

FORMER GROSMONT IRONWORKS,
GROSMONT, NORTH YORKSHIRE

ARCHAEOLOGICAL OBSERVATION,
INVESTIGATION AND RECORDING

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EXECUTIVE SUMMARY

In September 2012, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Construction Marine Ltd to undertake a limited programme of archaeological survey and recording at the former Grosmont Ironworks, Grosmont, North Yorkshire (NGR NZ 82697 05351 centred). The survey was required to record various remains exposed during unauthorised works carried out within the car park on the former ironworks site.

A concrete base or bed uncovered by the works was recorded. This was almost certainly associated with a gantry possibly relating to the ironworks but more likely forming part of the later slag re-processing operations. The use of concrete for the base suggests that it probably dates to after c.1900, when the slag re-processing operation commenced, and this appears to be borne out by the available map evidence. No other archaeological remains of significance were recorded during the current survey, and the ground surface was reinstated.

1 INTRODUCTION

- 1.1 In September 2012, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Construction Marine Ltd to undertake a limited programme of archaeological survey and recording at the former Grosmont Ironworks, Grosmont, North Yorkshire (NGR NZ 82697 05351 centred). The survey was required to record various remains exposed during unauthorised ground reduction works carried out within the car park on the former ironworks site.
- 1.2 The scope of the archaeological work was defined by discussions between EDAS and the Senior Conservation Archaeologist of the North York Moors National Park Authority (NYMNP). In summary, the project comprised a limited programme of archaeological excavation and the recording of remains exposed during the unauthorised works, and an inspection of a wider area where ground reduction had also occurred.

2 SITE LOCATION AND DESCRIPTION

- 2.1 The former Grosmont ironworks and its associated remains are located within the village of Grosmont in the valley of the river Murk Esk in North Yorkshire. The ironworks occupied a site on the western edge of the village, adjacent to the former Castleton to Grosmont railway line (now partly used by the North Yorkshire Moors Railway), at an elevation of c.33m AOD (see figure 1). The site lies within the North York Moors National Park but currently has no statutory protection.
- 2.2 The site complex is accessed via a rough metalled track leaving the north side of Front Street, the main route out of Grosmont to the north-west (see figure 2). The ironworks site and wider area were the subject of an initial archaeological survey by EDAS in 2007 (Richardson & Dennison 2007). At the time of the current project, the detailed survey area previously recorded in 2007 was an unofficial car park and was partly overgrown with saplings and scrub. The area is separated from the adjacent railway line by a curving 1.6m high boundary wall, c.0.5m wide at the base and built of neatly coursed squared sandstone set in a lime mortar surmounted with semi-circular coping.

3 SURVEY METHODOLOGY

- 3.1 The aim of the project was to gather sufficient information to establish the extent, nature, character, condition, quality and date of any surviving archaeological and historical features which had been affected by the unauthorised ground works.
- 3.2 As noted above, the scope of the archaeological survey work was defined through discussion between EDAS and the Senior Conservation Archaeologist of the NYMNP. No formal brief or specification was prepared, but general archaeological guidelines relating to watching briefs were followed (IFA 1999).
- 3.3 During a site visit by the Senior Conservation Archaeologist in August 2012, it had been noted that unauthorised works had taken place to the north-east of a substantial brick structure (recorded as Site 2 in the 2007 EDAS survey), most likely the remains of a gantry associated with the later slag re-processing operation which was used to transport reclaimed slag to the adjacent crushing plant. Further concrete footings were recorded to the north-east of this brick structure in 2007. These remains may have originally related to the ironworks gantry associated with a steam hoist, which was used to transport ironstone to a battery of adjacent calcining kilns, as shown on an 1864 plan of the works. However, the surviving

structures were extensively modified after c.1900 to be used as part of the slag re-processing operation which was undertaken on site (Richardson & Dennison 2007, 21-22) (see Appendix 1).

