
Alternative Site for the Proposed Pumping Station, Rhiwgoch, Harlech



Report on watching brief

GAT Project No. 2064.4
Report No. 817
June 2009

**PROPOSED PUMPING STATION, RHIWGOCH, HARLECH
(ALTERNATIVE SITE)**

REPORT ON AN ARCHAEOLOGICAL WATCHING BRIEF

GAT Project no. G2064.4

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**Prepared for Egniol Consulting
on behalf of Dŵr Cymru/Welsh Water**

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Cover: Digging test pits within the area proposed for the pumping station

**Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd**

G2064.4 PROPOSED PUMPING STATION, RHIWGOCH, HARLECH (ALTERNATIVE SITE)

WATCHING BRIEF ON TEST PITS

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PROPOSED PUMPING STATION, RHIWGOCH, HARLECH (ALTERNATIVE SITE) (G2064.4)

WATCHING BRIEF ON TEST PITS

Summary

Gwynedd Archaeological Trust conducted an archaeological watching brief during test pitting in advance of a proposed water pumping station near Harlech. This is the second site investigated as a possible location for the pumping station. The watching brief allowed the depth and nature of the deposits on the site to be inspected, and revealed a stone feature, possibly a yard or road surface. A strip, map and sample programme has already been recommended for this site and this will allow a thorough investigation of this feature and any others related to it.

1. INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by Egniol Ltd on behalf of their clients Dŵr Cymru Welsh Water to carry out an archaeological watching brief on test pitting in advance of a proposed pumping station near Harlech (centred on NGR SH 58415 31055; figure 1). The pumping station is part of upgrading works being carried out on the Harlech water supply system.

A site nearby had previously been proposed for the pumping station and an assessment was carried out on that site (Kenney 2009a, GAT report 777). The site was subsequently considered to be unsuitable and a new location was been proposed. An assessment was carried out on this new site (Kenney 2009b, report 810). Geological test pits were required to investigate the ground and these were monitored by an archaeologist. Six geological test pits were dug and a seventh pit was dug to locate the water main running through the area. The water main was laid in 2008 and runs roughly parallel to the wall along the northern side of the site.

2. SPECIFICATION AND PROJECT DESIGN

A detailed brief was not received for this work. Although a specific project design was not produced the work has been carried out according to the standards set out in the Institute of Field Archaeologists (IFA) *Standard and Guidance for an archaeological watching brief* (2001).

3. METHODS AND TECHNIQUES

Gwynedd Archaeological Trust undertook the watching brief on 17th June 2009. The location of the test pits was determined by the engineer for Dŵr Cymru, and they were dug by a 3 tonne, tracked mini-excavator with a toothed bucket. The digging of each pit was watched by the archaeologist, although their depth and size was controlled by the engineer.

The archaeologist photographed each pit and recorded the layers revealed by making notes and measurements. This report provides a record of the deposits seen in the test pits and gives additional recommendations for mitigation works.

4. GEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND

The proposed development area lies on a gently sloping plateau on the outskirts of the town of Harlech at c.100m OD. The site is bounded by a narrow road on its northern side and is within a roughly trapezoidal field, the eastern boundary of which is a line of low but near vertical crags. The field is rough pastureland and much of it is marshy. Two streams run into the field, meet and flow out as a single stream through the western boundary.

This landscape is defined by the Cambrian rocks of the Harlech dome (Bowen and Gresham 1967, 1), which the British Geological Survey describes as Cambrian shales, sandstones and quartzites (British Geological Survey 1930). The upper part of the town and castle of Harlech stand on a rocky shelf, which falls steeply to the former shoreline, masked by the sands of Morfa Harlech. The soils have developed on boulder clay and undifferentiated drift.

General archaeological and historical background to the area can be found in the two assessment reports (Kenney 2009a and b, Reports 777 and 810); feature numbers relate to these reports. Below is a summary of information relating specifically to the field in which the present site is located.

Documentary evidence suggests that the road (feature 3) on the north side of the site dates from the 16th century, although the walls must have been rebuilt in the 19th century. There was a pond (feature 8) in the field, probably also dating from at least the 16th century. The tithe map of 1841 shows the pond as parcel 678 and names it as 'Upper Pool'. The Upper Pool presumably fed water down to the lower Mill Pool just east of the castle, which in turn fed Harlech mill. The early OS maps show the Upper Pool was fed by two streams as today. The First Edition map shows that a straight structure had been built across the western side of the pond. This survives today as a stone-faced bank (feature 7). Both on the ground and on the maps it resembles a dam but the First Edition map suggests that the pond was not retained by this structure. By 1901 the pond seems to have been largely drained. It is likely that the dam-like structure was for flood defence rather than to retain the pond under normal conditions.

