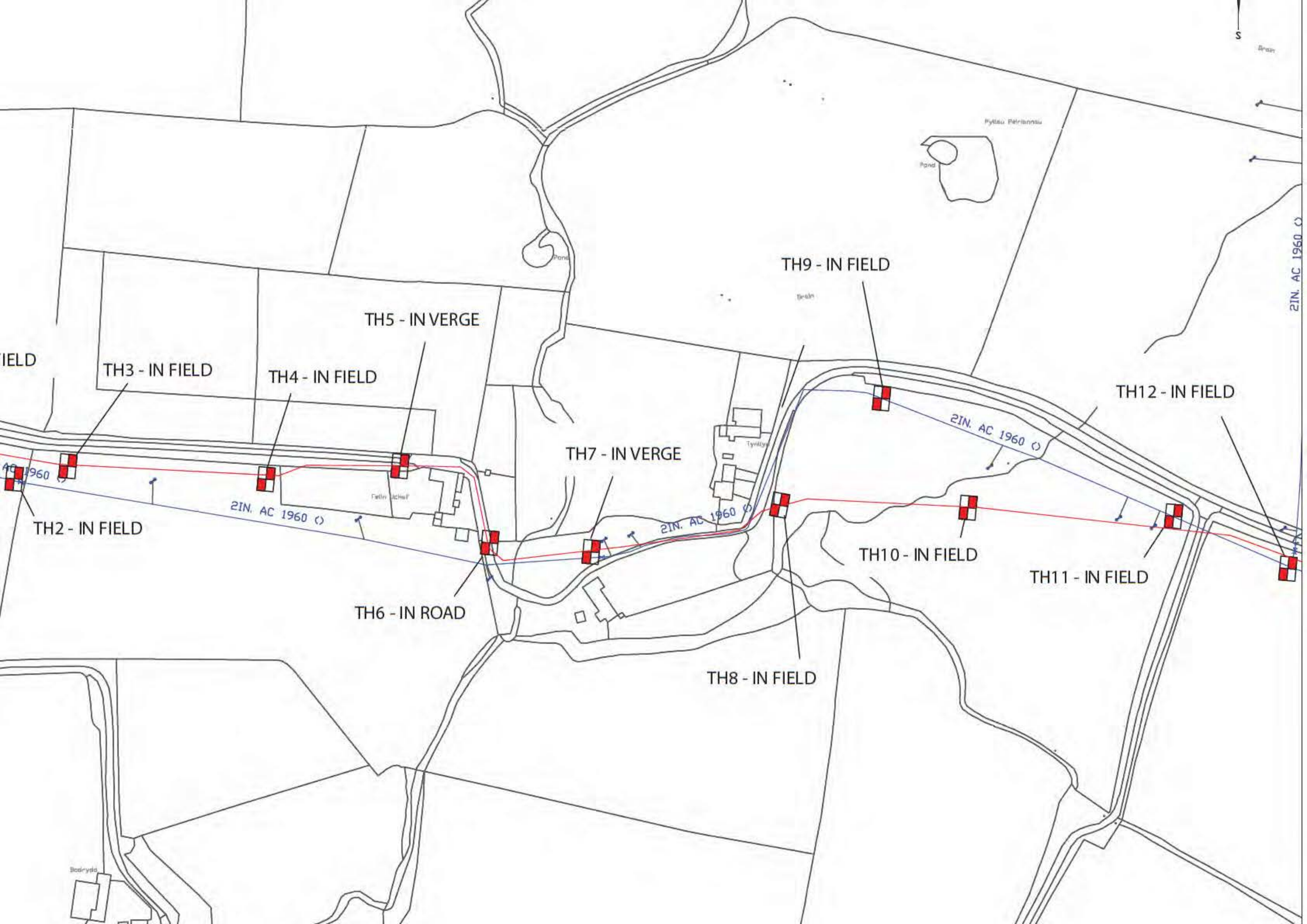
The watching brief showed that previously unidentified archaeology is present on the proposed route of the new water main, and that it survives in close proximity to the existing water main. Test holes TH 1, TH 7, TH 9, TH 11, TH 13, TH 14, TH 18C, TH 19C, TH 19D, TH 19H, TH 19I, TH 19J, TH 19K, TH 20, TH 20A, TH 21, TH27 all located the existing main and showed signs of disturbance associated with the original groundworks. The disturbance appeared to be limited to a width of approximately 1m, the archaeology in TH 14E was located approximately 2m from the existing main and appeared to be completely undisturbed.
It is now known that archaeological deposits survive along the line of the existing main and could be uncovered during open cut excavations for the new main which will be monitored as part of a watching brief.

6.0 BIBLIOGRAPHY and SOURCES

Dŵr Cymru drawings **NP0900234/Drawing 101 (Iss. 01), NP0900234/Drawing 102 (Iss. 01)** & **NP0900234/Drawing 103 (Iss. 01)**

Institute for Archaeologists (IFA), 2001 By-laws, Standards and Policy Statements of the Institute for Archaeologists: Standards and Guidance – Watching Brief

Historic Environment Record, Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT


IELD
TH2 - IN FIELD
TH3 - IN FIELD
TH4 - IN FIELD
TH5 - IN VERGE
TH6 - IN ROAD
TH7 - IN VERGE
TH8 - IN FIELD
TH9 - IN FIELD
TH10 - IN FIELD
TH11 - IN FIELD
TH12 - IN FIELD
2IN. AC 1960 ()
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I FIELD
TH 13 - IN FIELD
TH 14 - IN FIELD
TH 14E
2IN. AC 1960
TH 16 - IN FIELD
TH 15 - IN FIELD
TH 17 - IN FIELD
TH 18 - IN FIELD
TH 27 - IN FIELD
TEST HOLES
TH 19A - TH 19K
LOCATED IN THIS
AREA.
TH 20 - IN FIELD
TH 19 - IN FIELD

