



**HM PROJECTS DEVELOPMENT LTD.**

**HALTON LEA SURFACE MINE,  
HALTON LEA GATE,  
NORTHUMBERLAND**

**ARCHAEOLOGICAL EARTHWORK SURVEY REPORT TO DISCHARGE  
CONDITION 26 OF PERMISSION APP/P2935/A/11/2164056**

**March 2013**

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# WARDELL ARMSTRONG ARCHAEOLOGY LTD

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This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by Wardell Armstrong Archaeology on the preparation of reports.

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## SUMMARY

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Wardell Armstrong Archaeology Ltd (WAA) were appointed by HM Project developments Ltd. to provide for an archaeological earthwork survey as part of the consented development for a surface coal mine on land adjacent to Halton Lea Farm, Halton Lea Gate, Northumberland (NGR NY 6513 5893). This is to discharge Condition 26 of the planning permission (reference APP/P2935/A/11/2164056).

The survey area measured c.30ha in total and the methodology was developed in accordance with consultations undertaken with the Nick Best, Assistant County Archaeologist at Northumberland County Council. Surveying was carried out using a Trimble M5 Total Station Theodolite with points taken at the top-of-slope and base-of-slope on all visible earthworks with points at c.0.5m apart.

A total of 50 sites were recorded being interpreted as belonging to either agricultural use or one of three phases of mining (Pre-18th Century, 18th-19th Century or Mid-20th Century). A Medieval Deer Park Boundary was the most prominent earthwork feature within the survey area.

Evidential value is seen within the potential for Iron-Age and Romano-British remains of an industrial nature within the area, due to a neighbouring enclosure structure of potential similar date. Further value is seen within the Deer Park Boundary in both its upstanding remains and the associative historic documentation as a potential resource.

Historic value is seen in the survey area as a whole, representing a microcosm of the cyclical economic shifts from agriculture to industry.

None of the recorded sites were deemed to be of very high or high significance. The known Medieval Deer Park is of medium significance as it has the potential to contribute to regional research agendas, as does the Medieval ridge and furrow and any early sites of mining.

The Deer Park is also considered to be of local importance due to its local uniqueness and its part in the historic value of the area.

## ACKNOWLEDGEMENTS

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Wardell Armstrong Archaeology Ltd would like to thank Nick Best, Assistant County Archaeologist at Northumberland County Council, for his assistance throughout the project.

The archaeological survey was undertaken by Angus Clark and Iain McIntyre. The report was written by Iain McIntyre and the drawings were produced by Adrian Bailey. The report was edited by Martin Railton, Senior Project Manager for Wardell Armstrong Archaeology Ltd, who also managed the project.

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# 1 INTRODUCTION

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## 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Wardell Armstrong Archaeology Ltd (WAA) were appointed by HM Project developments Ltd. to provide for an archaeological earthwork survey as part of the consented development for a surface coal mine on land adjacent to Halton Lea Farm, Halton Lea Gate, Northumberland (NGR NY 6513 5893; Figure 1).
- 1.1.2 The survey area measured *c.*30ha in total, which is being undertaken to provide information to discharge Condition 26 of the planning permission (reference APP/P2935/A/11/2164056). This is in line with government advice as set out in Section 12 of the National Planning Policy Framework (NPPF 2012).
- 1.1.3 The archaeological survey follows the results of an Archaeology and Cultural heritage Assessment, coordinated by Wardell Armstrong LLP for an Environmental Statement (2010), which identified that the development will involve the removal of a number of surface archaeological features including probable medieval ridge and furrow earthworks, sections of a possible former deer park boundary, early coal mining features, and remains associated with the former Halton Lea Colliery. This is in addition to a previous scheme of evaluation trenching (The Archaeological Practice 2009) and a desk-based assessment (The Archaeological Practice 2008).
- 1.1.4 The survey methodology was developed in accordance with consultations undertaken with the Nick Best, Assistant County Archaeologist at Northumberland County Council.
- 1.1.5 This report outlines the works undertaken on-site, the subsequent post-fieldwork analysis, and the results of this scheme of archaeological survey.



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## 2 METHODOLOGY

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### 2.1 WRITTEN SCHEMES OF INVESTIGATION

2.1.1 A project design was submitted by Wardell Armstrong Archaeology Ltd in response to a request by HM Project Developments, for an archaeological earthwork survey of the study area. Following acceptance of the project design by Nick Best, Assistant County Archaeologist at Northumberland County Council, Wardell Armstrong Archaeology Ltd was commissioned by the client to undertake the work. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA 2008, 2012), English Heritage (1992, 2007) and generally accepted best practice.

### 2.2 THE EARTHWORK SURVEY

2.2.1 The objectives of the survey can be summarised as follows:

- to determine the presence/absence, nature, extent and state of preservation of archaeological remains and earthworks;
- to produce a written and photographic record of all archaeological features encountered;
- to identify areas of defined archaeology and to produce an assessment and statement of the actual and potential significance of the archaeology, and;
- to disseminate the results of these works through an appropriate level of reporting, contributing to relevant regional research agendas.

2.2.2 The earthwork survey comprised a metric survey of all visible features, within the study area, including earthwork banks, ditches, trackways, hollows, and areas of ridge and furrow, as well as other upstanding remains, such as relict stone walls and buildings.

2.2.3 Surveying was carried out using a Trimble M5 Total Station Theodolite. Survey points were taken at the top-of-slope and base-of-slope on all visible earthworks with points at c.0.5m apart.

2.2.4 Only the observable earthworks within the study area were surveyed. Notes on surface condition, land use and topography, as well as specific observations on the earthworks themselves, were taken and recorded.

2.2.5 A photographic record was generated consisting of digital (.jpg) photographs to aid in the interpretation of the earthworks and study area.

2.2.6 Fieldwork was carried out over five days from 4th -8th March 2013.

## 2.3 THE ARCHIVE

- 2.3.1 A full professional archive has been compiled in accordance with the specification, and in line with current Walker (1990) and English Heritage Guidelines (1992, 2006) and according to the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited with the Northumberland archives at Woodhorn, Ashington, with copies of the report sent to the County Historic Environment Record at Morpeth, with a digital copy available upon request. The archive can be accessed under the unique project identifier **WAA13, HLG-A, CP 10471**.
- 2.3.2 Wardell Armstrong Archaeology Ltd, English Heritage and Northumberland County Council, support the **Online Access to the Index of Archaeological Investigations (OASIS)** project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by Wardell Armstrong Archaeology Ltd, as a part of this national project under the identifier **wardella2-145668**.

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## 3 BACKGROUND

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### 3.1 LOCATION AND GEOLOGICAL CONTEXT

- 3.1.1 The site is centred at NGR NY 6513 5893 (Figure 1) sitting *c.*12km southwest of Brampton, Cumbria and *c.*14km north east of Alston, Cumbria, and lies directly to the northeast of Halton Lea Gate, Northumberland.
- 3.1.2 Halton Lea Gate sits on the southern edge of Hartleyburn Common (South Side), part of the Northern Pennines character area. This area is distinctive from the rest of the Pennine Chain and its key characteristics, relevant to the survey area, are sheltered dales of pasture bounded by stone walls and hedges, a heavily scarred landscape of mineral extraction with abandoned quarries and the relics of mining, with sparse tree cover restricted to the gorges, gills and streamsides (Countryside Commission 1998, 43).
- 3.1.3 Consisting of eleven modern fields, of both rough and improved pasture, with a combined area of *c.*30 hectares, the site is orientated approximately east to west. The site is bounded to the north and northwest by the Hartley Burn, which flows to the northeast, having its origins on the Hartleyburn Common. A small tributary stream runs from south to north which effectively splits the survey area in to two-thirds west and one-third east. To the northeast and east are further fields of improved pasture. Along the southern edge lies the modern A689 road and to the southeast the settlement of Halton Lea Gate.
- 3.1.4 In the eastern one-third of the site the high point sits at 199.70m Above Ordnance Datum (AOD), with the entire southern aspect of the survey area being on average 201m AOD. From here the land slopes down to the west and north towards the unnamed tributary and the Hartley Burn. The highest point for the western two-thirds of the site, at 210.20m AOD, sits on to the centre of the southern boundary with the land again sloping down to the north toward the Hartley Burn and east to the unnamed tributary. The steep ridge on the southern side of Hartley Burn sits at *c.*186m AOD and drops down to the stream itself at *c.*180m AOD to the west and *c.*176m AOD to the east.
- 3.1.5 Soils consist of slowly permeable seasonally wet acid loamy and clayey soils (SSEW 2013). This means that water is impeded from draining away with a high pH. This will affect the burial environment of any remains and their potential for survival.
- 3.1.6 The superficial geology consists of Devensian glacial tills with additional Flandrian alluvial clay, silt and sands along the streams and gullies. The bedrock geology consists of the Pennine Lower Coal Measures Formation,

mudstone, siltstone and sandstone formed approximately 314 to 316 million years ago in the Carboniferous Period (BGS 2013).

## **3.2 HISTORICAL CONTEXT**

3.2.1 While early prehistoric settlement and land-use on the site is assumed, it is unattested and may not have been continuous (The Archaeological Practice 2009). West of the survey area the well preserved remains of a sub-rectangular enclosure of possible Iron-Age or Romano-British origins is associated with ancillary boundaries, enclosures and trackways and is likely a domestic settlement.

3.2.2 The area was farmed during the medieval period with ridge and furrow earthworks apparent throughout the survey area, both on the ground but mainly via aerial imagery. Part of the survey area was utilised as a park, presumably for the enclosure of deer or cattle, represented in the landscape as a very well defined ditch and bank earthwork. Small-scale coal mining is also a possibility during the medieval period or earlier (The Archaeological Practice 2009).

3.2.3 With the construction of a railway and turnpike mining became the prominent economic activity during the later 18th and early 19th centuries resulting in some slight surface but extensive underground remains. Possible surface remains are evident within the north and east of the survey area.

3.2.4 A hiatus from coal mining is seen from the mid-19th century until the 1940s when it resumes from a pit-head adjacent to the Black/Hartley Burn on the east side of the northern terminus of the deer park boundary. This operated until 1958 since when the associated buildings have been cleared (The Archaeological Practice 2008), although some foundation remains are still evident.

3.2.5 Farming has appeared to always occur alongside the coal mining, with its dominance waxing as that of mining waned. During the Second World War the Halton Lea area was requested to plough up to 9000 acres of grassland for the production of oats (The Archaeological Practice 2008).

## **3.3 PREVIOUS WORK**

3.3.1 A desk-based assessment was undertaken in 2008 (The Archaeological Practice 2008) which identified part of a possible medieval deer park boundary crossing the western part of the site, - the majority of which will be protected under the proposed development. Other surface features of

local significance were identified, which were believed to be associated with 18th and 19th century coal mining, as well as possible earlier mine workings.

- 3.3.2 A subsequent archaeological evaluation, comprising the excavation of 16 trenches, confirmed the presence of mining-related features dating from the 18th and 19th centuries, including a stone-lined drainage ditch and/or trackways, as well as the foundations of a 19th century stone building. Five trenches which cut across the possible medieval park boundary, revealed it to be a substantial feature, containing a stone revetment within the embankment, although this was found to exhibit variable survival across the site (The Archaeological Practice 2009).
- 3.3.3 The Wardell Armstrong Environmental Statement (2010) further confirmed that the development would involve the removal of a number of surface archaeological features including probable medieval ridge and furrow earthworks, sections of the former deer park boundary, early coal mining features, and remains associated with the former Halton Lea Colliery.

