

## Archaeological Test Pitting at Adworthy Brook, Witheridge, Devon

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### Introduction

Three archaeological test pits were opened by South West Archaeology Ltd. (SWARCH) at the request of a private client to assess the degree of disturbance caused by the excavation and backfilling of a water pipe trench on land at West Yeo, Witheridge, Devon. The test pits were hand dug by S. Stevens and P. Webb on 31<sup>st</sup> March 2022. This work was undertaken in accordance with a WSI in line with best practice.

### Background

The site is located on land at West Yeo Moor, to the north-west of West Yeo Farm, to the east and south of the Adworthy Brook, c.2.7km north-west of Witheridge and c.11.2km south-east of South Molton (Figure 6). The site is located in a field, identified by the Devon HLC as *modern enclosures created out of earlier rough grazing ground, heathland or moorland in the 20<sup>th</sup> century*. The field has also been identified as a priority habitat (*purple moor grass and rush pastures*, type M23).

The field slopes down to the north-east to the base of the valley of the Adworthy Brook, at an altitude of c.160-175m AOD. The soils here are classified as the slowly permeable seasonally clayey, fine loamy, and fine silty soils of the Hallsworth 2 Association (SSEW 1983). These overlie the mudstones of the Crackington Formation (BGS 2022).

The Devon and Dartmoor Historic Environment Record (HER) identifies the site as being within a Prehistoric landscape, with a series of barrows to the east on Dart Raffe Moor, though the surrounding settlements and fields developed during the medieval and later periods.

### Site Description

The trench for the water pipe is a visible feature in the field. The western stretch from the gated entrance in the north-western corner of the field, up to the southern boundary, is readily identifiable as a slight linear parchmark in the grass. However, it was not clearly identifiable where it runs along the southern boundary. The three test pits were excavated where the line of the pipe trench was obvious, and to avoid unnecessary additional disturbance.

### Methodology

Three small test-pits, up to 1.50m in size, were hand excavated to a depth of up to 0.30m below ground level (BGL), this being the top of the undisturbed weathered natural substrate. The turf was cut back and set to one side. The original water pipe trench was then excavated down to the top of the blue alkathene pipes. The clean aggregate around the pipes was sampled. Three sections across the pipe trench were drawn and photographed, and the test pits were backfilled and the turves replaced.

### Stratigraphy

The stratigraphy was consistent across the three test pits. The undisturbed stratigraphy consisted of three layers: a soft mid-to-dark slightly greyish-brown slightly silty clay-loam topsoil (100/200/300) 0.10-0.20m thick, which overlay a subsoil (101/201/301), a soft-friable mid greyish-brown clay-silt 0.10-0.06m thick, which sealed the natural (102/202/302), a firm mid yellow silt-clay.

The water pipe trench [103/203/303] ran north-west to south-east. It was between 0.4 and 1.05m wide and 0.75-0.8m deep. The base of the feature was 0.4-0.5m wide and the trench was therefore opened with a 400mm bucket. The top of the trench was much wider – between 0.8m and 1.05m – probably because the topsoil/subsoil was much less compact and thus liable to collapse, but perhaps also because the turf came away in sheets wider than the bucket.

The fills of the pipe trench were consistent across all three test-pits. They comprised (104/204/304) a replaced soft-friable mid slightly greyish-brown clay silt turf/topsoil 0.14-0.18m thick with occasional patches of re-deposited natural clay. Below this was (105/205/305), redeposited firm mid yellow clay natural c.0.65m thick with occasional sub-angular stone inclusions and lenses of topsoil. At its based was (106/206/306), a compact light grey and wet stony aggregate grit c.0.10m thick, which surrounded the two alkathene water pipes. No finds were recovered during the excavations.

### Discussion

These three test pits were opened to determine how the trench was originally excavated and backfilled. An excavator using a 400mm bucket opened the trench, the two alkathene water pipes were laid in the base of the trench and were covered with a clean aggregate. The trench was then backfilled with the material that came out of the trench. Bearing in mind that clay has a bulking factor of c.1.15, and a layer of aggregate had been introduced into the base of the trench, it would be unlikely that the excavated material would all fit readily back into the trench, and this proves on examination to be the case. The yellow clay in all three instances extended up to just below the turf, and in places reached the surface. This redeposited yellow clay contained pockets of topsoil/subsoil. A layer of topsoil – probably turves – was placed on this yellow clay, which varied in thickness between 0.12-0.18m, this being somewhat less than the original 0.3m soil profile.

To conclude, this fieldwork would indicate some care was taken to separate the turf and replace it, but that mixing of topsoil and natural did occur, and the original stratigraphy along the line of the trench was not fully restored. Whether this indicates the topsoil/subsoil and natural were mixed, or separated as per DEFRA/MAFF guidance, is unclear, as the dense yellow clay natural would be more easily recovered from the grass than the topsoil/subsoil which, being more friable, might be expected to experience greater loss in the longer grass.

### References

British Geological Survey 2022: *Geology of Britain Viewer*.

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MAFF 2000: *Good Practice Guide for Handling Soils. Sheet 4: Soil Replacement with Excavators and Dump Trucks*.

