

ELECTRICITY EARTHING WORKS,
OCTAGON MILL SMELT MILL COMPLEX,
NORTH-WEST OF CB YARD, ARKENGARHTHALE,
NORTH YORKSHIRE

ARCHAEOLOGICAL OBSERVATION,
INVESTIGATION AND RECORDING

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On behalf of

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CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION.....	1
2	BACKGROUND INFORMATION.....	1
3	RESULTS FROM THE WATCHING BRIEF.....	4
4	DISCUSSION AND CONCLUSIONS.....	5
5	BIBLIOGRAPHY.....	5
6	ACKNOWLEDGEMENTS.....	5

Appendices

1	List of Contexts
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EXECUTIVE SUMMARY

In May 2015, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Mr Peter Dale of Babcock International, on behalf of Northern Powergrid, to undertake a programme of archaeological observation, investigation and recording (a watching brief) during groundworks associated with electricity earthing works in part of a field formerly containing the Octagon Smelting Mill complex, north-west of the CB Yard in Arkengarthdale, North Yorkshire (at NGR NY 99733 03582). The area of development lay within a Scheduled Monument (SM 28902; National Heritage List for England entry 1015854), and the archaeological work was a requirement of Scheduled Ancient Monument Consent granted by the Secretary of State for Culture, Media and Sport on 14th July 2015 (Historic England reference S00111784).

The watching brief commenced and finished on the 5th August 2015. The excavation of the 11.00m long and up to 0.50m deep trench uncovered no significant archaeological remains. The single possible observed feature, a poorly defined undated cut, is almost certainly modern, given its proximity to the existing electricity poles and other areas of recent disturbance.

1 INTRODUCTION

- 1.1 In May 2015, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Mr Peter Dale of Babcock International, on behalf of Northern Powergrid, to undertake a programme of archaeological observation, investigation and recording (a watching brief) during groundworks associated with electricity earthing works in part of a field formerly containing the Octagon Smelting Mill complex, north-west of the CB Yard in Arkengarthdale, North Yorkshire (NGR NY 9963 0353 centred).
- 1.2 The majority of the field is a Scheduled Monument (SM 28902; National Heritage List for England entry 1015854), and the archaeological work was undertaken in compliance with a Scheduled Ancient Monument Consent granted by the Secretary of State for Culture, Media and Sport on 14th July 2015, following advice from Historic England (HE reference S00111784). The work was funded by Northern Powergrid.

2 BACKGROUND INFORMATION

Site Location

- 2.1 The field in which the electricity earthing works took place includes the core of the former Octagon Mill smelting mill complex, together with parts of its associated flue, transport and water supply system, and also the Smelt Mill Level to the north; these sites are now predominantly represented by earthworks (see figures 1 and 3). The field lies on the north side of the unclassified road running through Arkengarthdale, between Reeth and Tan Hill, and runs down as far as the Arkle Beck; it is used as rough pasture for grazing sheep. The majority of the boundaries of the field are marked by drystone walls in varying states of repair, with some post and wire fencing. Small areas of the field are unvegetated due either to the toxicity of waste or through previous disturbance.

Archaeological Background

- 2.2 The Octagon Mill complex has been described by Gill (2004, 108-111), Raistrick (1975) and Clough (1980, 133-139) (first published in 1962), who produced plans, elevations and sections drawings of the mill in 1949. The mining history of the area has also been covered by Tyson (1995). However, until recently, while much space has been devoted to the mill itself, the associated complex of which it formed part has received far less attention. A detailed measured survey of this complex, including that part of the field where the earthing works watching brief took place, was undertaken by EDAS between October 2012 and March 2013 (Richardson & Dennison, forthcoming).
- 2.3 In summary, the Octagon Mill (a name apparently coined by Robert Clough) was built on land purchased by the lead merchants and lead manufacturers Easterby Hall and Company of Stockton in 1801. Construction started in 1802 and the mill commenced smelting early in 1804. It was of a spectacular, if unusual, octagonal form and contained six hearths, although the internal smelting and blowing arrangements have never been satisfactorily resolved. The mill formed part of an extensive complex of associated structures, including a peat house, trackways, other buildings, and a flue, and it is also likely that parts of the adjacent CB Yard to the east were laid out at the same time. The mill had a short working life, and smelting probably ceased in the early 1820s, the building being replaced by the New Mill on the opposite side of the road. The Octagon Mill and several of its