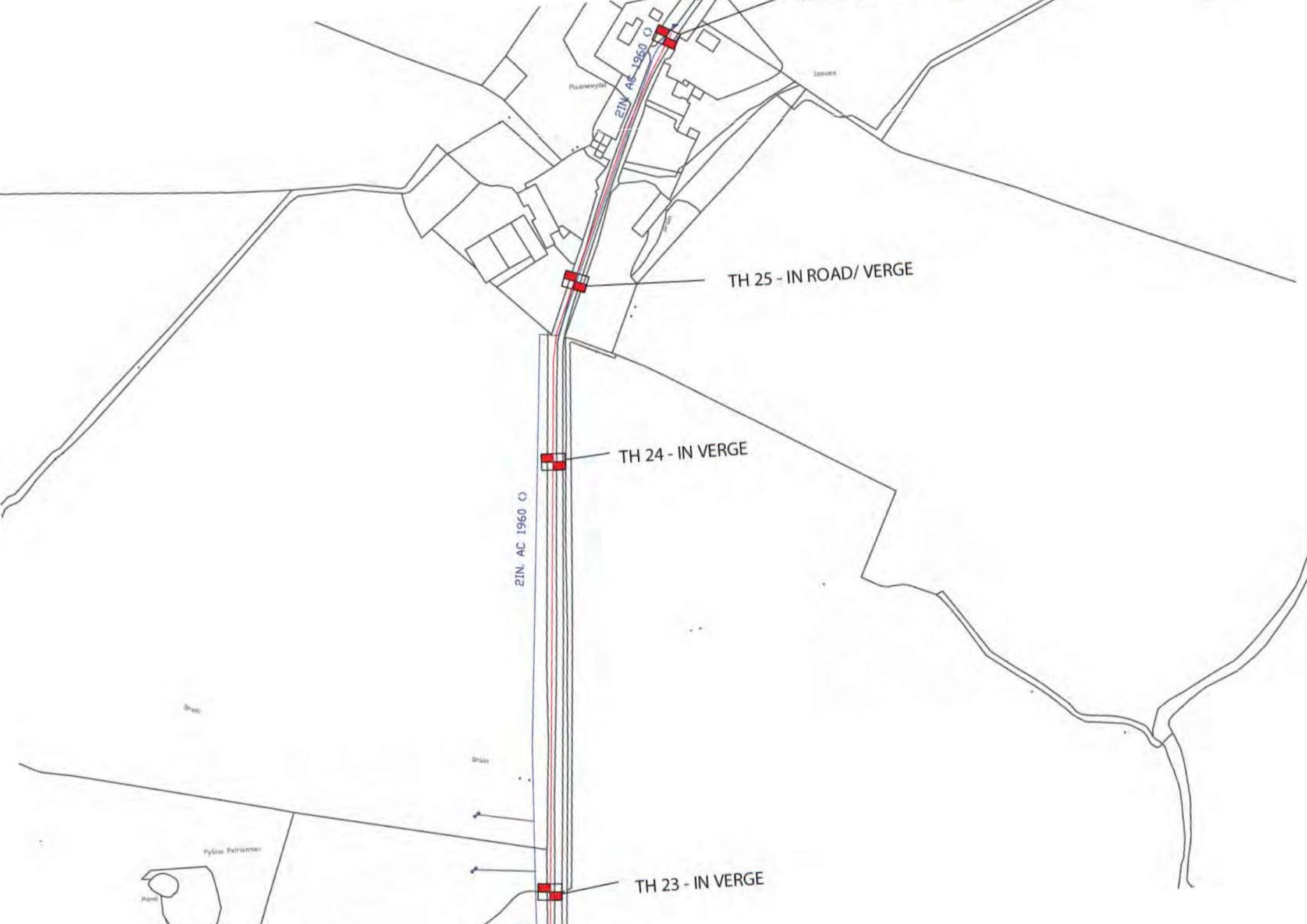
TH 25 - IN ROAD/ VERGE
TH 24 - IN VERGE
TH 23 - IN VERGE
21IN. AC 1960
21IN AC 1960

Plate 1: Pre excavation shot showing location of Test Hole 6, view from the North-West

Plate 2: Test Hole 6 post excavation, view from the North-West

Plate 3: Pre excavation shot showing the location of Test Hole 8, view from the South

Plate 4: Test Hole 8 post excavation, view from the West-South-West

Plate 5: Pre excavation shot showing the location of Test Hole 13, view from the South-East

Plate 6: Test Hole 13 post excavation, view from the West

Plate 7: Test Hole 19I post excavation, view from the North-West

Plate 8: Test Hole 19K post excavation, view from the North-West

Plate 9: Test Hole 21 post excavation, view from the South-East

Plate 10: Test Hole 27 post excavation, view from the West-South-West

Plate 11: General view of field where Test Hole 14E was located, view from the North-West

Plate 12: General view of field where Test Hole 14E was located, view from the North-East

Plate 13: Section of Test Hole 14E showing prehistoric cut feature, view from the West-South-West

Plate 14: Test Hole 14E post excavation, view from the South-West

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