- 3.4 The unauthorised ground works undertaken at this site comprised two elements (see figure 3). Between c.13m to 23m to the north-east of the brick structure (Site 2), there was a sub-oval area where the ground surface had been mechanically excavated and the resulting depression backfilled; this backfilled area was partly situated on a track through the woods here. For another c.15m to the north-east of this, the surface of the track had been 'bladed off' slightly, the maximum depth of ground reduction being c.0.20m.
- 3.5 On 18th September 2012, the backfilled area was re-excavated under archaeological supervision using a JCB digger equipped with a scraper bucket, to the depth of the original excavation; this was found to be up to 0.20m below ground level (BGL) on the west side, but only 0.05m BGL on the east side. A concrete base, together with an associated concrete surface, was exposed, and this was recorded at a scale of 1:50. To achieve the drawn record, a baseline was established on the centre of the brick structure (Site 2) to the south-west, the start being set at the base of the north-east side of the structure. This baseline was then run for c.25m to the north-east, the section between 13m and 23m being recorded at 1:50. The 'bladed-off' area was also subject to a detailed inspection, but no features were noted. Following the completion of the archaeological recording, the excavated area was backfilled once more under archaeological supervision.
- 3.6 For ease of reproduction, the 1:50 scale field drawing was enlarged to 1:20 scale, and this forms the base for figure 4. A general location plan of the two areas of investigation was made at a scale of 1:500, using information from the previous 2007 survey. The drawn record was supplemented by a limited number of digital photographs and written notes. The archive resulting from the project will be deposited with the NYMNPA (EDAS site code GIG 12).

4 RESULTS FROM THE ARCHAEOLOGICAL SURVEY

- 4.1 The principal structure exposed within the re-excavated area was a concrete base or bed (see plate 1). This base was set c.2.50m to the north-east of another rectangular concrete base or bed, which measured c.1.50m long by 0.90m wide and had the remains of bolts to the corners, noted during the previous 2007 survey (see figure 3 and Appendix 1). This base was set on a north-east/south-west alignment, and the newly-exposed concrete base recorded during the current survey shared the same alignment, although it was of somewhat larger size.
- 4.2 The new base was not fully exposed, but it had a maximum length of 2.90m and was 2.12m wide (see plate 2 and figure 4). A short section towards the western end of the northern edge had been damaged in the past, necessitating a repair using a flat wrought-iron bar presumably bolted to it. Probing between the bar and the edge of the concrete base indicated that there was a void below, c.1m in depth, but is not known whether this represents the depth of the base itself (i.e. the tape sliding down against the side of the base through a void in rubble heaped against it) or merely the depth of adjacent loose rubble.
- 4.3 The top of the concrete base or bed was set on average 0.05m above the surface of the surrounding reduced ground level. Along both of its long sides, the base had once supported a brick wall of unknown height, but of only a single brick in

width (c.0.15m). The bricks had almost all been removed, but the mortar that had once fixed them to the base remained. Adjacent to the area of damage noted above, a large timber resembling a railway sleeper was set into the base, flush with its surface. This timber retained traces of four circular bolts arranged in a rectangular pattern (see plate 4). Each bolt was originally 0.025m in diameter, and each projected the same distance above the surface of the base; several retained traces of a washer 0.055m in diameter, and all were presumably once threaded. Close to the western pair, there was a sub-circular area of bitumen staining to the timber, with a similar, sub-oval area of staining to the west of the bolts. Away from the timber, the remains of a fifth bolt were visible in the approximate centre of the eastern side of the base, with a small rectangular impression to the south.

- 4.4 Around the concrete base, in the base of the re-excavated area, the exposed ground surface was generally a compacted dark-brown silt soil, with inclusions of brick rubble and mortar, much disturbed by tree roots. To the immediate east of the base, there was a small area of fractured concrete, formerly a surface (see plate 3). Beyond this, there were two small areas of modern tarmac, the remnants of surfacing for the adjacent track which passed through this area.
- 4.5 No other archaeological remains were noted within the area where the surface had been 'bladed off', but here the ground reduction had generally been much shallower than in the re-excavated area.