associated structures apparently remained roofed until the 1840s, but the latter had been subject to extensive demolition by 1857. The mill was used as a timber store for the Arkengarthdale Estate in the late 19th century and during the first part of the 20th century. Its condition appears to have deteriorated during the 1930s, leading to the collapse of part of the roof in 1941. The remainder of the roof was removed in 1944, and the building was demolished piecemeal until by 1955 very little remained standing, although extensive earthworks relating to both the mill and the wider smelting complex still survived.

- 2.4 The electricity earthing works watching brief took place towards the north-east part of the field, at its eastern edge adjacent to two electricity poles, very close to the limit of the Scheduled Monument area (at NGR NY 99733 03582) (see figure 3). To the south, the watching brief area was bounded by a shallow east-west linear depression and parallel bank, with an area of disturbance possibly resulting from the recent erection of another electricity pole, to the east by a drystone wall, and to the west by a leat or watercourse set within a shallow linear depression. The latter was apparently associated with a tailrace from a former saw mill in the adjacent CB Yard. It emerges from beneath a trackway at its southern end, as it is shown to do on maps from 1893 onwards (e.g. Ordnance Survey 25" map sheet 37/5), and runs north as a steep sided linear depression, up to 2m wide and 1m deep. It has a junction with the shallow linear depression noted above, and another with a possible leat entering from the west, and it then broadens and deepens to resemble an erosion gully. Nevertheless, it must still in part be an artificial structure, as it retains a 10m long section of stone lining to the east side. Beyond this lined section, the route of the gully becomes less regular, and it runs into the Arkle Beck over a series of stone outcrops (Richardson & Dennison, forthcoming).

Scheduled Monument Consent

- 2.5 Scheduled Monument Consent (SMC) was granted for the proposed electricity earthing works on 14th July 2015 (Historic England reference S00111784). A number of conditions were attached to the SMC, as follows:
- (i) The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by Historic England. At least 4 weeks' notice (or such shorter period as may be mutually agreed) in writing of the commencement of work shall be given to Dr Keith Emerick, Inspector of Ancient Monuments, Historic England, 37 Tanner Row, York, YO1 6WP 01904 601984, in order that an Historic England representative can inspect and advise on the works and their effect in compliance with this consent.
 - (ii) The specification of work for which consent is granted shall be executed in full.
 - (iii) This consent may only be implemented by Mr Peter Dale, Northern Powergrid.
 - (iv) Where consent is transferable to future owners, Historic England shall be notified of land disposal upon completion of the sale.
 - (v) All those involved in the implementation of the works granted by this consent must be informed by the owner and developer that the land is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas Act 1979 (as amended); the extent of the scheduled monument as set

out in both the scheduled monument description and map; and that the implications of this designation include the requirement to obtain Scheduled Monument Consent for any works to a scheduled monument from the Secretary of State prior to them being undertaken.