## 4 RESULTS AND DISCUSSION

### 4.1 INTRODUCTION

4.1.1 In total 50 sites were identified. A gazetteer of sites with individual asset descriptions and interpretations can be viewed in Appendix 1. As such the following sections deal with the interpretation of the greater landscape and characters of the survey areas. Figures 2-8 show the results of this earthwork survey in a series of illustrations at 1:1000 scales. Figure 9 shows a series of profiles over the width of Site 01 (See below). Figure 10 shows the subsequent interpretive character areas of mining and agricultural activity. Determination of significance of the remains comes from the assessment of the earthworks in relation to English Heritage (2008) with reference to the previous site investigations (The Archaeological Practice 2008, 2009) and aided by criteria set out in Appendix 2. All figures can be found in Appendix 3.

### 4.2 INTERPRETATION

4.2.1 Previous study and assessment (The Archaeological Practice 2008, 2009) has already created a framework of character areas to which the results of this survey can be built in to. All 50 recorded sites fall in to one of these four areas (Table 1).

Character Areas	Site Numbers
Agricultural	01, 02, 03, 04, 05, 08?, 13?, 14?, 22, 32, 33, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49
Early (pre-18th Century) Mining	34, 35, 36
18th-19th Century Mining	06, 07, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 39, 50
Mid-20th Century Mining	08?, 09, 10, 11, 12, 13?, 14?, 37, 40

Table 1: Character areas and the sites ascribed to them.

4.2.2 *Agricultural Earthworks*. The agricultural remains are spread throughout the survey area and predominately consist of parallel ridges and furrows representing this practice of farming. Many are ephemeral and not visible at the surface but are visible via aerial methods (Sites 41-49) with only three areas (Sites 02, 33 and 34) surviving as visible remains on the ground (Plate 1). Two forms are identified within the survey area. A narrow form (Sites 44 and 45), which ranges from 2.70m to 5.00m from the top of each ridge, may be indicative of an earlier phase (The Archaeological Practice 2008). This is

as opposed to a wide form, over 5.00m from the top of each ridge (Sites 33, 48, 49), and also seen on site which may indicate later activity.



*Plate 1: Site 33 Ridge and Furrow, facing east, scale 2m*

4.2.3 Throughout the survey area remnant field boundaries are still readily apparent. Most consist of earth banks, surviving at most to 0.2m high (Plate2), with one (Site 5) showing surviving stone facing on both sides for c.15m along its length (Plate 3). One boundary contains an aspect of dry-stone wall (Site 22) which stands to 0.35m along c.25.00m of its length.



*Plate 2: Site 24 Boundary, facing southwest, scale 2m*



*Plate 3: Site 05 Wall, South-facing section, facing north, looking east, scale 2m*

- 4.2.4 The unique feature within the survey area is the surviving remains of a Deer Park boundary (Site 01) first noted and described in 1479 and later with its boundaries shown and labelled on 18th and 19th Century maps (The Archaeological Practice 2008). This is a substantial feature, with the bank at times up to 1.0m high (Figures 3 and 9), with areas of stone-facing and revetment (Plate 4), and a ditch than runs on its outer edge, this being to the south and west of the bank.
- 4.2.5 The boundary has utilised the local topography, with the east-west aspect on-site running along a local ridge. It is in this area that the best preservation is seen. Its turn to the north, down the slope and in to the dry-valley, sees a decrease in its survival being nothing more than a very shallow, c.01m deep, remnant of the ditch. This turn to the north, in cutting down the slope sees a greater emphasis on the use of the ditch, at this transition point the “bank” is provided by the cutting. A small rise at the farthest northern point of this north-south aspect again utilises the cutting creating almost a double bank (Plate 5).
- 4.2.6 The course of the final aspect of the boundary is problematic. A potential northern continuation is believed to be a later modification with continued later erosion (Plate 6) while the true course turns again to the west continuing along the natural river escarpment where a slight bank and ditch is still observable (Plate 7).



4.2.7 During the 2009 evaluation three trenches were placed along the boundary's length. These investigations found the ditch to be a very shallow feature, too shallow for stock control, suggesting that the bank itself might have been hedged or equipped with a palisade (The Archaeological Practice 2009).



*Plate 4: Site 01 Deer Park Boundary, facing west, scale 2m*



*Plate 5: Site 01 Deer Park Boundary in its topographic context, facing south*



*Plate 6: Site 01 Deer Park Boundary, facing north*



*Plate 7: Site 01 Deer Park Boundary, facing east*

4.2.8 *Early (pre-18th Century) Mining Earthworks.* While the 2008 desk-based assessment put forward the hypothesis that potential early (i.e. Medieval or even earlier) mining was occurring on the southern river escarpment, in the form of bell-pits (The Archaeological Practice 2008), the subsequent evaluation concluded that this was not the case and ascribed these workings

to the later 18th-19th Century activity (The Archaeological Practice 2009). This does not discount any pre-18th Century mining activity on the site. A potential area still lies in the east of the survey area, cartographically no mining in mention in this area on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

- 4.2.9 At least two substantive extraction pits (Sites 34 and 36) are visible on the eastern slope of the unnamed tributary. The most obvious group of features is a "cratered" landscape (Site 35) that sits on the bluff overlooking the flood plain to the north, readily visible in satellite imagery. These consist of pits and longitudinal scars all orientated along a east-west line, both are distinct morphologically but show interaction with one another, showing signs of intercutting along their upper aspects. Based on the conclusions of the desk-based assessment (The Archaeological Practice 2008) it is conceivable that the pits are in-filled bell-pits and the scars are a product of stone quarrying.
- 4.2.10 *18th-19th Century Mining Earthworks.* The historic cartographic and documentary evidence shows a distinct mining landscape in operation from the mid-18th Century. This is the origin behind the multitude of disused shafts seen on the Ordnance Survey (OS) Master Map (Figure 2) of which many correspond to earthworks recorded during this survey (Table 2).

Site Type	Site Numbers
Possible Shaft Head	<b>06, 07, 15, 17, 18, 19, 21, 30, 31, 39, 50</b>
Possible Extractive Pit	16, 25a, 25b, <b>25c</b> , 26, 27a, 27b, 28a, 28b

Table 2: Those sites interpreted as either a Mine Shaft or Extractive Pit in relation to this phase of mine workings. Bold numbers indicate their notation on the OS Master Map.

- 4.2.11 The Shaft Heads are all distinct in that they display a collar of material in the form of an earth bank. They range in size from 3.50m (Site 31) to 17.50 (Site 39) along their longest dimension and with banks that are almost invisible, except in low-angled light, to distinct banks up to 0.2m high (Plates 8 and 9). Many of these collars are gentle in form showing imperceptible breaks-of-slope both to the top and base, this being a product of weathering.



*Plate 8: Site 19 Mine Shaft Head, facing south, scale 2m*



*Plate 9: Site 07 Mine Shaft Head, facing southwest, scale 2m*

4.2.12 Extractive Pits are generally smaller, with dimensions of 3.50m (Site 28a) to 7.00m (Site 27A), more clustered together and do not exhibit the collaring (Plate 10). The nature of the topography should be noted regarding this conclusion as all these pits are found on escarpments, as opposed to on the relatively flatter surfaces, so that these spoil is discarded down-slope and does not build up in to collars. All these pits exhibit a uniform bowl-shape.



*Plate 10: Site 25 Extraction Pits, facing east, scale 2m*

4.2.13 A single site (Site 29) is notable by its morphology. This consists of a long lozenge shape, 10.8m long and 5.5m wide, with a north-south orientation and a distinct a opening to the north, heading south in to the ridge. Though twice the size of the pits it is close, c.2.0m, to them (Sites 26-28) and is interpreted as a particularly successful surface quarry (Plate 11).



*Plate 11: Site 29 Quarry, facing south, scale 2m*

4.2.14 *Mid-20th Century Mining Earthworks.* Coal mining resumed along the Blackburn in the 1940s as readily observed via aerial photography in 1946

(The Archaeological Practice 2009). This occurred primarily to the northwest of the survey area occurring along the edge and base of the southern escarpment. Remains of building footprints and platforms (Sites 09-12) were recorded during this survey (Plate 12) and correspond to building visible on the aerial photograph though their functions are unknown. A small revetment over a gulley (Site 40) is visible on the southern escarpment (Plate 13).



*Plate 12: Site 09 Structure, facing south, scale 2m*



*Plate 13: Site 40 Revetment Wall, facing south, scale 2m*

4.2.15 An ephemeral channel (Site 08; Plate14) is also visible on the photography. On the ground, though intermittent, it appears to run in to a square enclosure (Site 37; Plate 15) also discernable on the photography though its relationship with the channel is not clear.



*Plate 14: Site 08 Gulley, facing southeast, scale 2m*



*Plate 15: Site 37 Enclosure, facing northwest, scale 2m*

### **4.3 EVIDENTIAL VALUE**

- 4.3.1 Evidential value derives from the potential of a place to yield evidence about past human activity.
- 4.3.2 Though as yet unattested through direct dating the sub-rectangular form of the enclosure seen to the west, outside of the survey area, suggests Iron-Age and/or Romano-British origin. The potential is there for occupation from this period within the survey area due to the presence of near-surface outcrops of coal and the regional evidence of coal usage such as evidence of trade at Heronbridge, near Chester, and coal cinders in the hearths of villas and Roman forts in Northumberland (Smith 1997). The antiquity of such features means they may well have been significantly truncated or disturbed by modern remains. These near-surface deposits occur along the escarpment edges of the Blackburn and the unnamed tributary.
- 4.3.3 Again not directly dated the Deer Park boundary has potential Medieval origins. As such it has value as being an example of enclosure for a specific economic reason – the controlled rearing of stock (deer or cattle). Though documentary evidence for deer parks exists in Cumbria, Northumberland and Durham, associated remains are fewer. Documentary and archaeological remains are known from Kennel Deer Park, Northumberland (ADS 2013a), Grinton in Richmondshire, North Yorkshire (ADS 2013b) and Wakerley Park, Durham (ADS 2013c). It is within this association of documentary and archaeological evidence that the greatest potential lies.
- 4.3.4 The quality of the surviving remains of mining from the 18th-19th Century is low and various potential mine heads have been investigated with the previous evaluation (The Archaeological Practice 2009). Subsequent erosion from weathering and animal grazing (i.e. Site 50) has seriously reduced the visibility of ground remains. It is deemed that little further evidence can be gleaned from these features.

### **4.4 HISTORICAL VALUE**

- 4.4.1 The individual earthworks are not unique, with examples of mine workings and its associated industries and structures, as well as ridge and furrow, seen throughout the Pennines (Countryside Commission 1998, 43) and notably at Alston Moor (Railton and Wooler 2012). As a group the earthworks have value as the survey area, with its phases of mining and agricultural use, show the historic cycles of the landscapes economy as it shifts from the dominance of one to the other, within the locality.
- 4.4.2 The Deer Park boundary is illustrative of the past rights of members of the nobility to maintain deer parks. Its survival is indicative of how this



landscape has escaped the pressures of shipbuilding, landscaping and agriculture that lead to the destruction of many others (ADS 2013a, 2013b, 2013c).