5 DISCUSSION AND CONCLUSIONS

- 5.1 The concrete base exposed in the re-excavated area, like that noted in 2007 just to the south-west, is almost certainly associated with a gantry possibly relating to the ironworks (leading from the steam hoist to the calcining kilns) or more likely forming part of the later slag re-processing operations. It is assumed that the timber had a base plate secured to it using the bolts, from which a stanchion or column of some kind rose. The steam lift and gantry are shown on a 1864 plan of the Grosmont works, but the use of concrete for the base suggests that it probably dates to after c.1900, when the slag re-processing operation commenced on the site, thereby indicating that it and the gantry were rebuilt/remodelled during this period. A post-1900 date also appears to be confirmed by the available map evidence, as detailed in the 2007 survey report. No other archaeological remains of significance were recorded during the current survey.

6 BIBLIOGRAPHY

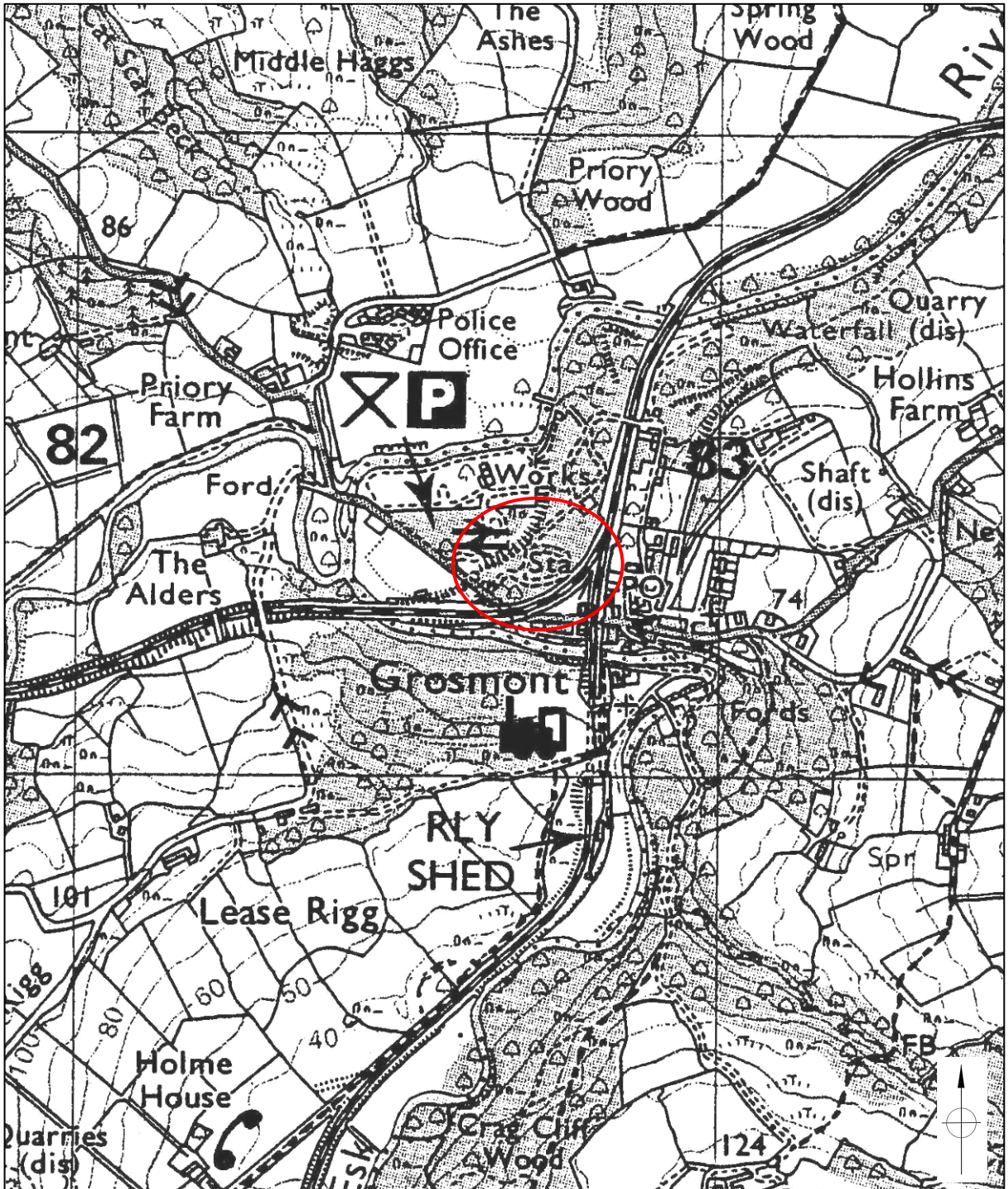
IFA (Institute of Field Archaeologists) 1999 *Standard and Guidance for an Archaeological Watching Brief* (and subsequent revisions)