- (vi) Equipment and machinery shall not be used or operated in the scheduled area in conditions or in a manner likely to result in damage to the monument or ground disturbance other than that which is expressly authorised in this consent.
- (vii) Any ground disturbance to which this consent relates shall be carried out under the archaeological supervision of a suitably qualified archaeological contractor to be agreed in advance by the Secretary of State (as advised by Historic England) who shall be given at least 2 weeks' notice (or shorter period as may be agreed) in writing of the commencement of work. No works shall commence until the identified contractor has confirmed in writing to Historic England that they are willing and able to undertake the agreed supervision.
- (viii) Excavation of trench shall be restricted to dimensions not exceeding 18m length x 0.6m deep and 0.3m wide.
- (ix) A report on the archaeological recording shall be sent to:
Robert White, Senior Archaeological Conservation Officer, Yorkshire Dales National Park Authority, Yoredale, Bainbridge, Leyburn, DL8 3EL (the National Park Historic Environment Record), and to
Dr Keith Emerick, Inspector of Ancient Monuments, Historic England, 37 Tanner Row, York, YO1 6WP
within 3 months of the completion of the works (or such other period as may be mutually agreed).
- (xi) The contractor shall complete and submit an entry on OASIS (On-line Access to the Index of Archaeological Investigations - <http://oasis.ac.uk/england/>) prior to project completion, and shall deposit any digital project record with the Archaeology Data Service, via the OASIS form, upon completion.

Methodology

- 2.6 The aim of the watching brief was to record and recover information relating to the nature, date, depth, and significance of any archaeological features and deposits which might be affected by the works. The scale and scope of the archaeological fieldwork was determined by guidance published by the Chartered Institute for Archaeologists (CIfA 2014), and following discussions with the local archaeological curator, the Senior Conservation Officer of the Yorkshire Dales National Park Authority (YDNPA).
- 2.7 The watching brief commenced and finished on the 5th August 2015. The single trench that was dug measured a maximum of 11.00m long by on average 0.35m wide and up to a maximum depth of 0.50m below ground level (BGL). The excavation, which was undertaken with a small tracked mini-digger equipped with a 0.40m wide ditching bucket, was subject to direct archaeological monitoring as it was being dug, so that any archaeological deposits that might be uncovered could be immediately identified and recorded. When structures, features or finds of archaeological interest were exposed or disturbed, time was allowed for the archaeologist to clean, assess, and quickly hand excavate, sample and record the

archaeological remains, as necessary and appropriate according to the nature of the remains, to allow the archaeological material to be sufficiently characterised.

- 2.8 A written, drawn and photographic record of all deposits and material revealed during the course of the excavations was made. The position of the excavated trench was marked on a general site plan at a scale of 1:500 which, given the nature of the evidence revealed (see below), was considered sufficient to show all areas of ground disturbance. Prior to the start of work, the ground surface was set at c.285m AOD at the south end of the watching brief area; this height was calculated from a temporary benchmark previously established by EDAS during their earthwork survey of the Octagon Mill complex. No finds or artefacts were recovered from the excavations.
- 2.9 Following standard archaeological procedures, each discrete stratigraphic entity (e.g. a cut, fill or layer) was assigned an individual context number and detailed information was recorded on *pro forma* context sheets. A total of five archaeological contexts were recorded; deposits or layers are identified by the use of round brackets while cuts are signified by square brackets. In-house recording and quality control procedures ensured that all recorded information was cross-referenced as appropriate. A photographic record was also maintained using a digital camera with 12 mega-pixel resolution.
- 2.10 Three copies of the final report were supplied, for distribution to the client, Historic England and the YDNPA Historic Environment Record, in accordance with the conditions of the SMC (see above). Following discussions with the YDNPA's Senior Archaeological Conservation Officer, no archive for the project was deposited with the Historic Environment Record, although site notes, plans and photographs have been retained by EDAS (site code CBY 15).

