



BUDDLE HOUSE
ARCHAEOLOGICAL WATCHING BRIEF
REPORT

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THE NORTH OF ENGLAND
LEAD MINING MUSEUM

KILLHOPE, COUNTY DURHAM

on behalf of

Durham County Council

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THE NORTH OF ENGLAND LEAD MINING MUSEUM,

KILLHOPE, COUNTY DURHAM

BUDDLE HOUSE ARCHAEOLOGICAL WATCHING BRIEF

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THE NORTH OF ENGLAND LEAD MINING MUSEUM,

KILLHOPE, COUNTY DURHAM

BUDDLE HOUSE ARCHAEOLOGICAL WATCHING BRIEF

Summary

This report presents the results of archaeological monitoring undertaken during the installation of a French drain to the rear of the Buddle House at the North of England Lead Mining Museum, Killhope, County Durham. The monitoring was undertaken during April 2013 by Northern Archaeological Associates Ltd on behalf of Durham County Council.

The drain was required to limit groundwater ingress into the Buddle House, which was originally constructed in 1876-8. The work comprised the excavation of a trench and installation of the drain against the rear (south-west) wall of the building, continuing east to near the eastern boundary of the site.

Excavation of the trench revealed a stepped-out foundation for the rear wall of the Buddle House, and a cast iron pipe which would have provided water to machinery inside the building. Soils overlying the remains incorporated a significant quantity of rubble associated with restoration of the building in the 1980s.

1.0 INTRODUCTION

This report presents the results of an archaeological watching brief undertaken during the installation of a French drain to the rear of the Buddle House, at the North of England Lead Mining Museum, Killhope, County Durham (centred on NY 82685 43008: Fig. 1). The archaeological watching brief was undertaken by Northern Archaeological Associates on behalf of Durham County Council.

- 1.1 The core of the North of England Lead Mining Museum is a Scheduled Monument (SM 1015853). Consent was granted for the excavation of a trench for the new drain, with the condition that archaeological monitoring be maintained during the groundworks (EH 500051667). The work was undertaken over a five day period during April 2013, in accordance with a Written Scheme of Investigation (NAA, 2013) agreed with English Heritage.
- 1.2 The work comprised the installation of a French drain, intended to stop groundwater entering the Buddle House from the higher ground to its south. Recent archaeological excavation within the building revealed buried remains of the internal machinery of the Buddle House, which are now at risk from flooding (see below).
- 1.3 The drain ran the full length of the Buddle House's south-west wall, turning east and continuing beyond the standing structures, ending in a soak-away area on lower ground near the boundary of the Killhope site (Fig. 2). The excavated area measured c.28m in length, was between 0.4 and 0.8m in width, and varied in depth from 0.4m at its eastern end and 1.2m adjacent to the Buddle House.

2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 The North of England Lead Mining Museum is situated adjacent to the A689, on the south-western bank of Killhope Burn. It lies some 4km upstream from Cowshill. The Killhope Burn runs across the site between the main mine complex and the A689.
- 2.2 The solid geology of the site comprises Carboniferous Limestone Series of the Yoredale Group (Institute of Geological Sciences 1979) likely to be overlain by river terrace gravels although it is un-surveyed (Institute of Geological Sciences 1977). The soils are mapped as Wilcocks 1 Association, which comprises drift of seasonally waterlogged fine loam (Soil Survey of England and Wales 1983; Jarvis *et al.* 1984).