Richardson, S & Dennison, E 2007 *Former Grosmont Ironworks, Grosmont, North Yorkshire: Phase 1 Archaeological Survey* (unpublished EDAS archive report 2007/303.R01 for North York Moors National Park Authority)

7 ACKNOWLEDGEMENTS

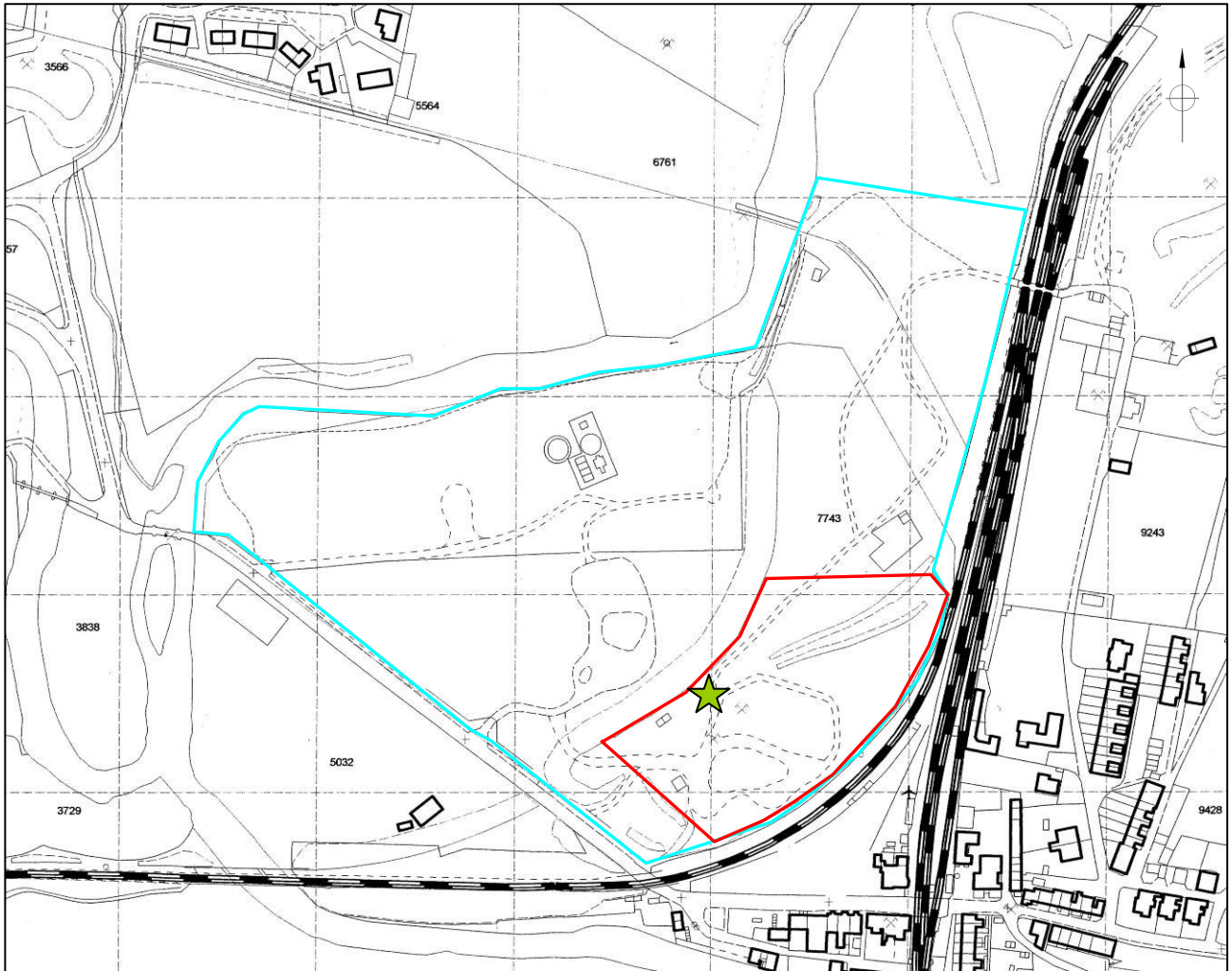
- 7.1 The limited programme of archaeological survey and recording was commissioned and funded by Construction Marine Ltd (CML), and Steve Ridsdale and Mike Freeman of CML are thanks for their co-operation in carrying out the work. Thanks are also due to Graham Lee, Senior Conservation Archaeologist at the NYMNP for his help during the project.