3 RESULTS FROM THE WATCHING BRIEF

- 3.1 As noted above, the single 11.00m long trench was excavated from the northern of the two electricity poles on the eastern edge of the field, in a north-west direction, running broadly parallel to the drystone wall forming the eastern boundary of the field (see figure 3; plates 1 and 2). Prior to excavation, the ground surface was formed by turf, although there was some modern disturbance to the west of the two electricity poles, possibly due to the recent erection of a new electricity pole also within the scheduled monument (see plate 3).
- 3.2 At the south end of the trench, the ground surface was set at c.285.00m AOD, falling to c.284.20m AOD at the north end. The trench averaged 0.35m wide throughout and was excavated to a maximum depth of 0.50m BGL, so that the base of the north end of the trench was set at 283.70m AOD.
- 3.3 The same sequence of deposits were exposed throughout the entire length of the trench, all running broadly parallel to the ground surface, i.e. sloping down from south to north, and maintaining the same depth throughout the trench. A layer of turf and clean friable dark brown silt topsoil (001) extended to 0.10m BGL. This overlay a mixed deposit of clean compacted dark brown silt and gritty orange sandy-clay (002), which had a maximum thickness of 0.25m. Beneath this was a layer of clean compacted gritty orange sandy clay (003) containing frequent inclusions of angular stone up to 0.30m square. This probable natural deposit continued below the base of the trench.

- 3.4 Between 1.50m-2.50m from the south end of the trench, a possible poorly defined cut [004] was noted, aligned north-east/south-west. It appeared to start immediately beneath the turf and topsoil (001), and it measured 1.00m across the top and 0.35m wide with near vertical sides. The base was poorly defined, but it appeared to be flat, with a maximum depth of c.0.40m. The fill of the cut (005) was formed by a mixture of deposits 002 and 003, possibly with a level layer of smaller angular stones set into the base. The nature of cut was unexplained, but it appeared to be a modern feature. The excavated trench was backfilled immediately after the works were completed, and the turf reinstated (see plates 3 and 4). No artefacts were uncovered by the excavations.

4 DISCUSSION AND CONCLUSIONS

- 4.1 The excavation of the 11.00m long and up to 0.50m deep trench uncovered no significant archaeological remains. The single possible feature observed, a poorly defined undated cut [004], is almost certainly modern, given its proximity to the existing electricity poles and other areas of recent disturbance.

5 BIBLIOGRAPHY

Primary Sources

1893 Ordnance Survey 25" to 1 mile map Yorkshire (North Riding) sheet 37/5 (surveyed 1891)

Secondary Sources

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Gill, M 2004 *Swaledale: its Mines and Smelt Mills*

ClfA (Chartered Institute for Archaeologists) 2014 *Standard and Guidance: Archaeological Watching Brief*