3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 The North of England Lead Mining Museum is a restored 19th century lead mine, the Park Level Mine, which was established in 1853.
- 3.2 Lead mining in Weardale was first recorded during the medieval period, but remained on a small scale until the 18th century, when it expanded greatly and became dominated by the Blakett family (latterly changed to Beaumont) and their company W. B. Lead (DCC 1987, 3).
- 3.3 In the mid-1870s, the Park Level Mine reached rich veins of lead, and it became one of the richest mines in Britain. When in full production, the mine produced a thousand tons of lead ore a year and employed over a hundred men (DCC 1987, 18).
- 3.4 In 1883, W. B. Lead sold the mine to the Weardale Lead Company, which continued operation until 1910, when the mine closed, although it was re-opened briefly in 1916. The mine lay derelict until 1980, when Durham County Council took over the site and began a programme of restoration. The site was first opened to the public in 1984.
- 3.5 In 1968, the site was placed on the Schedule of Ancient Monuments, and the present extent of the protected area is shown on Fig. 2. The original mine buildings at the site are Listed Buildings in their own right, including the Grade II* Jigger House and Crushing Mill Water Wheel. All drystone boundary walls, fence posts, a revetted retaining wall in the northern part of the site, road surfaces, a reconstructed stone and timber bridge, and the other modern reconstructions were excluded from the scheduling, but the ground beneath all of these features was included.
- 3.6 Evaluation within the Buddle House took place in 2012, to identify what types of buddle were used and whether any remains survived. A buddle was a machine, powered by water, to separate fine particles of crushed lead ore from waste material. Substantial remains, largely of wood, were uncovered in three trenches excavated within the building (Carlton 2013, 83-7). Due to the level of survival shown by the evaluation, the trenches were left open, but have been flooded continuously by groundwater from the higher ground to the south. The new French drain, positioned outside the building at a depth below the internal floor level, was intended to stop groundwater entering the building so that the remains can be preserved on a long-term basis.

4.0 AIMS AND OBJECTIVES

4.1 The purpose of the archaeological monitoring was to record any archaeological features and deposits which were uncovered during the course of the groundworks. The main objectives were:

- to provide a detailed record of any archaeological remains in advance of their loss through the proposed works
- to recover and assess any associated structural, artefactual and environmental evidence and
- to undertake a programme of post-excavation analysis, and prepare an illustrated report on the results of the archaeological investigations to be deposited with the County Durham Historic Environment Record (HER) and the National Monuments Record (NMR)

5.0 METHODOLOGY

5.1 A full methodology is provided in the WSI for the work (NAA 2013). Removal of overburden and subsoils was undertaken using a back-acting excavator with a toothless ditching bucket under constant archaeological supervision.

5.2 Where archaeological structures and deposits were encountered they were recorded, photographed and drawn in plan and elevation.

5.3 A written description of features was recorded using the NAA context recording system.

6.0 RESULTS

6.1 The trench was initially excavated against the outside of the Buddle House wall, 0.4m in width. A mixed layer of soil and building rubble (01), up to 0.8m deep, was encountered below the turf and lying against the standing wall (02) of the building. The upper part of the layer included pieces of nylon string and wooden fencepost, presumably dating from the restoration of the Buddle House in the 1980s.

6.2 Foundations (03) for the building were encountered at a depth of between 0.75 and 0.9m below ground. They were constructed of roughly-coursed, unworked sandstone blocks, averaging 0.5x0.3x0.25m in size and bonded with a cream lime mortar (Fig. 3; Plates 1 and 2). The foundations projected 0.3-0.35m from the wall and lay in a vertical cut (05) into the natural clay subsoil. The presence of the foundations required the trench for the new drain to be widened to 0.8m beside the building, to allow the drain to be placed at the correct depth.