- 7.2 The site recording was undertaken by Shaun Richardson and Richard Lamb, and Shaun Richardson produced the fieldwork records. Ed Dennison produced the final report and drawings, and the responsibility for any errors or inconsistencies remains with him.



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PROJECT		GROSMONT IRONWORKS	
TITLE		GENERAL LOCATION	
SCALE	NTS	DATE	NOV 2012
EDAS		FIGURE	1



★ Location of 2012 investigation

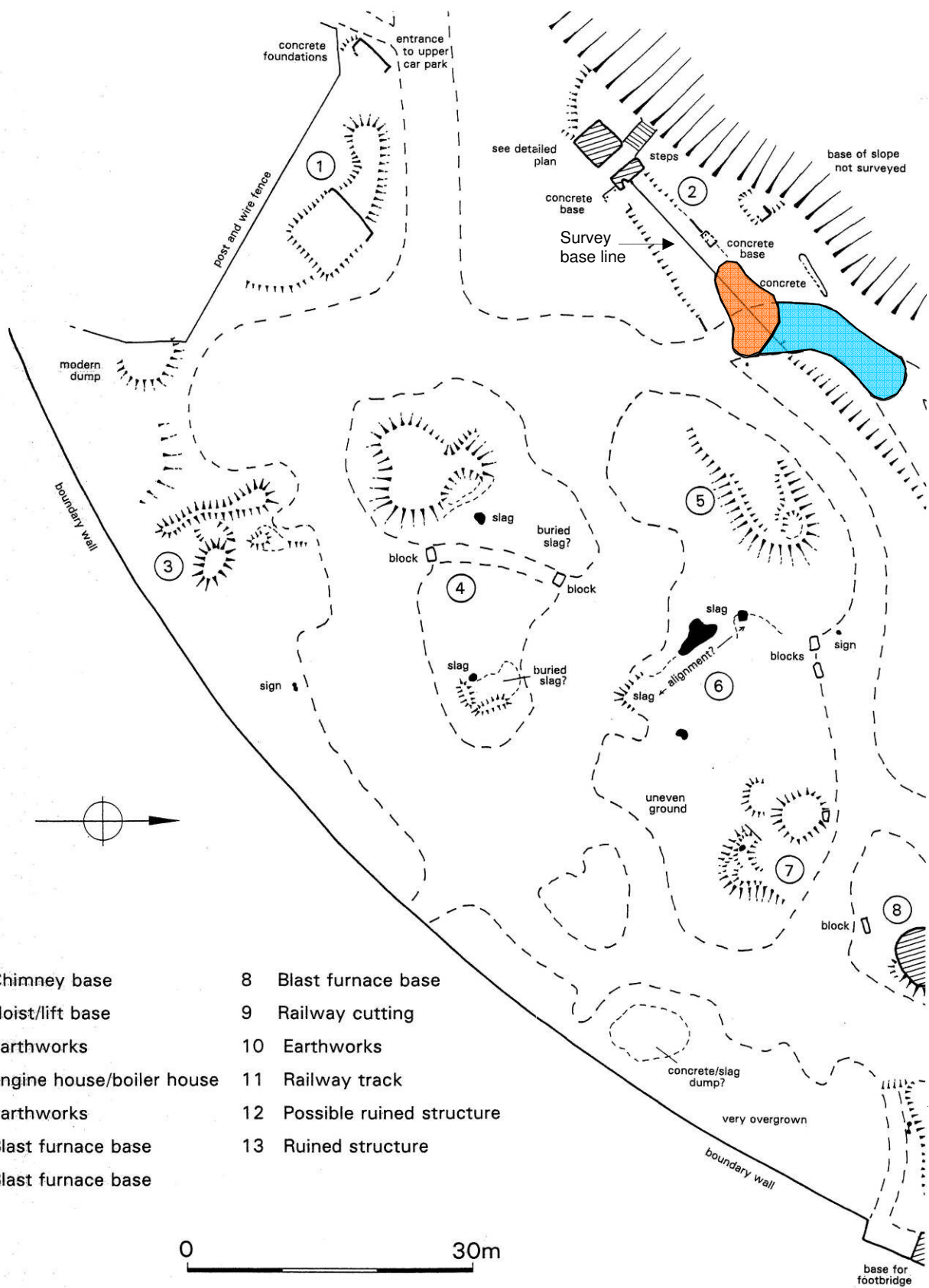
Areas of 2007 survey

— Detailed survey area

— Walkover survey area