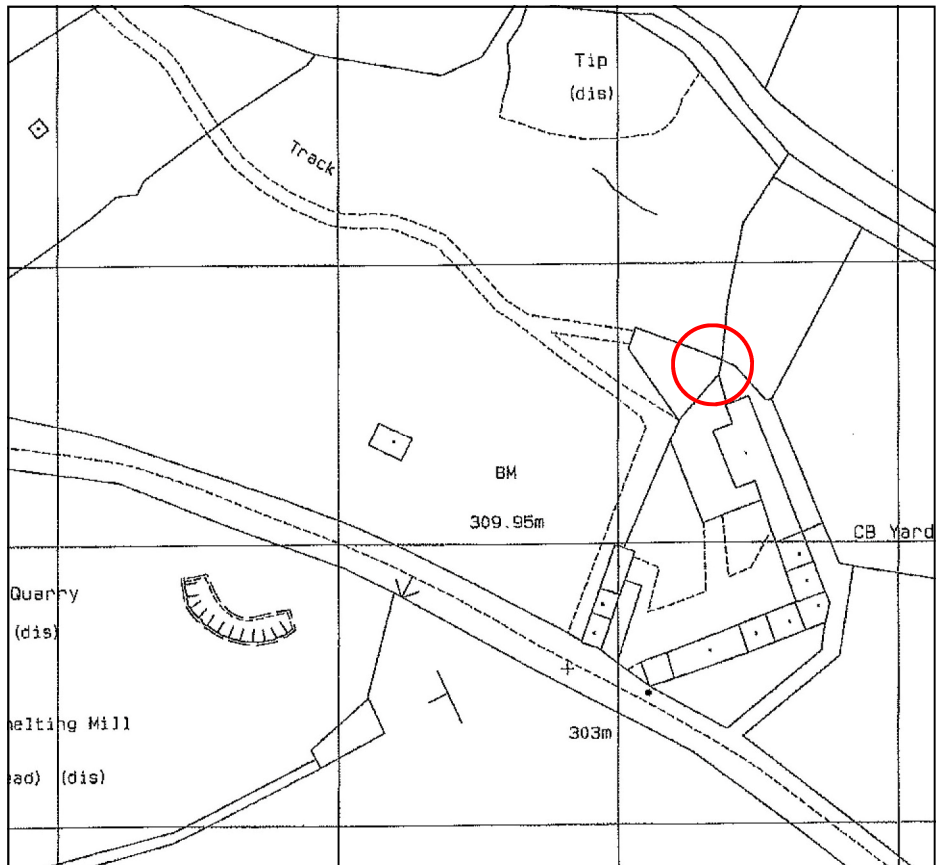
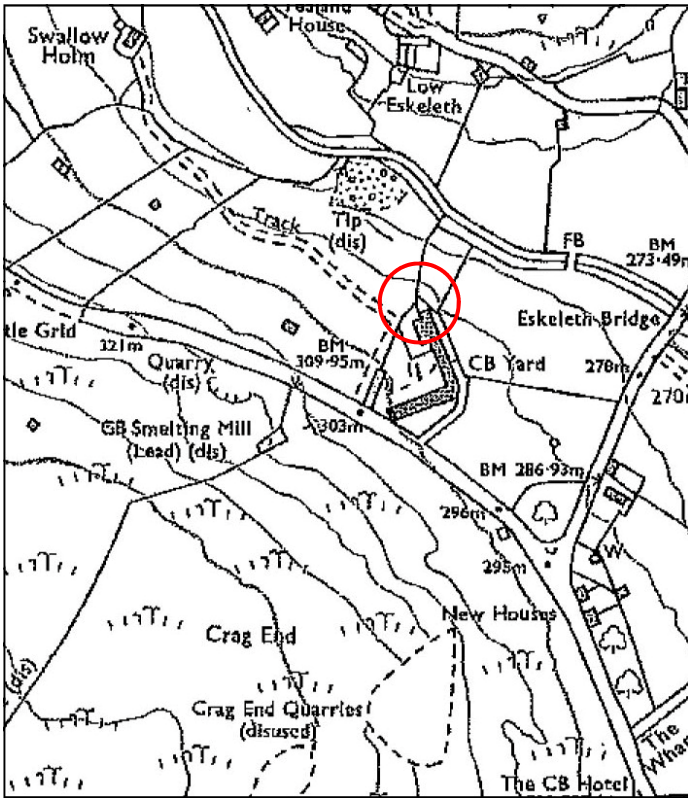
Raistrick, A 1975 *The Lead Industry of Wensleydale and Swaledale: Vol 2 The Smelting Mills*

Richardson, S & Dennison, E (forthcoming) *Archaeological Survey: Octagon Mill Smelting Mill Complex, near Langthwaite, Arkengarthdale, North Yorkshire* (unpublished EDAS archive report for the Yorkshire Dales National Park Authority)

Tyson, L O 1995 'The Arkengarthdale Mines'. *British Mining* no. 53

6 ACKNOWLEDGEMENTS

- 6.1 The archaeological watching brief was commissioned and funded by Northern Powergrid, through Mr Peter Dale of Babcock International. EDAS would like to thank them, the site contractors (Morrison Utility Services) and Robert White of the YDNPA, for their co-operation in carrying out the work.
- 6.2 The site recording was undertaken by Shaun Richardson, and he produced the fieldwork records. Ed Dennison produced the final report and drawings, and the responsibility for any errors or inconsistencies remains with him.