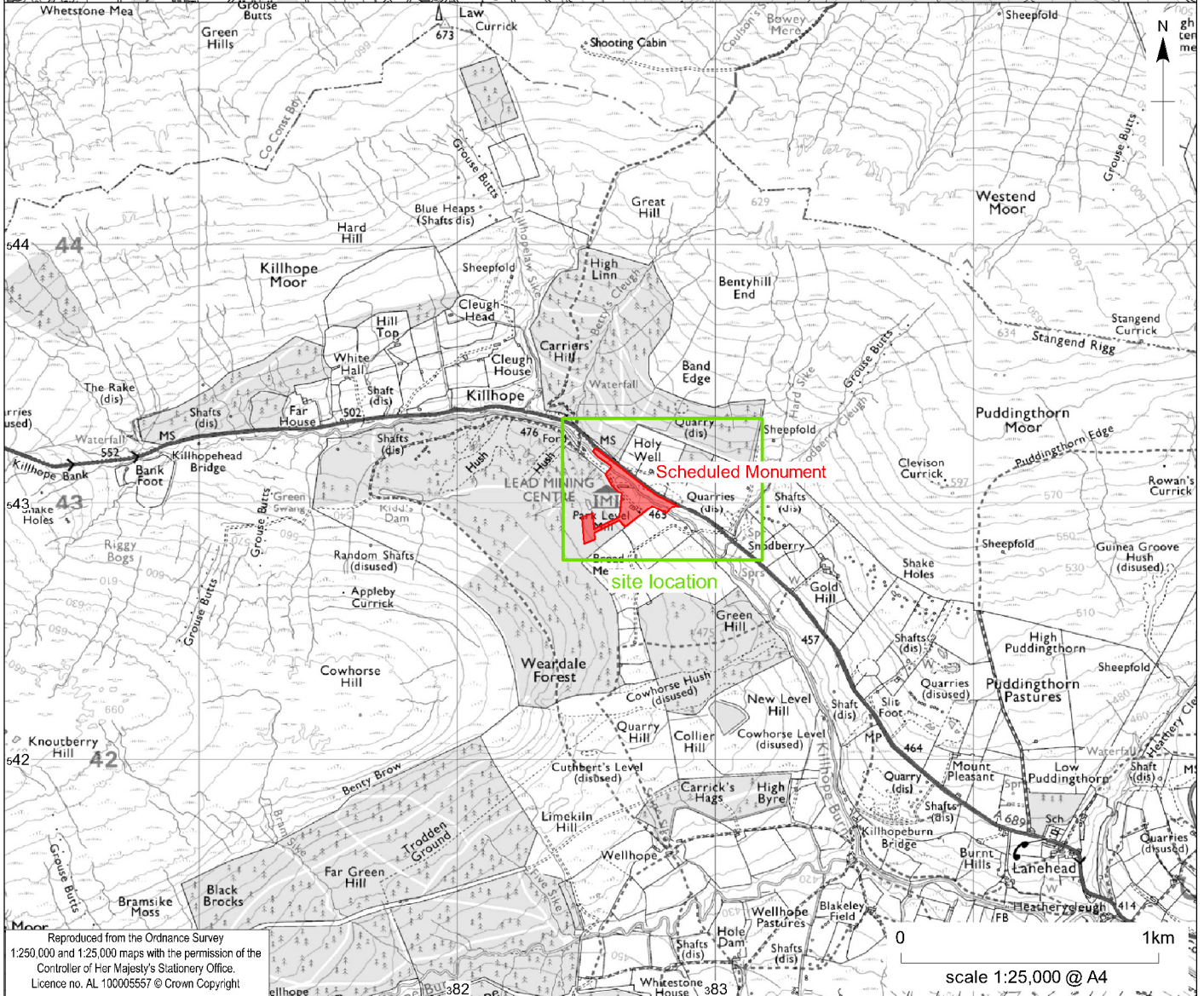
- 6.3 The remains of a 4" diameter cast iron waterpipe (04), was found next to the wall (Plate 3). This was positioned below one of the windows of the Buddle House, c.4.1m (13'6") along from its western corner, and would have fed water into the building, presumably from the reservoirs further up the slope. The pipe represents an alteration, as one of the slabs of the foundations appeared to have been removed for installation of the pipe (Plate 4).
- 6.4 To the east of the Buddle House, the trench for the French drain became progressively shallower, as the ground sloped away to the east and north (Plate 5). South-east of the Large Classifier, the trench averaged 0.5m deep, and cut through the same mixed layer (01) which lay directly over the clay natural subsoil.