Base plan provided by NYMNP

PROJECT		GROSMONT IRONWORKS	
TITLE		LOCATION OF INVESTIGATION	
SCALE	NTS	DATE	NOV 2012
EDAS		FIGURE	2



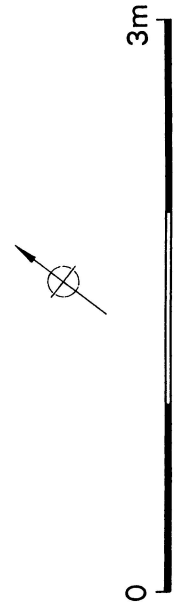
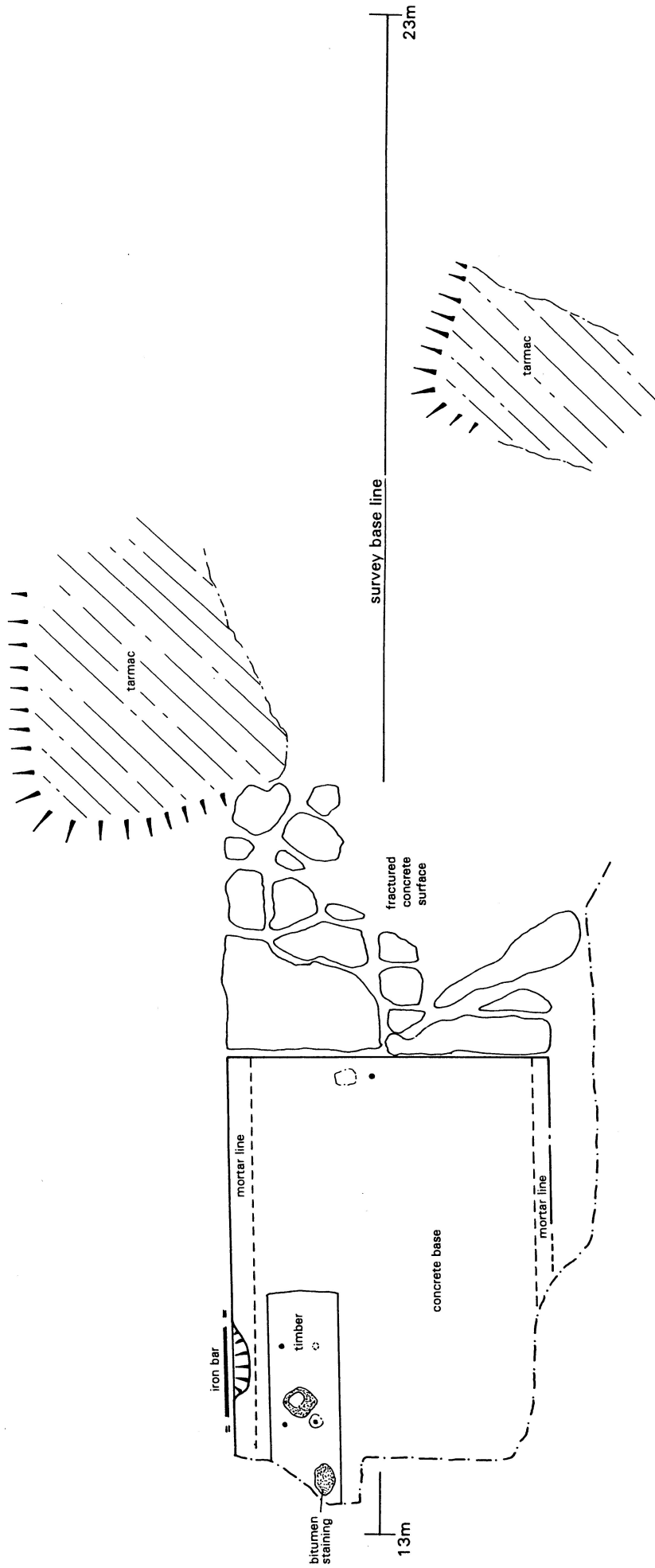
- | | |
|-----------------------------|------------------------------|
| 1 Chimney base | 8 Blast furnace base |
| 2 Hoist/lift base | 9 Railway cutting |
| 3 Earthworks | 10 Earthworks |
| 4 Engine house/boiler house | 11 Railway track |
| 5 Earthworks | 12 Possible ruined structure |
| 6 Blast furnace base | 13 Ruined structure |
| 7 Blast furnace base | |