#### **4.5 SIGNIFICANCE OF KNOWN OR POTENTIAL ARCHAEOLOGICAL REMAINS**

- 4.5.1 Within the survey area no sites of very high or high significance are present.
- 4.5.2 The known Medieval and Post-medieval Deer Park (Site 01) is of medium significance as it has the potential to contribute to regional research agendas (see Initiative 5.11, Brennand 2007, 101). Its inclusion within landscape-based surveys, aided by historical and excavation data, can be used to test and fine tune characterisation hypothesis as set down in the Cumbrian and Northumberland Historic Landscape Characterisation studies.
- 4.5.3 The potential Medieval ridge and furrow (Sites 44, 45 and 46), if confirmed as such, are of medium significance and has value as part of larger surveys on the type and extent of survival of ridge and furrow earthworks (see Priority MDii, Petts and Gerrard 2006, 170). Though their on-site visibility is close to non-existent they are visible within modern satellite imagery, and processes such as LiDAR survey will highlight the nature of these remains even more so.
- 4.5.4 The potential early mining (Sites 34, 35 and 36), if confirmed as such, is also of medium significance having value in adding to data regarding the effective identification of early identify colliery sites in Northumberland (see Priority MDviii, Petts and Gerrard 2006, 174).
- 4.5.5 The Deer Park (Site 01) is also considered to be of local importance due to its uniqueness and its part in the historic value of the area.

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## 5 CONCLUSIONS

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### 5.1 CONCLUSIONS

- 5.1.1 Wardell Armstrong Archaeology Ltd (WAA) were appointed by HM Project developments Ltd. to provide for an archaeological earthwork survey as part of the consented development for a surface coal mine on land adjacent to Halton Lea Farm, Halton Lea Gate, Northumberland (NGR NY 6513 5893). This is to discharge Condition 26 of the planning permission (reference APP/P2935/A/11/2164056).
- 5.1.2 The survey area measured c.30ha in total and the methodology was developed in accordance with consultations undertaken with the Nick Best, Assistant County Archaeologist at Northumberland County Council. Surveying was carried out using a Trimble M5 Total Station Theodolite with points taken at the top-of-slope and base-of-slope on all visible earthworks with points at c.0.5m apart.
- 5.1.3 A total of 50 sites were recorded being interpreted as belonging to either agricultural use or one of three phases of mining (Pre-18th Century, 18th-19th Century or Mid-20th Century). A Medieval Deer Park Boundary was the most prominent earthwork feature within the survey area.
- 5.1.4 Evidential value is seen within the potential for Iron-Age and Romano-British remains of an industrial nature within the area, due to a neighbouring enclosure structure of potential similar date. Further value is seen within the Deer Park Boundary in both its upstanding remains and the associative historic documentation as a potential resource.
- 5.1.5 Historic value is seen in the survey area as a whole, representing a microcosm of the cyclical economic shifts from agriculture to industry.
- 5.1.6 None of the recorded sites were deemed to be of very high or high significance. The known Medieval Deer Park is of medium significance as it has the potential to contribute to regional research agendas, as does the Medieval ridge and furrow and any early sites of mining.
- 5.1.7 The Deer Park is also considered to be of local importance due to its local uniqueness and its part in the historic value of the area.

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## APPENDIX 1: GAZETTER OF SITES

<b>Site No.</b>	<b>01</b>	<b>Name</b>	Deer Park Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364608	558856	201
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height/ Depth</b>
	c.338.00	c.7.20	c.1.80
<b>Period</b>	Medieval, Post-medieval	<b>Type</b>	BOUNDARY BANK; BOUNDARY DITCH
<b>Sources</b>	The Archaeological practice (2008, 2009); WAA earthwork survey		

### Description and Interpretation

Earthen bank and related ditch visible in Fields 1 and 2. The bank occurs on the inner side of the formed enclosure. Intermittent along its length both are at times not visible on the surface. Has been the focus of previous investigations by The Archaeological Practice (2008, 2009) which have revealed evidence of modification but no dateable artefacts.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	4, 5, 6, 7

<b>Site No.</b>	<b>02</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364639	558844	204
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.187.00	c.62.00	0.10
<b>Period</b>	Post medieval	<b>Type</b>	NARROW RIDGE AND FURROW
<b>Sources</b>	WAA earthwork survey		

### Description and Interpretation

Very slight ridge and furrow in south of Field 1, to south of Boundary 001. Occurs of a north facing slope, inclined at c.20 degrees from the horizontal. North-south orientation. Individual ridge and furrow elements have an average width of 6.0m between the peaks of each furrow. The break-of-slope between each element is imperceptible.

<b>Visibility</b>	Poor	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>03</b>	<b>Name</b>	Trackway
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364533	558840	205
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.87.00	1.20-4.80	-
<b>Period</b>	Post medieval	<b>Type</b>	TRACKWAY
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Curvilinear track to the southwest of Field 1. General east-west orientation. Follows the contour of the slope it is cut/ eroded in to. Curves to the southwest and therefore does not interact with the observed corner of Boundary 001. Further identified on aerial photography from 1972 (The Archaeological Practice 2008).

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>04</b>	<b>Name</b>	Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364523	558893	193
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.62.00	0.90	0.10
<b>Period</b>	Post medieval	<b>Type</b>	BOUNDARY DITCH
<b>Sources</b>	The Archaeological Practice (2009); WAA earthwork survey		

#### Description and Interpretation

Remains of east-west disused field boundary. The eastern extent terminates at Boundary 001 while the western extent continues out of the study area but terminates at the present boundary of Field 1. Investigated by evaluation trench and interpreted as the foundations to a dry-stone wall of modern origin.

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>05</b>	<b>Name</b>	Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364524	558968	203
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.50.00	1.10	0.20
<b>Period</b>	Post-medieval	<b>Type</b>	BOUNDARY BANK
<b>Sources</b>	The Archaeological Practice (2008, 2009); WAA earthwork survey		

#### Description and Interpretation

Northwest-southeast bank or boundary within north of Field 1. With stone facing on both sides along 4.8m of its length. This facing consists of a single un-mortared course of uncut limestone and sandstones. Each block has average dimensions of 400mm x 200mm x 14mm. This feature had been previously investigated by The Archaeological Practice (2009).

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	3

<b>Site No.</b>	<b>06</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364561	558963	195
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	10.00	6.00	0.70
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	Ordnance Survey Master map; WAA earthwork survey		

#### Description and Interpretation

Mine shaft head within Field 1. Located on OS Master map. Moderately defined banks around c.70% of its periphery those to the northwest being the most well defined. Slight rise within the centre.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>07</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364677	558896	195
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	16.50	14.50	1.60
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	Ordnance Survey Master map; WAA earthwork survey		

**Description and Interpretation**

Mine shaft head within in Field 1. Located on OS Master map. Moderately defined banks around its northern periphery to the south it appears to cut into the ridge.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	12

<b>Site No.</b>	<b>08</b>	<b>Name</b>	
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364630	558950	182
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.100.00	2.10	0.30
<b>Period</b>	Post-medieval	<b>Type</b>	BOUNDARY DITCH; BOUNDARY BANK
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

Predominately northwest-southeast ditch and bank which turns to the north upon reaching the edge of the ridge down to the river within Field 1. From here it appears to run in to the southern corner of Enclosure 037. The bank is visible on the east and northeast aspect of the ditch. The ditch has an average depth of 0.10m and the bank a height of 0.20m. The ditch has an average width of 1.2m and the bank of 0.9m.

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	17



<b>Site No.</b>	<b>09</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364620	558970	197
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	2.50	2.40	0.37
<b>Period</b>	Post-medieval; 20th Century	<b>Type</b>	BUILDING PLATFORM
<b>Sources</b>	WAA earthwork survey		

#### Description and Interpretation

Structure, part of the 1940s Halton Lea Colliery. Consists of a stone base with two surviving upstanding element. To the south a large stone block, with a defined notch, measures 2.03m by 0.43m and stands 0.37m high. To the north a block studded with iron fittings measures 2.15m by 0.31m and stands 0.30m high. It lies to the south of a trackway. Its function is unknown.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	15

<b>Site No.</b>	<b>10</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364640	558968	186
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	4.00	2.20	0.10
<b>Period</b>	Post-medieval; 20th Century	<b>Type</b>	BUILDING PLATFORM
<b>Sources</b>	WAA earthwork survey		

#### Description and Interpretation

Structure platform, part of the 1940s Halton Lea Colliery. Consists of an overgrown stone base which sits in a slight rectangular depression, 0.1m deep. Iron fittings within the ground are visible 0.2m to the east. It lies to the north of a trackway. Its function is unknown.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>11</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364652	558976	191
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	2.37	1.75	0.35
<b>Period</b>	Post-medieval; 20th Century	<b>Type</b>	WATER CHANNEL
<b>Sources</b>	WAA earthwork survey		
<b>Description and Interpretation</b>			
Short stone water channel with small reservoir to the south. Part of the 1940s Halton Lea Colliery.			
<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>12</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364665	558979	186
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	5.50	4.70	0.30
<b>Period</b>	Post-medieval; 20th Century	<b>Type</b>	BUILDING PLATFORM
<b>Sources</b>	WAA earthwork survey		
<b>Description and Interpretation</b>			
Structure platform, part of the 1940s Halton Lea Colliery. Consists of an overgrown mortared stone and brick base with occasional iron fittings. Covering of rubble to the south consisting of very large stone blocks with maximum dimensions of 1000mm x 500mm x 250mm			
<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>13</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364668	558977	165
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	3.80	3.40	0.65
<b>Period</b>	Post-medieval, Modern	<b>Type</b>	BUILDING
<b>Sources</b>	The Archaeological Practice (2008, 2009)WAA earthwork survey		

#### Description and Interpretation

First of two buildings, possible associated with Structure 014 to the north. Located in northwest of Field 2. A thin-walled (400-600mm thick) stone building surviving to c.5 courses of rough-cut limestone blocks with variable dimensions in a lime-mortar. A floor of firebricks sits on a stone flag base. It does not contain any elements of pre-19th century character. Potential usage in the context of either mining or agriculture.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>14</b>	<b>Name</b>	Structure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364666	558974	185
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	8.00	3.50	1.28
<b>Period</b>	Post-medieval, Modern	<b>Type</b>	BUILDING; BUILDING PLATFORM
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Second of two buildings, possible associated with Structure 013 to the south. Located in northwest of Field 2. Wall remains survive to the east to c.9 courses of rough-cut dry-stone limestone blocks with variable dimensions. Wall remains to the south of the same form and construction survive up to a single course. A faint platform is visible on the north and west edges. Structures are likely to be modern. Potential usage in the context of either mining or agriculture

<b>Visibility</b>	Good	<b>Land Use</b>	Rough pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>15</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364695	558977	189
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	12.50	9.80	0.10
<b>Period</b>		<b>Type</b>	SHAFT MOUND
<b>Sources</b>	Ordnance Survey Mastermap; WAA earthwork survey		

#### Description and Interpretation

Mine shaft head within Field 2. Located on OS Mastermap. Indistinct banks around its entire periphery, more visible from higher ground to the east. Possible associated with 18-19th Century mining corresponding to pit locations shown on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

<b>Visibility</b>	Poor	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>16</b>	<b>Name</b>	Spoil Heap/ Pit
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364709	558985	191
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	35.0	16.0	0.20
<b>Period</b>	Post-medieval; 18th Century	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Site of disturbed/ eroded spoil heap in north of Field 2. Consists of at least three levels of banking though modern wheel-rutting is visible across the southeast aspect. Possible associated with 18-19th Century mining corresponding to pit locations shown on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>17</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364719	559008	188
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	7.00	5.50	0.30
<b>Period</b>	Post-medieval; 18th Century	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Mine shaft within Field 10. Intermittent bank around the periphery more prominent to the south, smaller bank to the north and near non-existent to the east and west. Possible associated with 18-19th Century mining corresponding to pit locations shown on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

<b>Visibility</b>	Moderate	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>18</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364753	559018	194
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	6.40	5.30	0.30
<b>Period</b>	Post-medieval; 18th Century	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Mine shaft bisected by the present field boundary bank between Fields 2 and 10. Defined bank on northern edge within Field 10, less visible within Field 2. Predates field boundary which is first reliably seen on Edward Bowman's survey of the Barony of Gilsland of 1832 (The Archaeological Practice 2008) Possible associated with 18-19th Century mining corresponding to pit locations shown on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	

<b>Site No.</b>	<b>19</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364762	559012	192
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	10.00	9.30	0430
<b>Period</b>	Post-medieval; 18th Century	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

#### Description and Interpretation

Mine shaft within Field 2. Defined, though shallow, bank on entire periphery. Possible associated with 18-19th Century mining corresponding to pit locations shown on an 18th Century map of the Earl of Carlisle' collieries in Hartleyburn Common (The Archaeological Practice 2008).