7.0 DISCUSSION

- 7.1 The monitoring has revealed the form of the Buddle House's foundations. They have been shown to be c.1' wider externally than the wall of the building and had been dug into the natural slope of the hill.
- 7.2 The presence of the water pipe was an unexpected discovery. Its position in front of one of the windows and the apparent removal of a foundation stone suggest it was a later addition, but its precise date cannot be established. It has been proposed that the supply of slurry into the buddles would have entered the building at the western corner of the building, and the position of the pipe near to this is likely to be related (Carlton 2013, 86).

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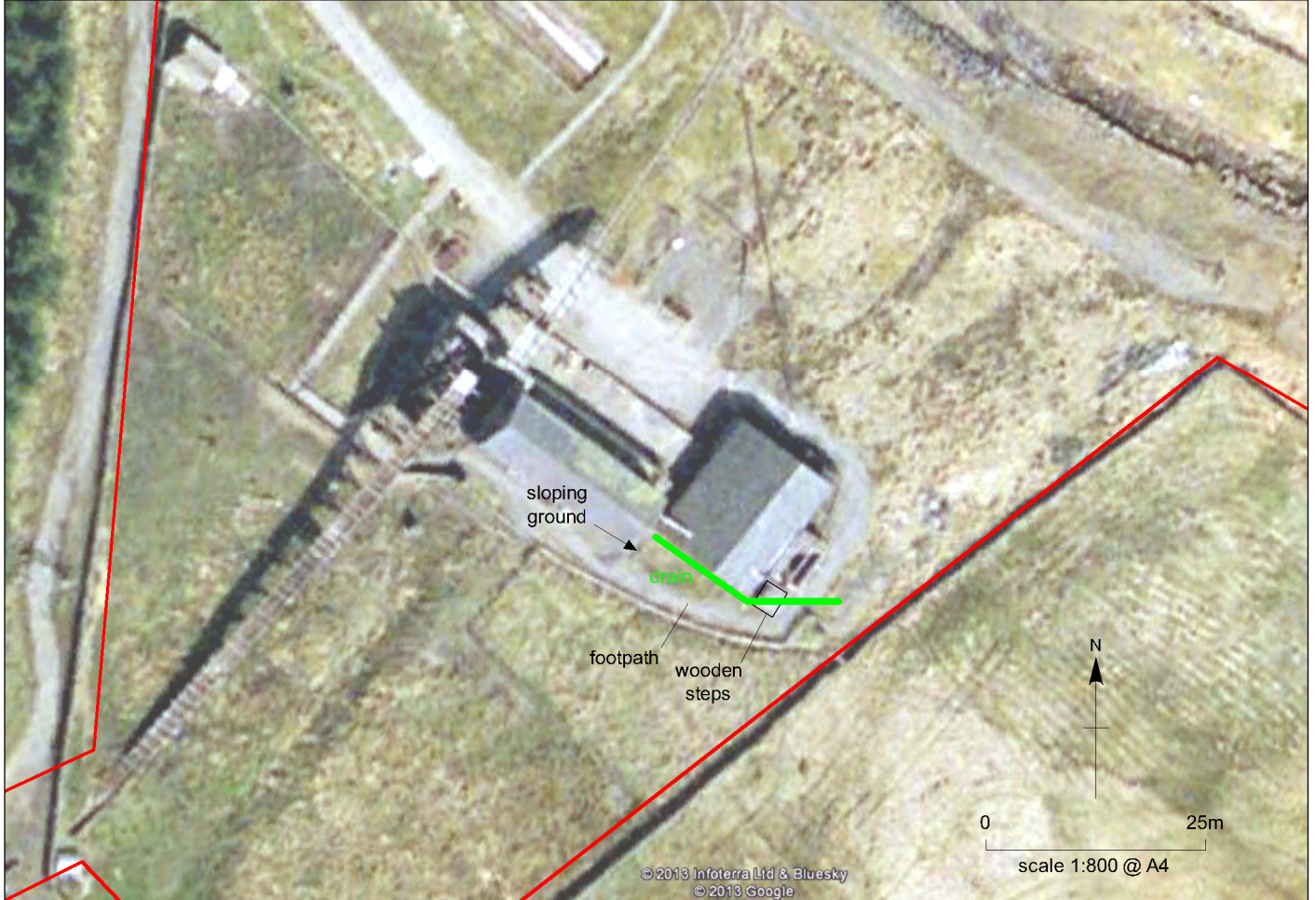
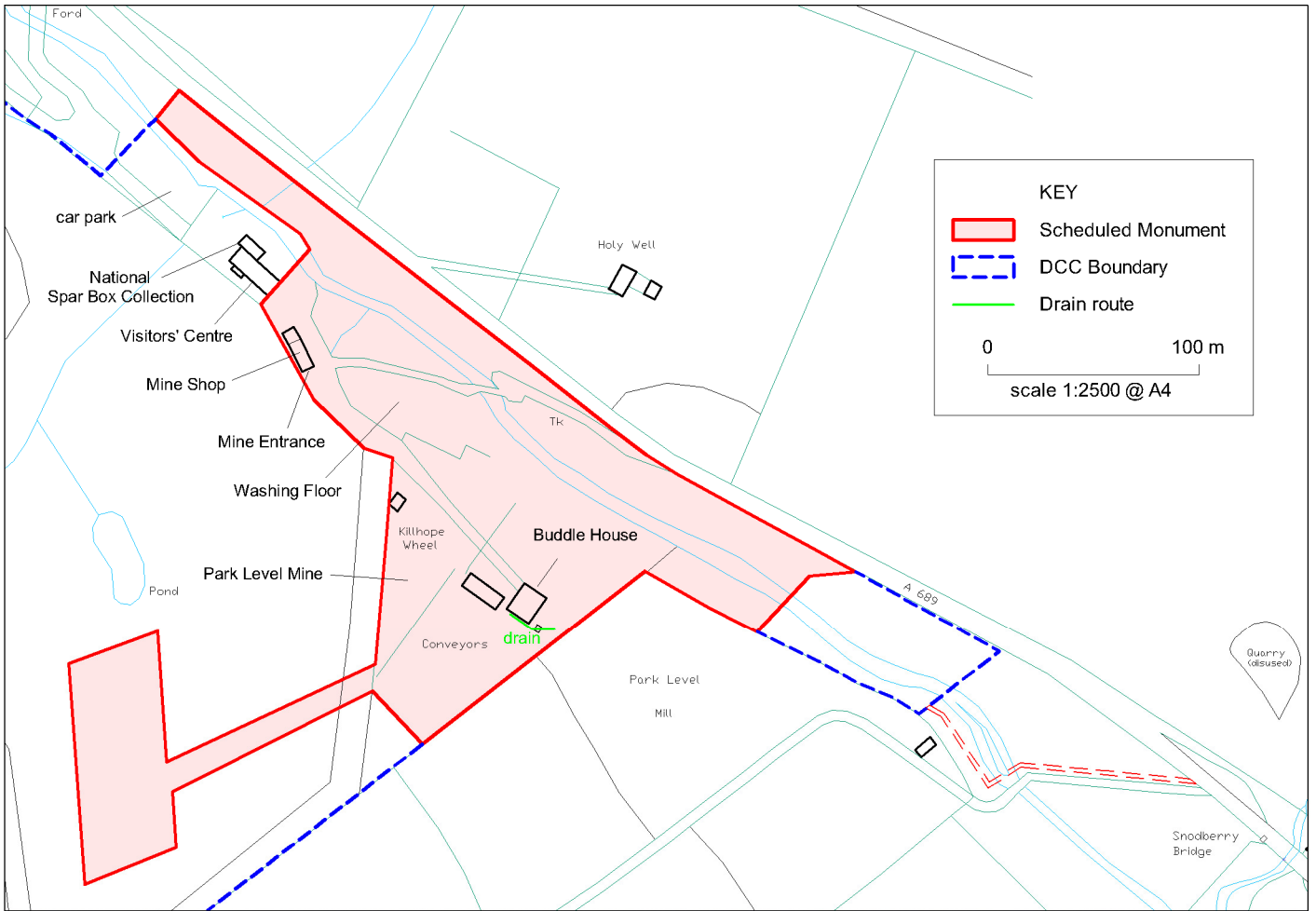