By 1889 after leaving the western side of the Upper Pool the water was carried down hill by a series of regular leats and an aqueduct (feature 9), apparently heading for a row of buildings immediately to the south-east of the parish church. The leat system and the buildings were still in use in 1901, although the pond seems much reduced and there is a local memory of the buildings being a bottling plant (Davidson pers com). By 1951 (as seen in aerial photographs) a reservoir (feature 2) had been constructed at the top end of this water supply system and it was probably constructed to improve the water supply to the buildings below, although it may also have been a general source of drinking water.

One of the streams running into the Upper Pool had previously fed a baptismal well (feature 1) constructed by the side of the road. This was built, according to a plaque, in 1841 by the 'Scotch Baptists'.

5. RESULTS OF THE WATCHING BRIEF

Introduction

Deposits in each test pit are described below and the results are summarised and conclusions discussed. The layers are defined by measurements from the present ground surface. The trenches are located on figure 2.

Test pit 1 (plate 1)

Size: 2.7m by 0.7m, 0.8m deep max.

0-0.3m: Dark grey loam with occasional stones. Topsoil.

0.3-0.8m: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length. Main soil horizon developed on the boulder clay, probably largely of colluvial origin. No traces of mixing due to ploughing.

0.8m+: Large boulders stopped further excavation of test pit. Unclear whether these were the top of bedrock or glacial boulders.

Test pit 2 (plate 2)

Size: 1.5m by 0.7m, 1.1m deep max.

0-0.3m: Dark grey loam with occasional stones. Topsoil.

0.3-0.8m: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length. Main soil horizon developed on the boulder clay.

0.8m+: Yellow-brown clay loam with some stone. Boulder clay.

Test pit 3 (plate 3)

Size: 1.9m by 0.7m, 0.5m deep max.

0-0.1m: Layer 301: Topsoil.

0.1-0.2m: Layer 302: Yellow gritty silt with occasional stones.

0.2-0.3m: Layer 303: Stones laid flat under and with layer 302. Largest stone up to 0.45m in length with traces of wear on the surface.
0.3-0.5m: Layer 304: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length.
0.5m+: Large boulders stopped further excavation of test pit. Unclear whether these were the top of bedrock or glacial boulders.

Test pit 4 (plate 4)

Size: 1.6m by 0.7m, 1.5m deep max.
0-0.3m: Topsoil.
0.3-0.9m: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length. Main soil horizon developed on the boulder clay.
0.9m+: Yellow-brown clay loam with some stone. Boulder clay.

Test pit 5 (plate 5)

Size: 1.2m by 0.7m, 0.7m deep max.
0-0.3m: Topsoil.
0.3-0.5m: Fairly clean and stone-free grey silt.
0.5m+: Yellow-brown clay loam with some stone. Boulder clay. Very wet and waterlogged.

Test pit 6

Size: 1.4m by 0.7m, 1.4m deep max.
0-0.3m: Topsoil.
0.3-1.0m: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length. Main soil horizon developed on the boulder clay.
1.0m+: Yellow-brown clay loam with some stone. Boulder clay.

Test pit 7 (plate 6)

Size: 2.2m by 2.0m, 0.9m deep max.
0-0.3m: Topsoil.
0.3->0.7m: Friable dark red-brown loam with c.40% sub-rounded stones up to 300mm in length. Main soil horizon developed on the boulder clay.
Cut by pipe trench. Pipe at c.0.7m below surface.

Summary

The site is underlain by boulder clay at a depth of between 0.8 and 1.0m but glacial boulders seem to protrude above this level in places. A red-brown stony deposit has developed over the boulder clay. The quantity of small stone within this suggests a colluvial deposit, created by soil movement down slope soon after the end of the last Ice Age. There is generally about 0.3m of topsoil over this with no evidence that this field has been ploughed.

In test pit 3 an area of stones, that appeared to have been deliberately laid, was noticed in association with a 0.1m thick deposit of yellow gritty silt. Together these seemed to form a man-made surface. Only a small area of this was seen in the trench so its function and date are difficult to determine, but a 19th century yard or road surface seems to be a possible interpretation. This could indicate the presence of other related archaeology and may suggest the presence of the remains of a building, although one is not indicated here on any of the early maps.

6. CONCLUSION AND RECOMMENDATIONS FOR FURTHER WORK

The watching brief allowed the depth and nature of the deposits on the site to be inspected. In addition the possible surface seen in test pit 3 indicates that there is archaeology present on site. The strip, map and sample evaluation of the whole development area recommended in the assessment will enable the full extent of this feature to be established and any related archaeology to be identified. It is important to carry out this work prior to the start of the construction works so that any archaeology can be adequately recorded without holding up construction.