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	11

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<b>Site No.</b>	<b>20</b>	<b>Name</b>	Mound
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364913	559077	193
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	10.00	4.70	0.70
<b>Period</b>	Post-medieval; 18th Century	<b>Type</b>	MOUND
<b>Sources</b>	WAA earthwork survey		

#### Description and Interpretation

Earthen mound on northern edge of Field 3. Indentation on its northern edge respects the field boundary. Unknown use but appears contemporary or later than the boundary so may represent a form of clearance mound to improve the immediate landscape for grazing.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	4	<b>Plate</b>	

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<b>Site No.</b>	<b>21</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364943	559093	190
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	10.30	10.00	0.30
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Mine Shaft Head. Located to the north of Field 3. Boundary of field runs over, post-dating the feature. Low consistent earthen collar visible, imperceptible breaks-of-slope.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	4	<b>Plate</b>	

<b>Site No.</b>	<b>22</b>	<b>Name</b>	Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365062	558854	209
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	55.00	0.60	0.65
<b>Period</b>	Post-medieval	<b>Type</b>	BOUNDARY WALL
<b>Sources</b>	The Archaeological Practice (2009); WAA earthwork survey		

**Description and Interpretation**

North-south bank field boundary. Consists of two aspects a low bank to the south (c.30.00m) and a dry-stone wall to the north (c.25.00m). The wall consists of up to seven un-mortared courses of uncut or rough-cut limestone and sandstones. Each block has average dimensions of 400mm x 200mm x 14mm. The bank is shallow but shows the odd piece of limestone suggesting at one point the whole length was walled. This feature had been previously investigated by The Archaeological Practice (2009).

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	5	<b>Plate</b>	

<b>Site No.</b>	<b>23</b>	<b>Name</b>	Spoil Heap
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364951	559122	193
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	7.50	7.20	0.80
<b>Period</b>	Post-medieval	<b>Type</b>	SPOIL HEAP
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

**Description and Interpretation**

Small mound of natural material but of non-natural deposition. Potentially a spoil heap but it is isolated from any nearby pits. Modern disturbance on southern edge.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Ground
<b>Figure</b>	4	<b>Plate</b>	

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<b>Site No.</b>	<b>24</b>	<b>Name</b>	Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364970	559142	185
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	40.00	3.30	0.70
<b>Period</b>	Post-medieval	<b>Type</b>	BOUNDARY BANK
<b>Sources</b>	The Archaeological Practice (2009); WAA earthwork survey		

**Description and Interpretation**

North-south boundary. Consists of substantial though intermittent bank. Not recorded on any historic mapping.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	4	<b>Plate</b>	2

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<b>Site No.</b>	<b>25</b>	<b>Name</b>	Extractive Pits
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364989	559160	184
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	20.00	10.00	1.00
<b>Period</b>	Post-medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Set of three pits (A, B, C). Interpreted as extraction pits though 25A is marked on the OS data as the site of a disused shaft. No spoil heap/collar visible. Near Sites 26-29.

Individual dimensions (m)	Pit A	Pit B	Pit C
	L: 6.20	L: 4.50	L: 4.00
	W: 4.70	W: 3.00	W: 3.20
	D: 1.0	D: 0.90	D: 1.00
<b>Visibility</b>	Good	<b>Land Use</b>	Woodland
<b>Figure</b>	4	<b>Plate</b>	13

<b>Site No.</b>	<b>26</b>	<b>Name</b>	Extractive Pit
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365038	559171	182
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	6.10	5.60	1.10
<b>Period</b>	Post-medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Single pit. Near Sites 27-29. No spoil heap/collar visible.

<b>Visibility</b>	Good	<b>Land Use</b>	Woodland
<b>Figure</b>	4	<b>Plate</b>	

<b>Site No.</b>	<b>27</b>	<b>Name</b>	Extractive Pits
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365037	559159	182
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	17.50	10.00	2.00
<b>Period</b>	Post-medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Set of two pits. Interpreted as extraction pits. No spoil heap/collar visible. Near Sites 26, 28, 29.

Individual dimensions (m)	Pit A	Pit B	
	L: 4.20	L: 7.00	
	W: 3.80	W: 5.50	
	D: 1.4	D: 2.00	
<b>Visibility</b>	Good	<b>Land Use</b>	Woodland
<b>Figure</b>	4	<b>Plate</b>	

<b>Site No.</b>	<b>28</b>	<b>Name</b>	Extractive pits
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365048	559163	180
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	12.50	10.00	1.80
<b>Period</b>	Post-medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Set of two pits. Interpreted as extraction pits. No spoil heap/collar visible. Near Sites 26, 27, 29.

Individual dimensions (m)	Pit A	Pit B	
	L: 4.30	L: 3.50	
	W: 3.70	W: 3.50	
	D: 1.5	D: 1.8	
<b>Visibility</b>	Good	<b>Land Use</b>	Woodland
<b>Figure</b>	4	<b>Plate</b>	

<b>Site No.</b>	<b>29</b>	<b>Name</b>	Quarry
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365056	559160	177
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	10.80	5.50	2.00
<b>Period</b>	Post-medieval	<b>Type</b>	QUARRY
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Possible quarry. Distinct from the rest of the observed pits in form (lozenge-shape) within the area (Site 26-28). Open to the north, cuts in to southern ridge.

<b>Visibility</b>	Good	<b>Land Use</b>	Woodland
<b>Figure</b>	4	<b>Plate</b>	14

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<b>Site No.</b>	<b>30</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365095	559132	179
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	13.20	5.30	0.1
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Set of possibly two very low collared mine shaft heads. Difficult to see up-close. Intermittent ephemeral banks.

<b>Visibility</b>	Poor	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	6	<b>Plate</b>	

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<b>Site No.</b>	<b>31</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365134	559154	180
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	3.50	3.20	1.50
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Possible mine shaft head. Defined central depression and collar to the northwest. Close to water course.

<b>Visibility</b>	Moderate	<b>Land Use</b>	Woodland
<b>Figure</b>	6	<b>Plate</b>	

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<b>Site No.</b>	<b>32</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365276	559212	184
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.30.00	c.25.00	0.10
<b>Period</b>	Medieval?	<b>Type</b>	NARROW RIDGE AND FURROW
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

North-south orientated on south facing slope. Distance between the top of each ridge, 2.70m.

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	6	<b>Plate</b>	

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<b>Site No.</b>	<b>33</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365253	559058	189
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.102.00	c.87.00	0.15
<b>Period</b>	Medieval?	<b>Type</b>	NARROW RIDGE AND FURROW
<b>Sources</b>	Satellite Imagery		

**Description and Interpretation**

North-south orientated on north facing slope. Distance between the top of each ridge, 2.70m.

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	6	<b>Plate</b>	1

<b>Site No.</b>	<b>34</b>	<b>Name</b>	Pit
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365251	559029	194
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	4.70	4.70	1.80
<b>Period</b>	Medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	Satellite Imagery		

**Description and Interpretation**

Extraction pit on eastern edge of unnamed tributary. In close association with Sites 35 and 36. Possibly Medieval but also possibility of being earlier than this.

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	7	<b>Plate</b>	

<b>Site No.</b>	<b>35</b>	<b>Name</b>	Extraction Pits
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365317	559017	198
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.120.00	c.27.50	-
<b>Period</b>	Medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	The Archaeological Practice (2008); Satellite Imagery		

**Description and Interpretation**

Group of c.25 pits and longitudinal scars. Indicative of quarry (the scars) and prospecting (the pits).

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>		<b>Plate</b>	9, 10

<b>Site No.</b>	<b>36</b>	<b>Name</b>	Pit
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365310	558984	196
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	5.50	4.00	1.50
<b>Period</b>	Medieval	<b>Type</b>	EXTRACTIVE PIT
<b>Sources</b>	Satellite Imagery		

**Description and Interpretation**

Extraction pit on eastern edge of unnamed tributary. In close association with Sites 34 and 35. Possibly Medieval but also possibility of being earlier than this.

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	7	<b>Plate</b>	8

<b>Site No.</b>	<b>37</b>	<b>Name</b>	Enclosure
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364577	558989	184
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>
	c.35.00	c.17.50	0.30
<b>Period</b>	20 <sup>th</sup> Century	<b>Type</b>	UNKNOWN
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Potential enclosure in to which runs the linear gully Site 08. Inconsistent sides, cut in to ridge to the south with a bank on its eastern edge and a raised track to its north.

<b>Visibility</b>	Moderate	<b>Land Use</b>	Pasture
<b>Figure</b>	3	<b>Plate</b>	18

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<b>Site No.</b>	<b>38</b>	<b>Name</b>	Boundary
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364594	558933	188
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	7.50	1.20	0.40
<b>Period</b>	Post-medieval	<b>Type</b>	BOUNDARY BANK
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Short section of bank with stone-facing on northern edge, sits of north-facing slope.

<b>Visibility</b>	Good	<b>Land Use</b>	Pasture
<b>Figure</b>	3	<b>Plate</b>	

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<b>Site No.</b>	<b>39</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364758	558966	191
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	17.50	17.00	0.10
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Shallow mound with slight central depression. Uncertain feature though marked on modern OS data.

<b>Visibility</b>	Poor	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	5	<b>Plate</b>	

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<b>Site No.</b>	<b>40</b>	<b>Name</b>	Revetment
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	3.50	c.0.50	2.00
<b>Period</b>	Post-medieval; 20th century	<b>Type</b>	REVETMENT
<b>Sources</b>	WAA earthwork survey		

**Description and Interpretation**

Revetment wall constructed over a small gully to hold back in-filled cutting of the gully.

<b>Visibility</b>	Good	<b>Land Use</b>	Rough Pasture
<b>Figure</b>	3	<b>Plate</b>	16

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<b>Site No.</b>	<b>41</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364625	558955	188
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.55.00	c.30.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		
<b>Description and Interpretation</b>			
North-south ridge and furrow visible via satellite imagery.			
<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	3	<b>Plate</b>	
<b>Site No.</b>	<b>42</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364799	558921	193
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.100.00	c.75.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		
<b>Description and Interpretation</b>			
North-south ridge and furrow visible via satellite imagery.			
<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	5	<b>Plate</b>	

<b>Site No.</b>	<b>43</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364864	558902	196
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.20.00	c.15.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	5	<b>Plate</b>	

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<b>Site No.</b>	<b>44</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364900	558856	200
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.55.00	c.10.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	5	<b>Plate</b>	

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<b>Site No.</b>	<b>45</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365003	558816	206
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.105.00	c.50.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	5	<b>Plate</b>	

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<b>Site No.</b>	<b>46</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365137	559052	196
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.100.00	c.75.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	7	<b>Plate</b>	

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<b>Site No.</b>	<b>47</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365219	559107	184
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.75.00	c.20.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	6	<b>Plate</b>	

<b>Site No.</b>	<b>48</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365458	559037	200
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.75.00	c.75.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	8	<b>Plate</b>	

<b>Site No.</b>	<b>49</b>	<b>Name</b>	Ridge and Furrow
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	365513	559109	188
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	c.50.00	c.37.00	-
<b>Period</b>	Medieval?	<b>Type</b>	RIDGE AND FURROW
<b>Sources</b>	Satellite imagery; WAA earthwork survey		

**Description and Interpretation**

North-south ridge and furrow visible via satellite imagery.