0 30m

Section of 2007 detailed survey, showing area of new investigation.

- Backfilled area, re-excavated
- Extent of 'blading off'

PROJECT		GROSMONT IRONWORKS	
TITLE		LOCATION OF INVESTIGATION	
SCALE	AS SHOWN	DATE	NOV 2012
EDAS		FIGURE	3



PROJECT	GROSMONT IRONWORKS		
TITLE	ARCHAEOLOGICAL SURVEY RESULTS		
SCALE	AS SHOWN	DATE	NOV 2012
	EDAS	FIGURE	4



Plate 1: Re-excavated area and concrete base, looking SW.



Plate 2: Exposed concrete base, looking E.



Plate 3: Exposed concrete base and fractured concrete surface, looking SW.



Plate 4: Timber in concrete base.

APPENDIX 1

APPENDIX 1: DETAILS OF SITE 2 FROM EDAS 2007 SURVEY

Site number: 002	Site name: Hoist/lift base, south-west part of detailed survey area	NYMNPASMR: 7843
<p>Historical development:</p> <p>A “Steam Lift” is shown in this general location in 1863, as a square structure with small circles at each corner and a larger circle in the centre; it was described as being for “the purpose of raising the minerals from the line of the railway to the top of the calcining kilns” [1]. Unfortunately, it cannot be seen on the amended 1853 6” map due to the placement of lettering, but a slightly more rectangular structure is shown on the 1864 plan [2] [3]. An undated engraving, made after c.1875, shows a tall structure, apparently with a pyramidal roof, in this general location, with another structure of similar height to the south [4]. The steam lift appears in the 1891 sale description as “Steam Lift for Gantry, 32” cylinder with feeding Donkey Engine, 2½ “ ram. Brake drop with drum”, serving a gantry 380 feet long to the calcining kilns [5]. Virtually all of this structure had been demolished by 1893, although a small rectangular structure remained in this general location on the north side of a railway line [6]. By 1913, this structure was once again surrounded by railway lines, laid to facilitate removal of slag from the area to the north, although it may be significant that none of the lines appear to link up to the structure itself; a line of conjoined sub-square structures to the south may have been storage hoppers [7]. Both the structure and the storage hoppers were still present in 1952, although all the railway lines had been taken up by this date [8]. Writing in 2002, Chapman described the structure as “a couple of brick structures which probably formed part of the structure supporting the calcining kilns where the ironstone was roasted before being fed into the furnaces” [9].</p>		
<p>Site description:</p> <p>The hoist/lift base lies in the south-western part of the survey area and was partly overgrown with ivy at the time of the survey. It comprises two substantial brick pillars, rising to a maximum height of 4.40m. The eastern pillar is the smaller of the two, being 3.50m long (north-south) by 1.50m wide (east-west), the north and south faces having a battered profile for approximately two-thirds of their lower height. The pillar has been subject to much repair and patching, but the majority is built of handmade reddish-brown and yellow bricks (average dimensions 230mm by 110mm by 70mm) laid in no particular bonding pattern and set with a lime mortar. There is a single course of large refractory bricks running around the base and the pillar is topped by a course of headers set on edge. The east face preserves much evidence for repair and alteration. Towards the centre of the lower part, there is a large irregularly-shaped area of repair or alteration, crudely carried out in re-used refractory bricks and incorporating two iron bolts which project slightly from the face. On the south side of the repair, a sub-oval “shaft” has been cut down through the body of the pillar. This shaft is c.0.60m deep and open to the east side, sloping downwards at a slight