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North of England Lead Mining Museum, Killhope: site location

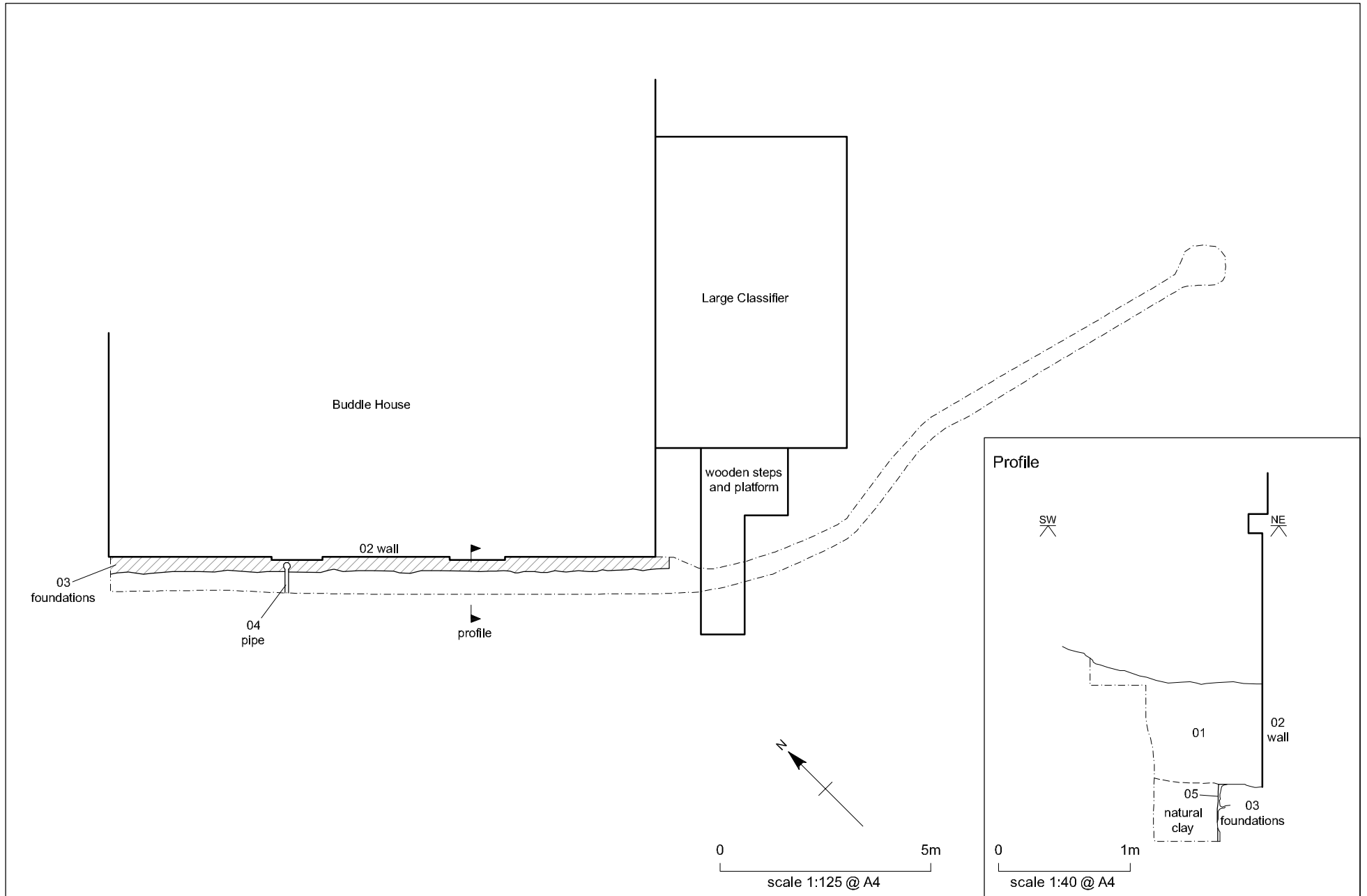
Figure 1



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North of England Lead Mining Museum, Killhope: drain route in relation to Scheduled Monument