<b>Visibility</b>	Poor	<b>Land Use</b>	Pasture
<b>Figure</b>	8	<b>Plate</b>	

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<b>Site No.</b>	<b>50</b>	<b>Name</b>	Mine Shaft Head
<b>Co-ordinates</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
	364889	558900	197
<b>Dimensions (m)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
	7.50	7.50	0.10
<b>Period</b>	Post-medieval	<b>Type</b>	SHAFT MOUND
<b>Sources</b>	The Archaeological Practice (2008); WAA earthwork survey		

**Description and Interpretation**

Shallow mound with slight central depression. Uncertain feature, area has been heavily churned by cattle, though marked on historic mapping from c.1832 (The Archaeological Practice 2008).

<b>Visibility</b>	Poor	<b>Land Use</b>	Rough pasture
<b>Figure</b>	5	<b>Plate</b>	

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APPENDIX 2: THE ESTABLISHMENT OF SIGNIFICANCE

Significance	Heritage Asset		
	Archaeological Remains (Archaeological Interest)	Historic Buildings (Architectural/Artistic Interest and/or Historic Interest)	Historic Landscapes (Historic Interest)
<b>Very High</b>	<ul style="list-style-type: none"> <li>World Heritage Sites</li> <li>Other sites of acknowledged international importance</li> <li>Sites that can contribute significantly to acknowledged international research objectives</li> </ul>	<ul style="list-style-type: none"> <li>World Heritage Sites</li> <li>Other buildings of recognized international importance</li> </ul>	<ul style="list-style-type: none"> <li>World Heritage Sites</li> <li>Historic landscapes of international value, whether designated or not</li> <li>Extremely well preserved historic landscapes with exceptional coherence, time depth, or other critical factor(s)</li> </ul>
<b>High</b>	<ul style="list-style-type: none"> <li>Scheduled Ancient Monuments</li> <li>Undesignated sites of schedulable quality and importance</li> <li>Sites that can contribute significantly to acknowledged national research objectives</li> </ul>	<ul style="list-style-type: none"> <li>Scheduled Ancient Monuments with standing remains</li> <li>All Grade I and all Grade II* Listed Buildings (Scotland Category A)</li> <li>Some Grade I listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in their listing grade</li> <li>Conservation Areas containing very important buildings</li> <li>Undesignated structures of clear national importance</li> </ul>	<ul style="list-style-type: none"> <li>Designated historic landscapes of outstanding interest</li> <li>Undesignated landscapes of outstanding interest</li> <li>Undesignated landscapes of high quality and importance, and of demonstrable national value</li> <li>Well preserved historic landscapes, exhibiting considerable coherence, time depth or other critical factor(s)</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>Undesignated assets that contribute to regional research objectives</li> </ul>	<ul style="list-style-type: none"> <li>Some Grade II Listed Buildings (Scotland Category B)</li> <li>Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations</li> <li>Conservation Areas containing buildings that contribute significantly to its historic character</li> <li>Historic townscape or built up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)</li> </ul>	<ul style="list-style-type: none"> <li>Designated special historic landscapes</li> <li>Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value</li> <li>Averagely well preserved historic landscapes with reasonable coherence, time depth or other critical factor(s)</li> </ul>

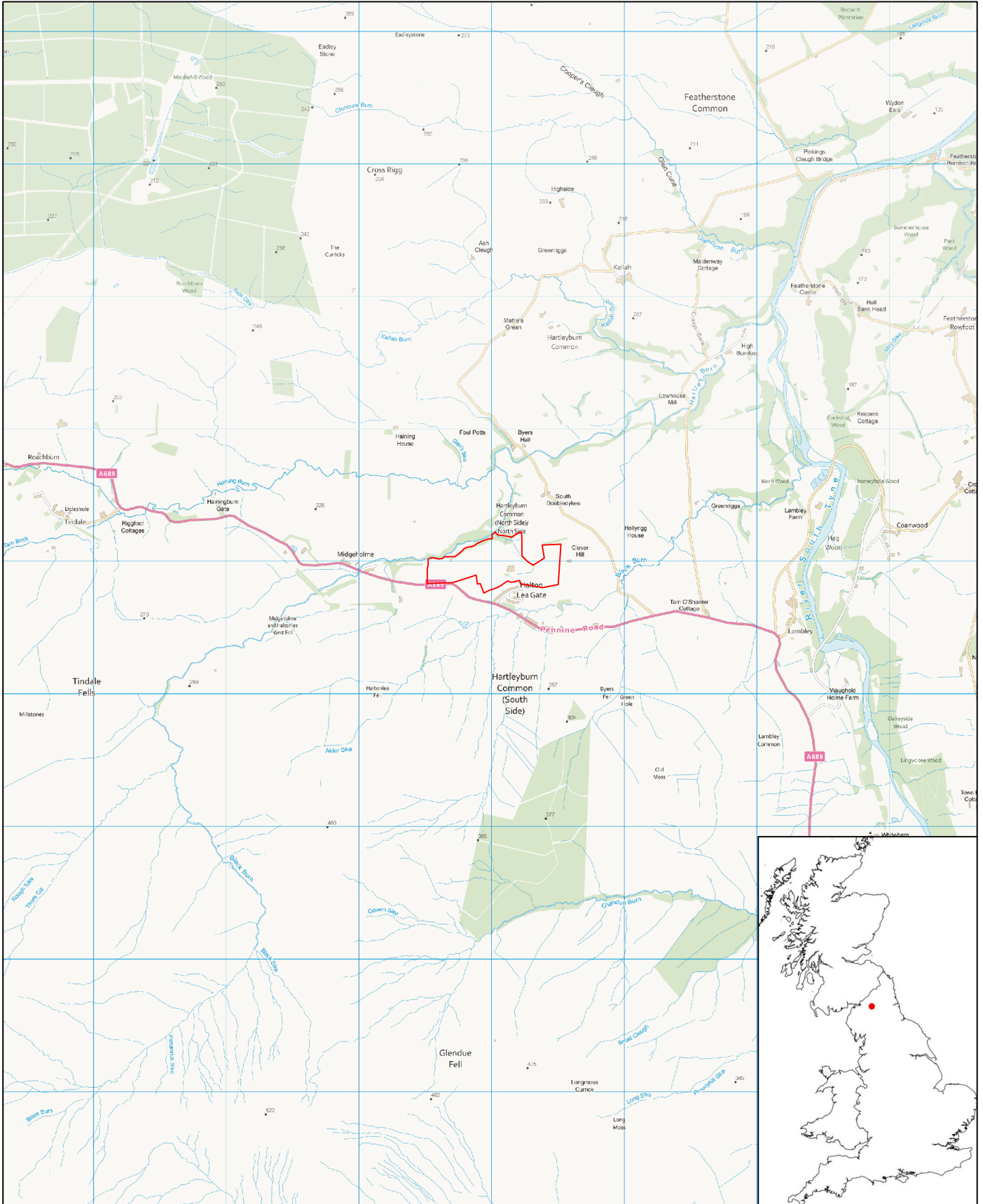

Significance	Heritage Asset		
	Archaeological Remains (Archaeological Interest)	Historic Buildings (Architectural/Artistic Interest and/or Historic Interest)	Historic Landscapes (Historic Interest)
<b>Low (Local)</b>	<ul style="list-style-type: none"> <li>• undesignated assets of local importance</li> <li>• Assets compromised by poor preservation and/or poor survival of contextual associations</li> <li>• Assets of limited value, but with potential to contribute to local research objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Locally listed buildings (Scotland Category C)</li> <li>• Historic (unlisted) buildings of modest quality in their fabric or historical association</li> <li>• Historic townscape or built up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)</li> </ul>	<ul style="list-style-type: none"> <li>• Robust undesignated historic landscapes</li> <li>• Historic landscapes with importance to local interest groups</li> <li>• Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations</li> </ul>
<b>Negligible</b>	<ul style="list-style-type: none"> <li>• Assets with very little or no surviving archaeological interest</li> </ul>	<ul style="list-style-type: none"> <li>• Buildings of no architectural or historical note</li> </ul>	<ul style="list-style-type: none"> <li>• Landscapes with little or no significant historic interest</li> </ul>
<b>Unknown</b>	<ul style="list-style-type: none"> <li>• The importance of the resource has not been ascertained</li> </ul>	<ul style="list-style-type: none"> <li>• Buildings with some hidden (i.e. inaccessible) potential for historic significance</li> </ul>	<ul style="list-style-type: none"> <li>• -</li> </ul>

From Design Manual for Roads and Bridges, Volume II, Section 3, Part 2 (2007)

## APPENDIX 3: FIGURES

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Wardell Armstrong  
Archaeology  
2013

PROJECT: Halton Lea Surface Mine, Halton Lea Gate, Northumberland

SCALE: 1:40,000 at A4

REPORT No: CP10471


CLIENT: HM Projects Development Ltd.

DRAWN BY: AB


DATE: March 2013

FIGURE: 1

KEY:

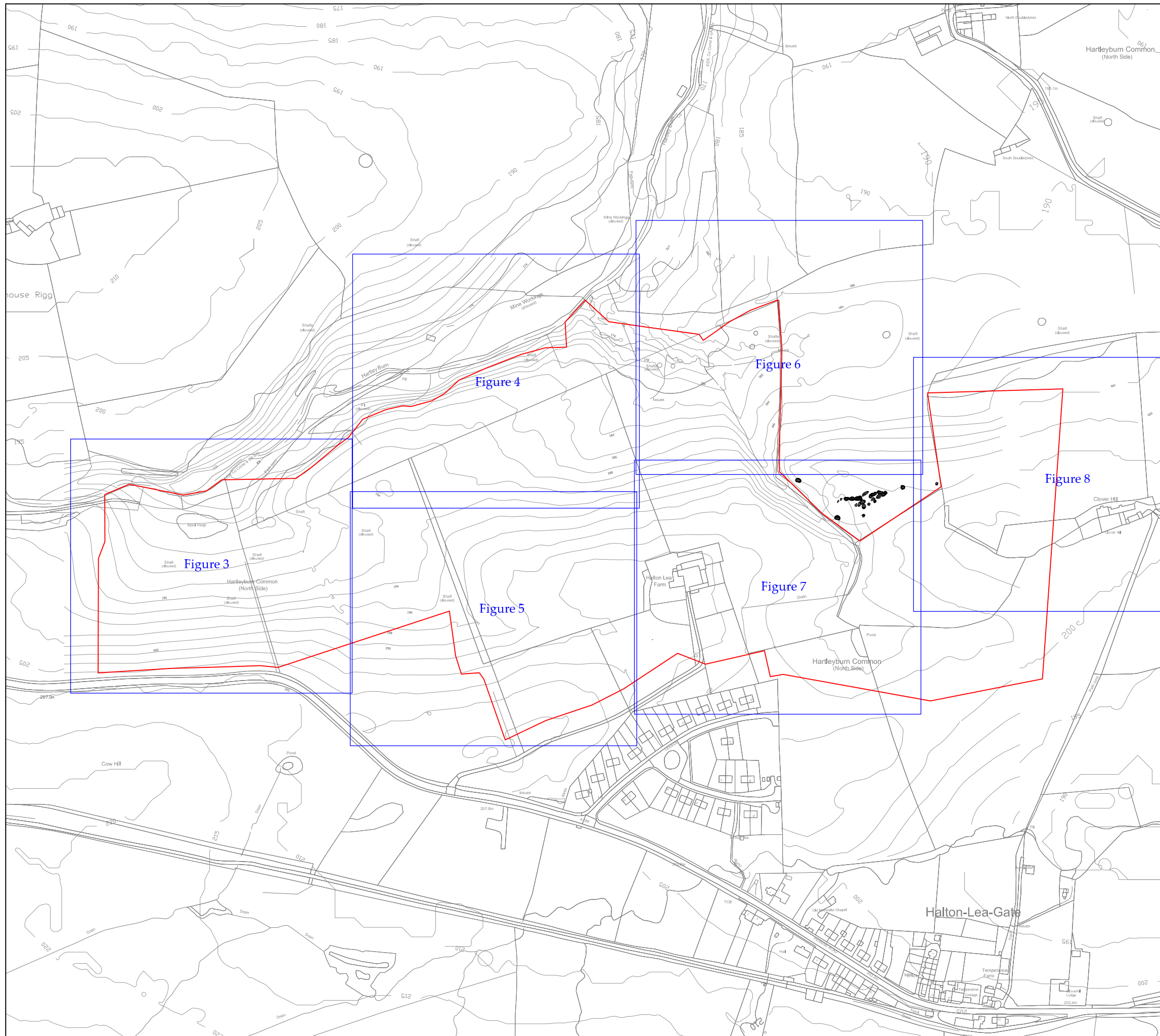


Site boundary



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Figure 1: Site location.