angle from north to south. There appears also to be the remains of a circular shaft in the east face. It is difficult to determine exactly how the shaft was cut into the brickwork; it has the appearance of being worn away in several stages by rubbing or friction, but this is not certain. On both sides of the shaft, there are horizontal bands of shallow scarring to the face of the pillar, four to five courses deep and set at different heights. Above these, there is a wide gap in the centre of the east face, forming a step or recessed area running across the full width of the pillar. This could not be accessed at the time of the current survey but it appears to contain evidence for several phases of brick concrete alteration, as do the parts of the east face which rise above it to either side.</p> <p>The larger western pillar is c.3.50m square, and built of similar bricks to the eastern pillar, although it incorporates four courses of the much larger refractory bricks (up to 470mm by 19mm by 11mm) and occasionally the brickwork forms a rough header bond. Like the eastern pillar, the pillar has battered north and south faces, although overall it has been subject to less alteration than the eastern pillar. There are four shallow recesses at the south-west corner, spaced at roughly regular centres to c.2m above ground level; these formerly housed metal beams or girders which extended south. The central area of the upper part is slightly recessed and, although it could not be inspected in detail, it appears to retain a substantial base of some kind comprising two parallel timbers pierced by tall bolts.</p> <p>An examination of the gap between the two pillars shows that it was once crossed by several beams or girders. The two lower beams were set back slightly from the south faces of the pillars; at the same level as the upper of these two beams, angled timbers/girders once sloped upwards from</p>		

the gap between the pillars. The third and uppermost beam/girder was set flush with the south faces of the pillars. It was the most substantial of the three members once crossing the gap and it appears to be a later insertion; the cement above its former east end has the date "1927" written into it.

The ground falls away very sharply to the north of the pillars, with the gap between the two forming a footpath at the time of the survey, leading to a flight of steps. A number of features are visible in plan only in the immediate area of the pillars. There is some very decayed concrete at the base of the south-west corner of the western pillar, whilst at the base of the south-east corner of the eastern pillar, there is a rectangular concrete base or bed with a bolt at three of the four corners. A slight north-facing scarp runs c.14m east from the bed, terminating in a 0.30m high concrete edge. A similar scarp runs east from the north-east corner of the eastern pillar for c.11m, terminating in another rectangular concrete base or bed, again with bolts to the corners and remnants to concrete edging to either side.

Some c.13m to the north-east of the eastern pillar, the remains of another structure are set into the top of the steep north-facing slope. The structure is rectangular in plan, c.2.5m long, 0.60m wide and set parallel to the line of the top of the slope. It is built of orange machine-made bricks (average dimensions 235mm by 110mm by 70mm) set with a cement mortar; decaying concrete is visible eroding out of the slope to either side, with further linear concrete footings to the north-east [10].

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- [6] OS 1893 25" to 1 mile map sheet 45/4
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- [8] OS 1952 6" to 1 mile map sheet 45NE
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