Soil Survey of England and Wales 1983: *Legend for the 1:250,000 Soil Map of England and Wales*.



FIGURE 1: VIEW ALONG THE VISIBLE STRETCH OF THE WATER PIPE TRENCH; VIEWED FROM THE NORTH-WEST (NO SCALE).





FIGURE 2: TEST-PIT 01, MID-EXCAVATION SHOWING AGGREGATE COVERING WATER PIPES; VIEWED FROM THE NORTH-WEST (1M SCALE).



FIGURE 3: TEST-PIT 01, SOUTH-EAST FACING SECTION; VIEWED FROM THE SOUTH-EAST (1M SCALE).





FIGURE 4: TEST-PIT 02, SOUTH-EAST FACING SECTION; VIEWED FROM THE SOUTH-EAST (1M SCALE).



FIGURE 5: TEST-PIT 03, SOUTH-EAST FACING SECTION; VIEWED FROM THE SOUTH-EAST (1M SCALE).



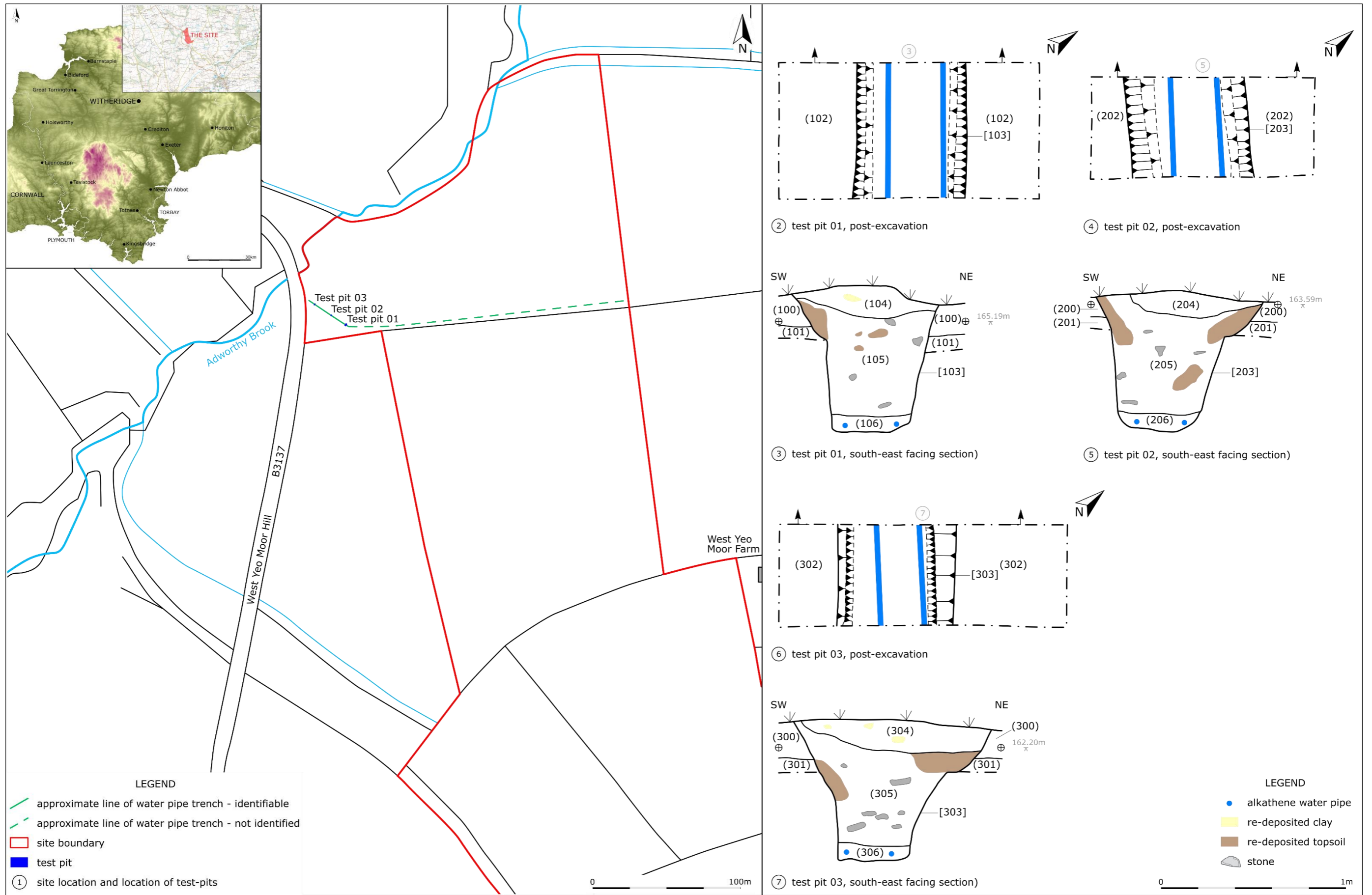


FIGURE 6: SITE PLANS AND SECTIONS. SPOT HEIGHTS AT METRES AOD.