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Archaeology  
2013


PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland

CLIENT:  
HM Projects Development Ltd.

SCALE: 1:4,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:  
 Survey boundary



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FIGURE:  
2

Figure 2: Detailed site location.






PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland

CLIENT:  
HM Projects Development Ltd.

SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

- KEY:
-  Survey boundary
  -  Feature number
  -  Profiles (Figure 9)
  -  Ridge and furrow
  -  2009 evaluation trench



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REPORT No:  
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FIGURE:  
3

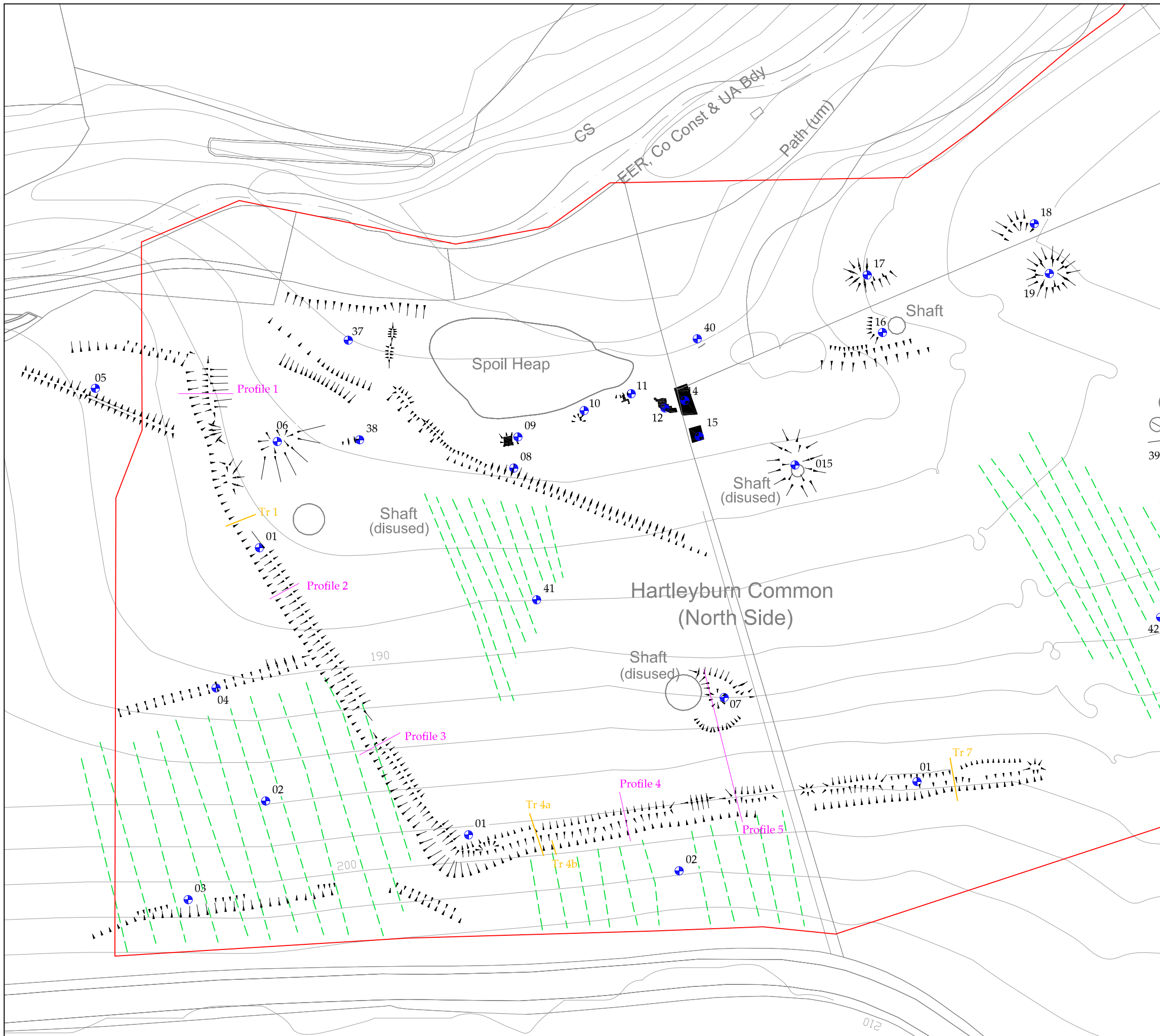
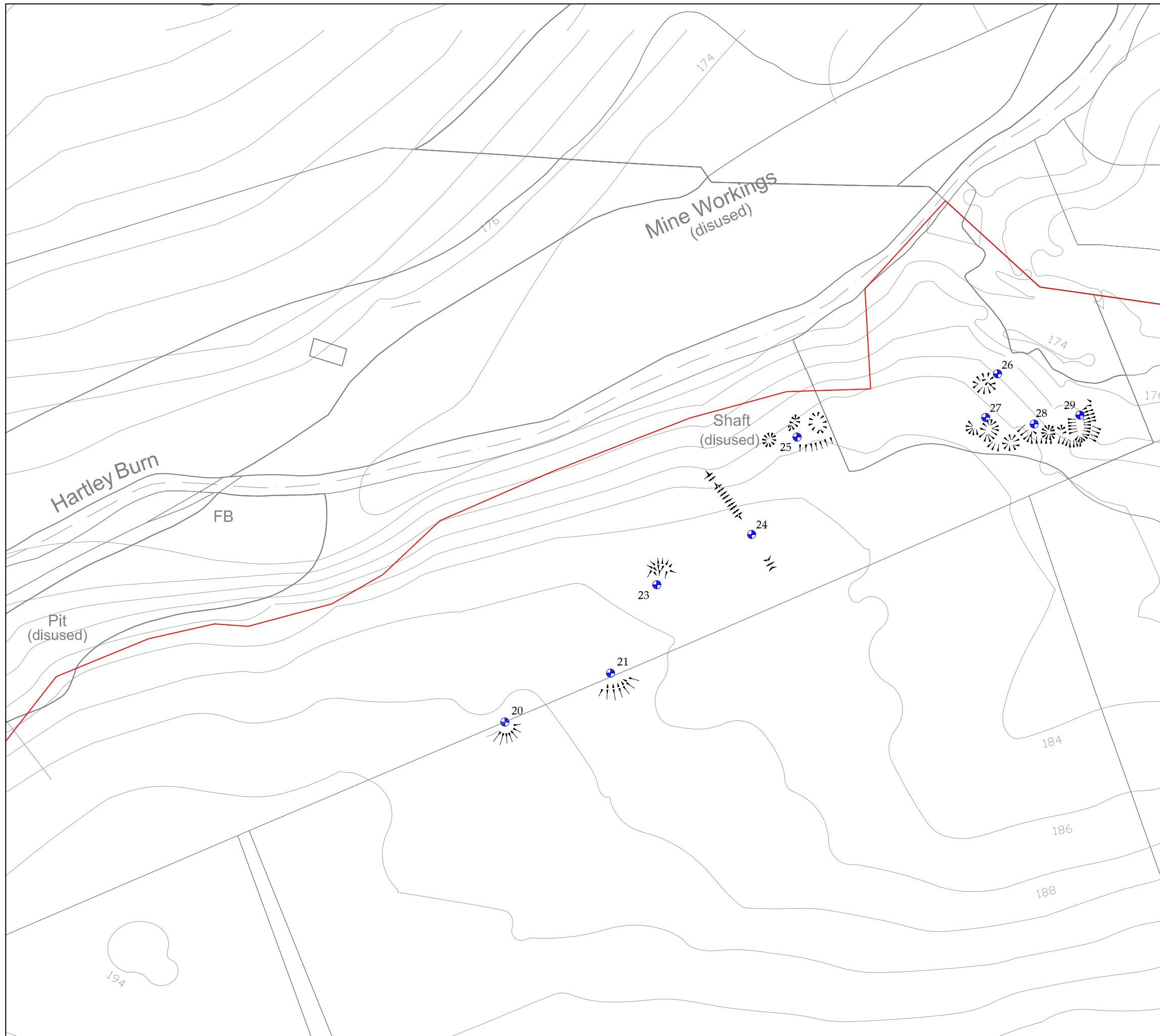


Figure 3: Location of features (1), western area.



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PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland



CLIENT:  
HM Projects Development Ltd.

SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

-  Survey boundary
-  Feature number

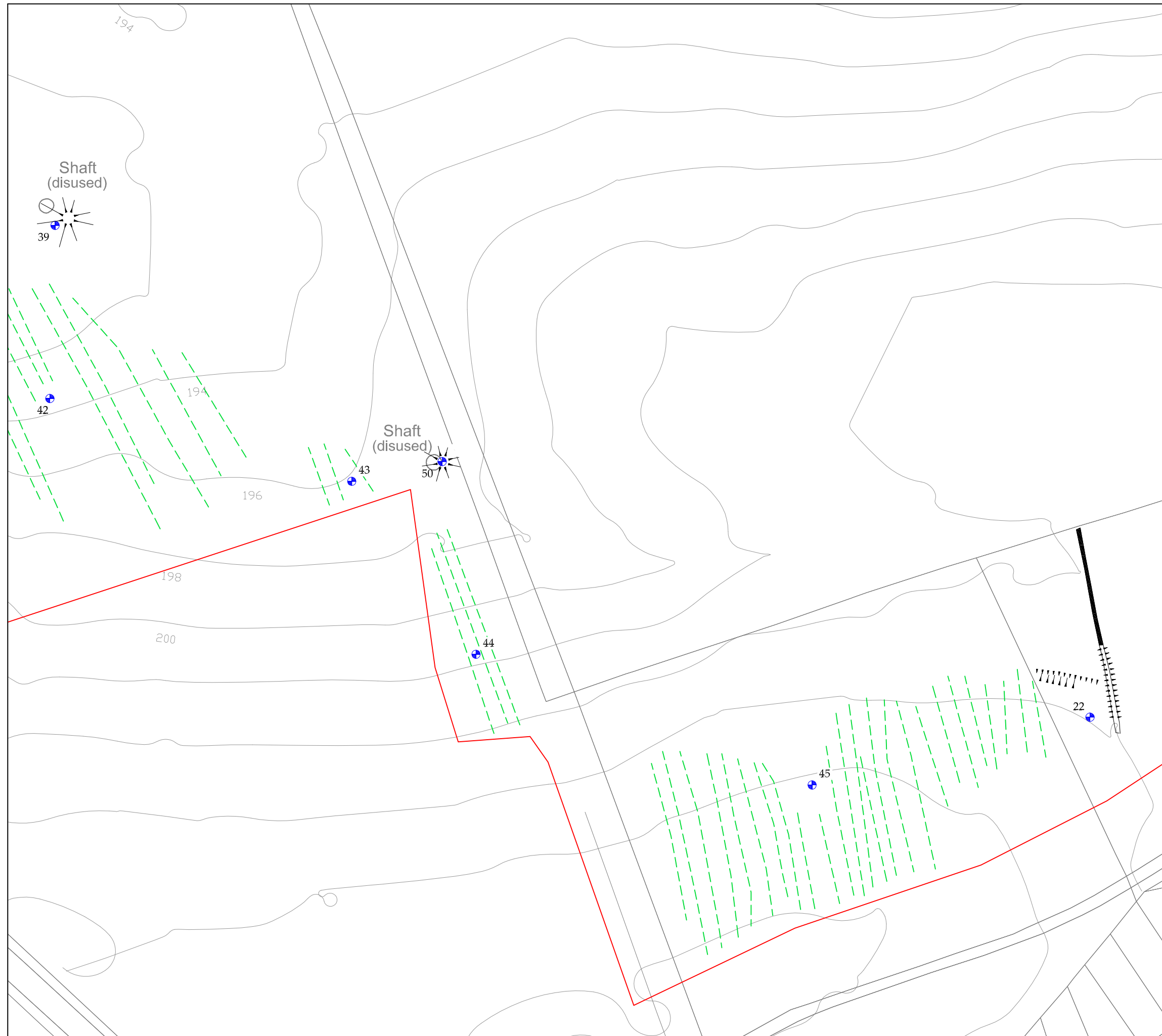


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FIGURE:  
4

Figure 4: Location of features (2), north western area.



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PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland




CLIENT:  
HM Projects Development Ltd.


SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

-  Survey boundary
-  Feature number
-  Ridge and furrow

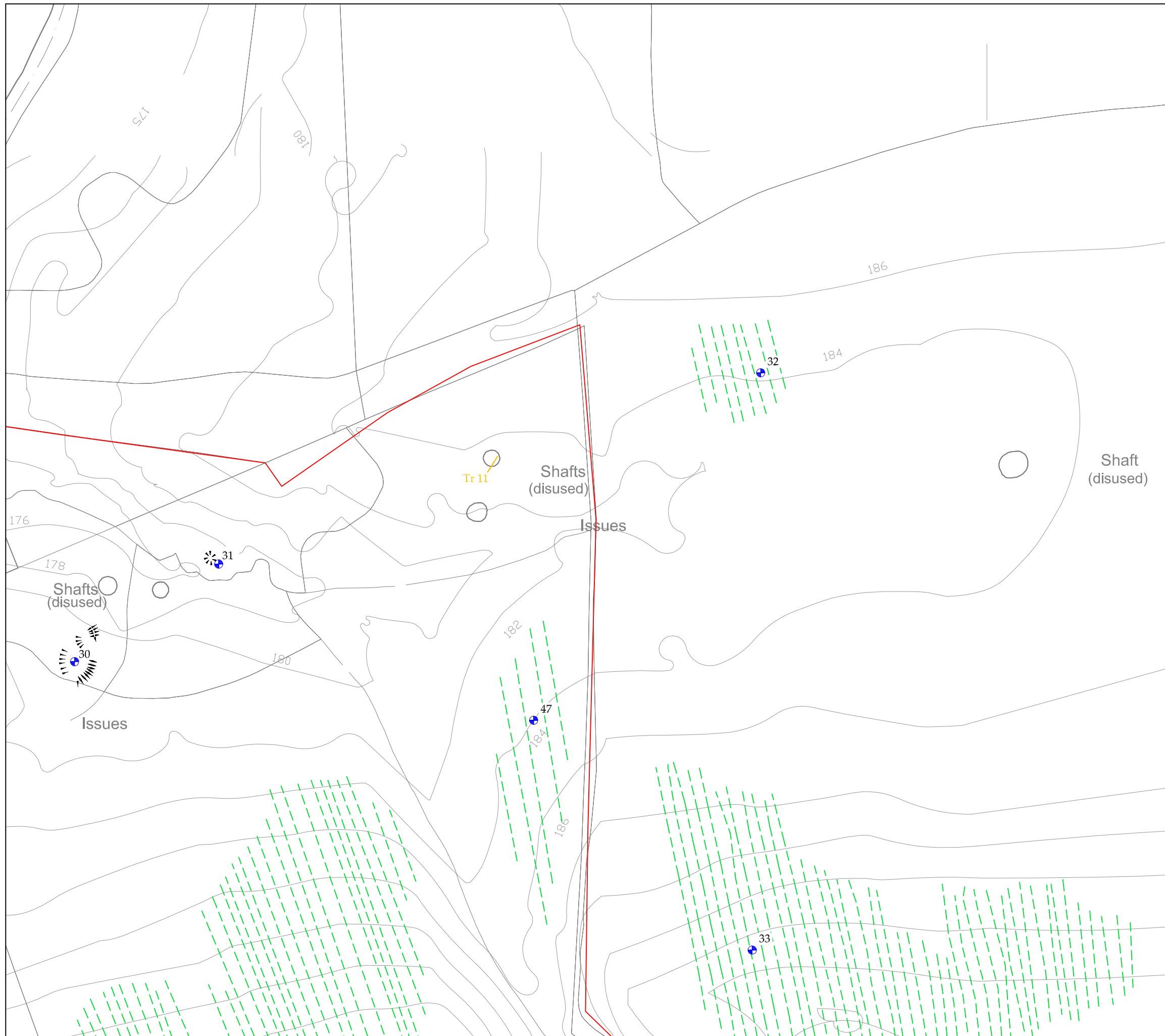


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FIGURE:  
5

Figure 5: Location of features (3), south western area.



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PROJECT:  
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Halton Lea Gate,  
Northumberland

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HM Projects Development Ltd.

SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

- Survey boundary
- Feature number
- Ridge and furrow
- 2009 evaluation trench

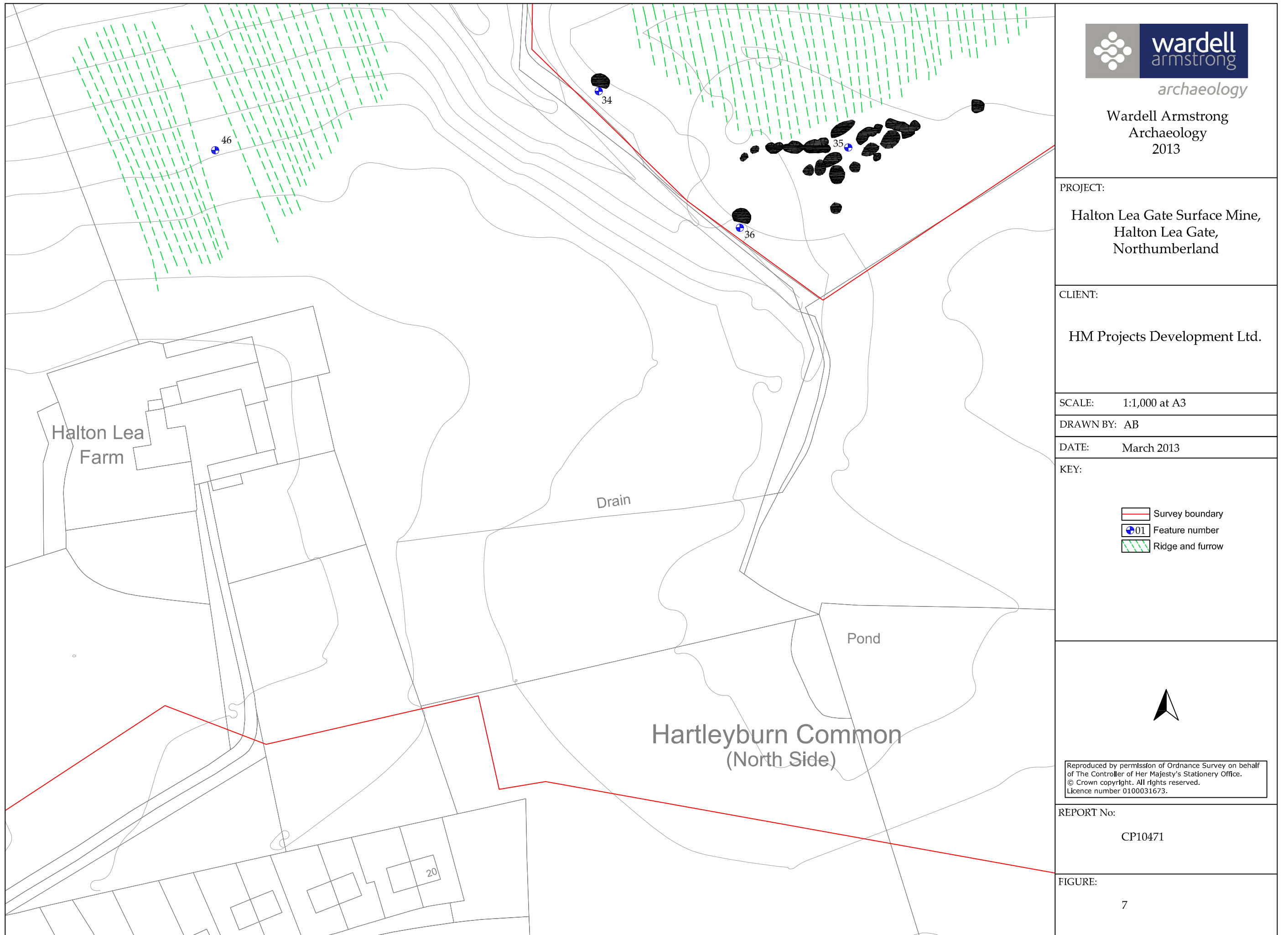


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FIGURE:  
6

Figure 6: Location of features (4), north eastern area.



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PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland




CLIENT:  
HM Projects Development Ltd.


SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

-  Survey boundary
-  Feature number
-  Ridge and furrow

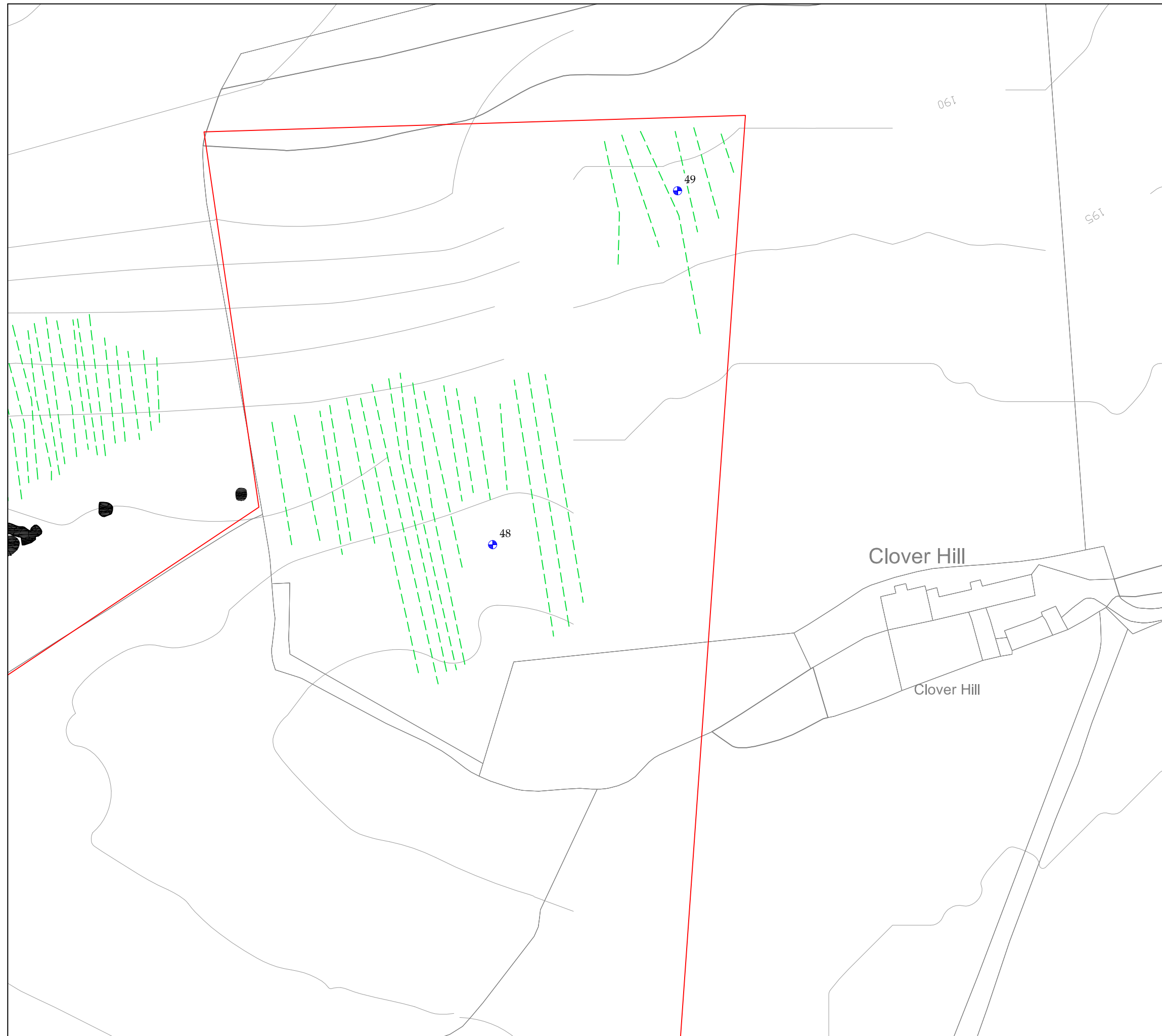


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FIGURE:  
7

Figure 7: Location of features (5), south eastern area.



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PROJECT:  
Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland




CLIENT:  
HM Projects Development Ltd.

SCALE: 1:1,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

-  Survey boundary
-  Feature number
-  Ridge and furrow



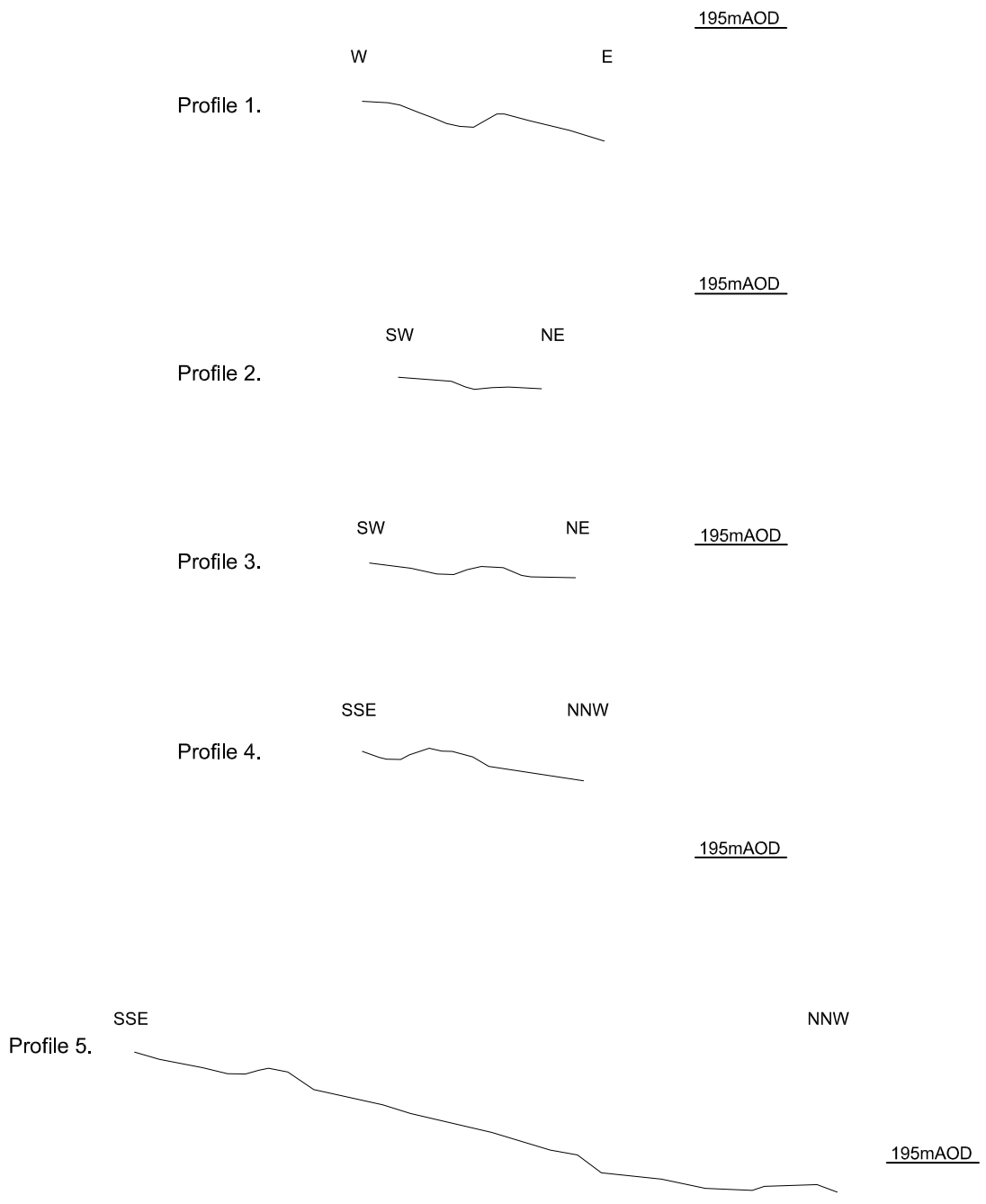
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FIGURE:  
8

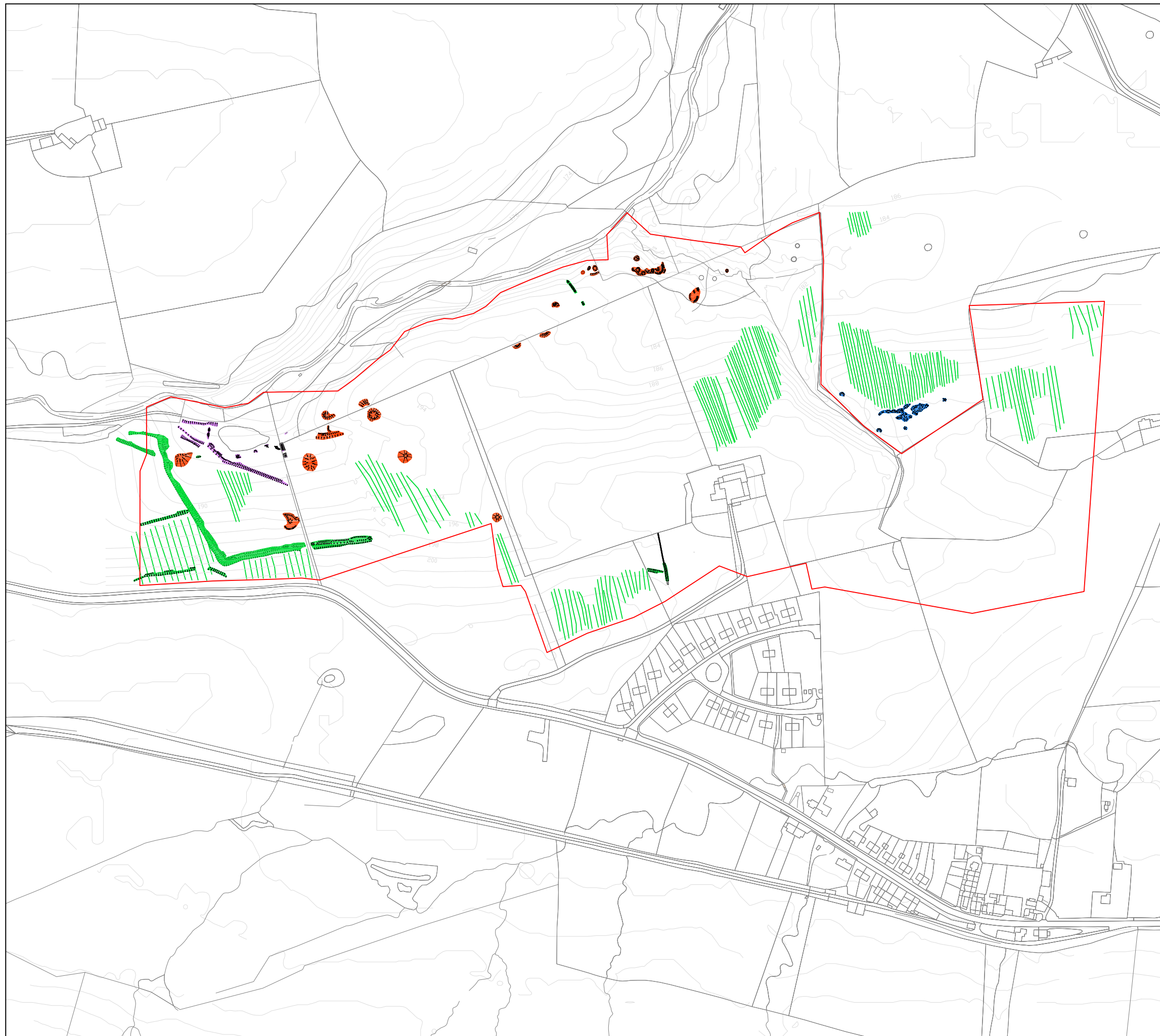
Figure 8: Location of features (6), eastern area.





	<p>PROJECT: Halton Lea Gate Surface Mine, Halton Lea gate, Northumberland</p> <p>SCALE: 1:400 at A4</p> <p>REPORT No: CP10471</p> <p>CLIENT: HM Projects Development Ltd.</p> <p>DRAWN BY: AB</p> <p>DATE: March 2013</p> <p>FIGURE: 9</p>	<p>KEY:</p> <p><span style="border: 1px solid black; padding: 2px;">195mAOD</span> Height mAOD</p>
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Figure 9: Feature 01, profiles.



wardell  
armstrong

archaeology

Wardell Armstrong  
Archaeology  
2013

PROJECT:

Halton Lea Gate Surface Mine,  
Halton Lea Gate,  
Northumberland

CLIENT:






HM Projects Development Ltd.

SCALE: 1:4,000 at A3

DRAWN BY: AB

DATE: March 2013

KEY:

-  Survey boundary
-  Agricultural
-  Pre 18th century mining
-  18th - 19th century mining
-  Mid 20th century mining



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FIGURE:

10

Figure 10: Mining and agricultural activity.