7. THE ARCHIVE

The archive consists of notes and 15 digital images taken using a Nikon D40 DSLR. The paper archive will be held by Gwynedd Archaeological Trust (project code G2064), and the digital photographs will be curated by the National Monument Record (NMR), Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth. Copies of the bound report will be sent to the SNPA archaeologist, to the Historic Environment Record (HER) Archaeologist at the curatorial division of Gwynedd Archaeological Trust, Bangor, for deposition in the Regional HER, and to the NMR.

8. SOURCES

British Geological Survey, 1930. *Geological survey of England and Wales*, Solid Edition, sheets 9 and 10

Bowen, E.G. and Gresham, C., 1967. *History of Merioneth Vol. I*. Merioneth Historical Society, Dolgellau

Kenney, J, 2009a. Proposed pumping station, Rhiwgoch, Harlech: archaeological assessment (G2064), (Unpublished GAT Report No. 777)

Kenney, J, 2009b. Alternative site for the proposed pumping station, Rhiwgoch, Harlech: archaeological assessment (G2064), (Unpublished GAT Report No. 810)

Tithe map for the parish of Llandanwg in Merionethshire 1841.

Tithe Apportionment Schedule for the parish of Llandanwg in Merionethshire 1840.

Ordnance Survey 25 inch First Edition County Series maps Merionethshire sheets IXX.13 and XXVI.1 (1889)