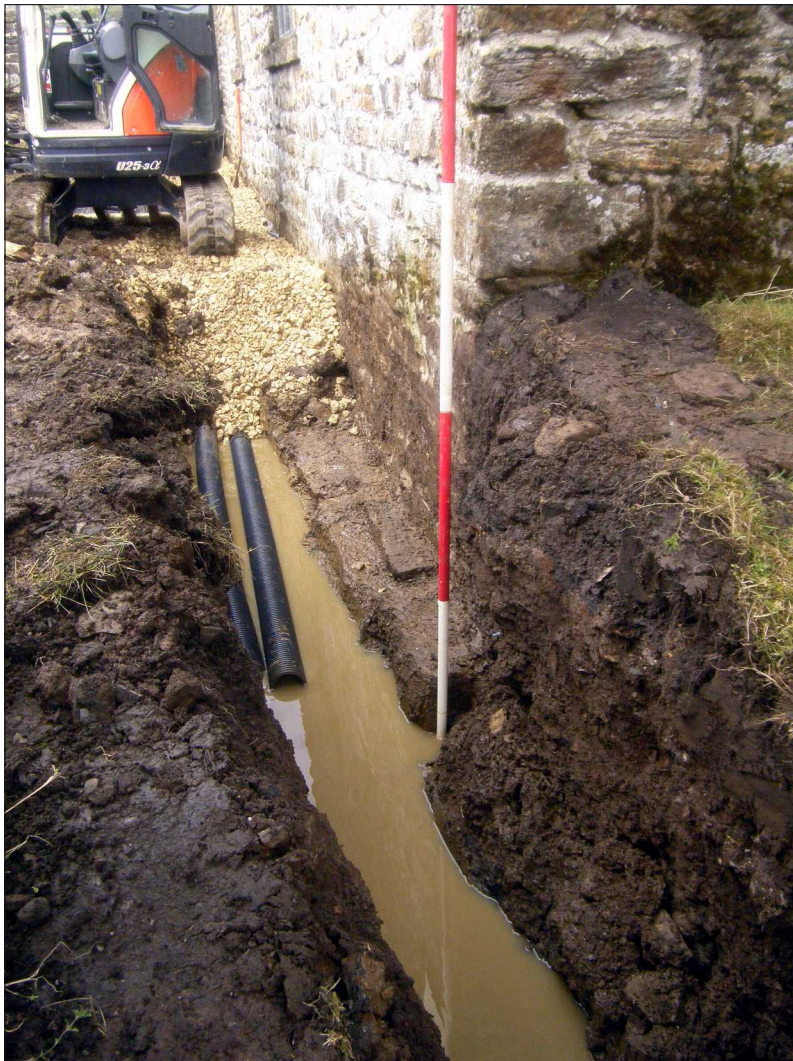
Figure 2





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North of England Lead Mining Museum, Killhope: western part of drainage trench, showing exposed Buddle House foundations 03 and iron pipe 04 Plate 1

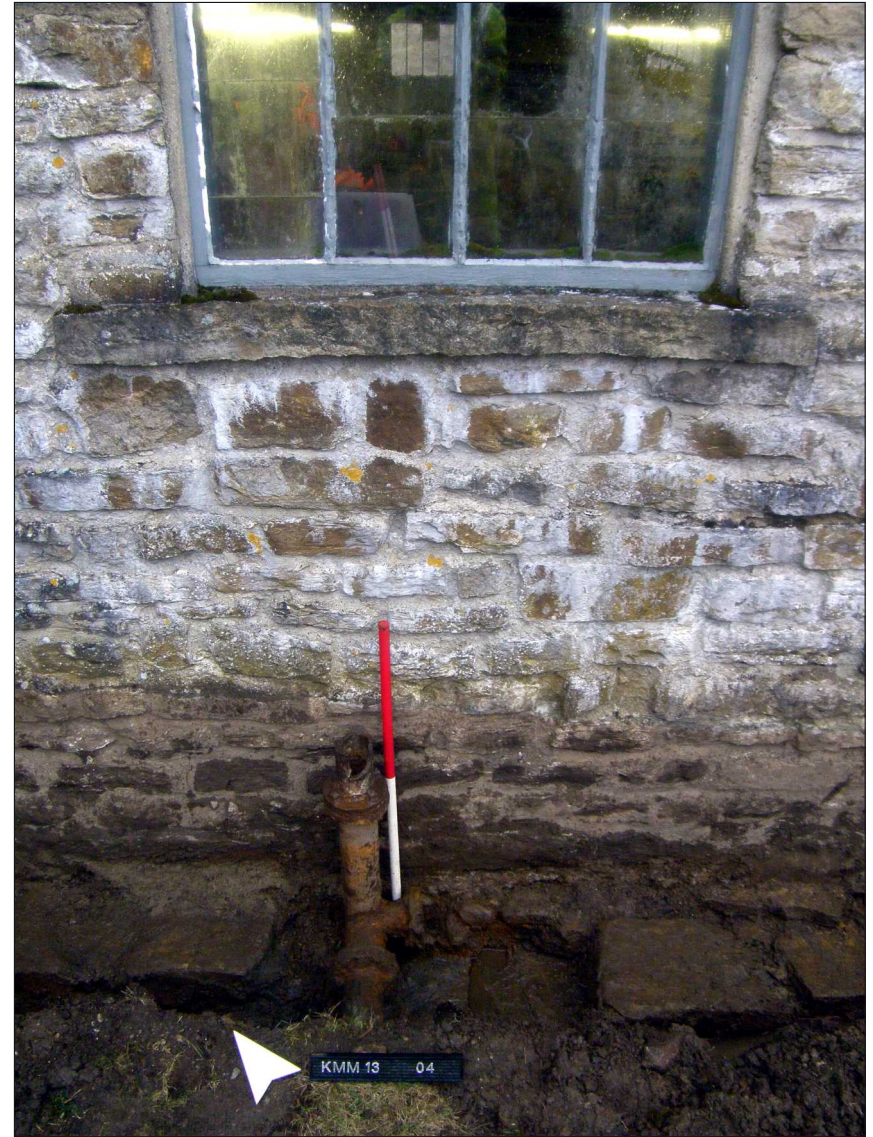


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North of England Lead Mining Museum, Killhope: eastern corner of Buddle House, showing foundations 03 and installed drain beyond Plate 2



©NAA 2013 North of England Lead Mining Museum, Killhope: Plate 3
cast iron pipe 04



©NAA 2013 North of England Lead Mining Museum, Killhope: Plate 4
cast iron pipe 01 below Buddle House window



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*North of England Lead Mining Museum, Killhope. Plate 5
drainage trench to south-east and east
of Large Classifier*