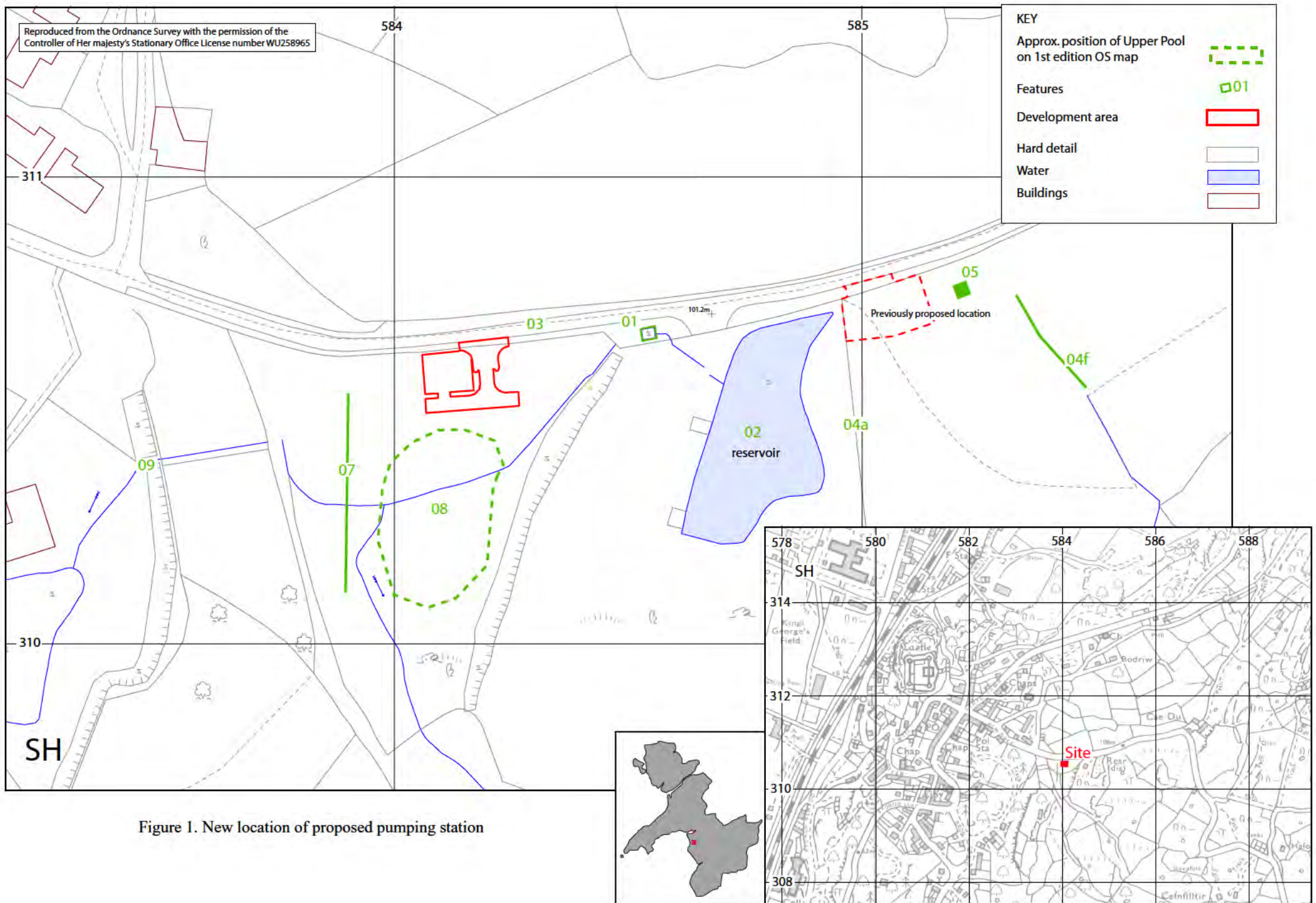


Figure 1. New location of proposed pumping station

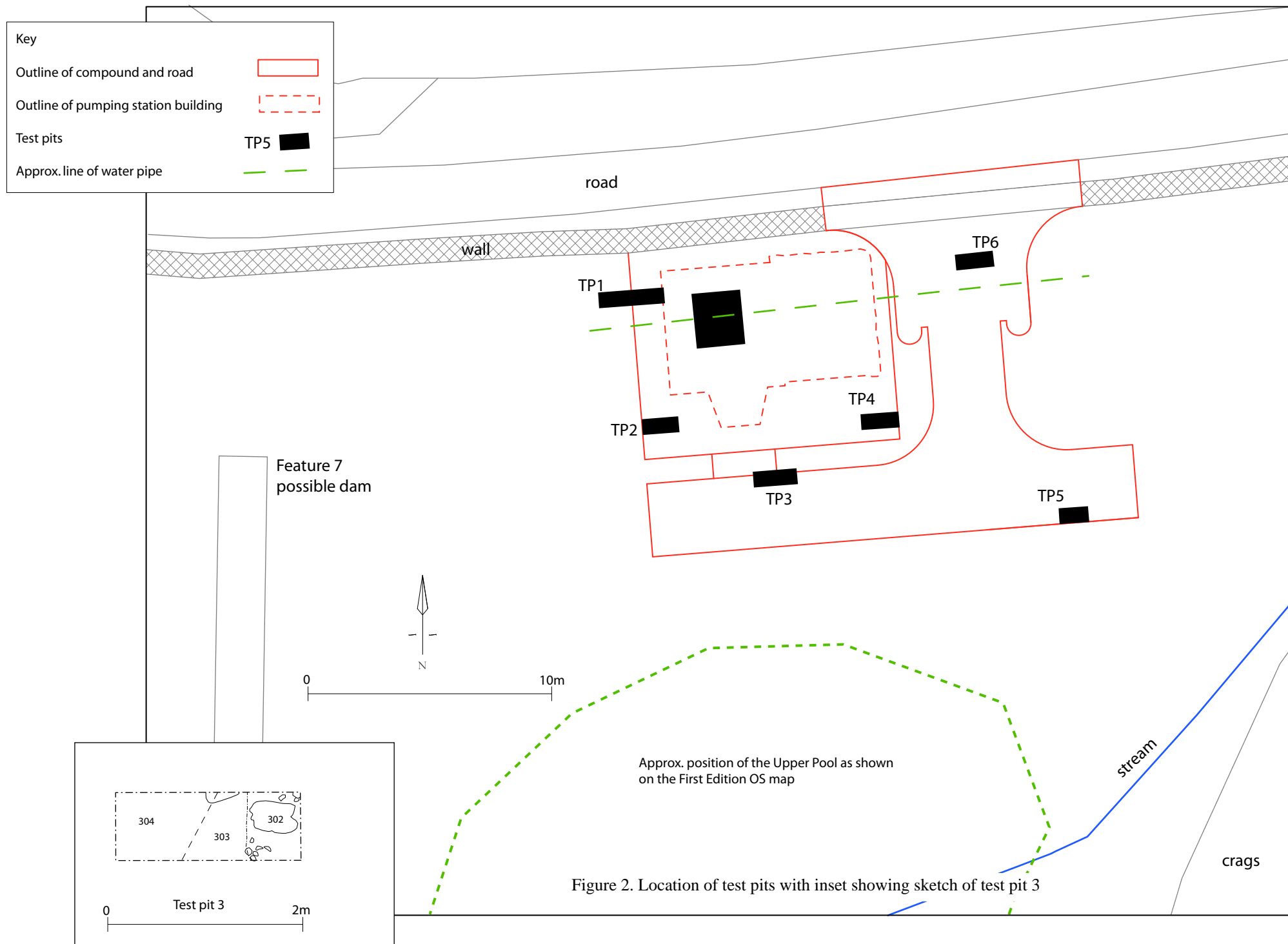




Plate 1. Test pit 1 from north-west



Plate 2. Test pit 2 from south



Plate 3. Test pit 3 from north, showing possible surface



Plate 4. Test pit 4 from south



Plate 5. Test pit 5 from north



Plate 6. Test pit 7 from east
showing water pipe



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