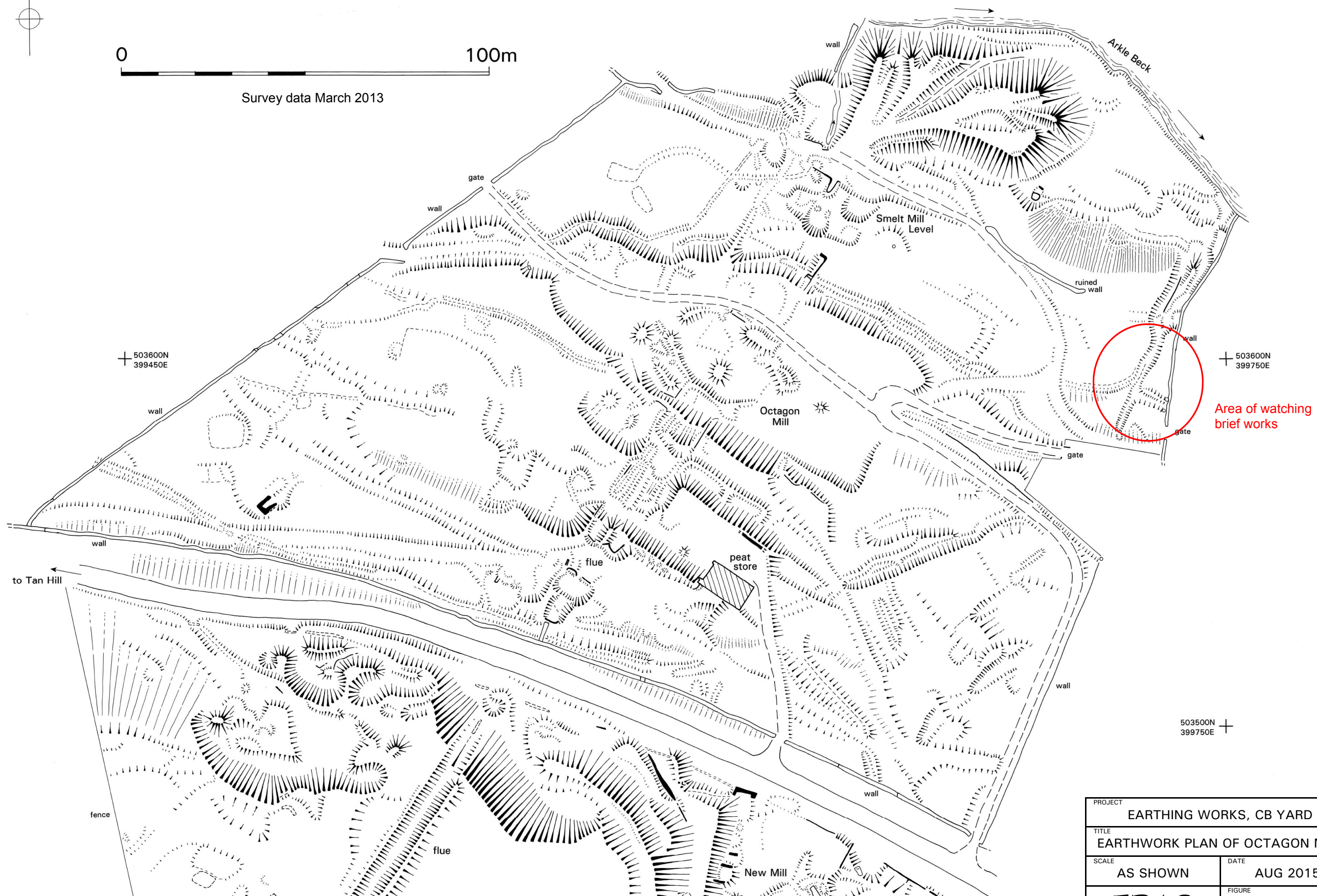


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PROJECT		EARTHING WORKS, CB YARD	
TITLE		SITE LOCATIONS	
SCALE	NTS	DATE	AUG 2015
EDAS		FIGURE	1



Survey data March 2013



503600N
399450E

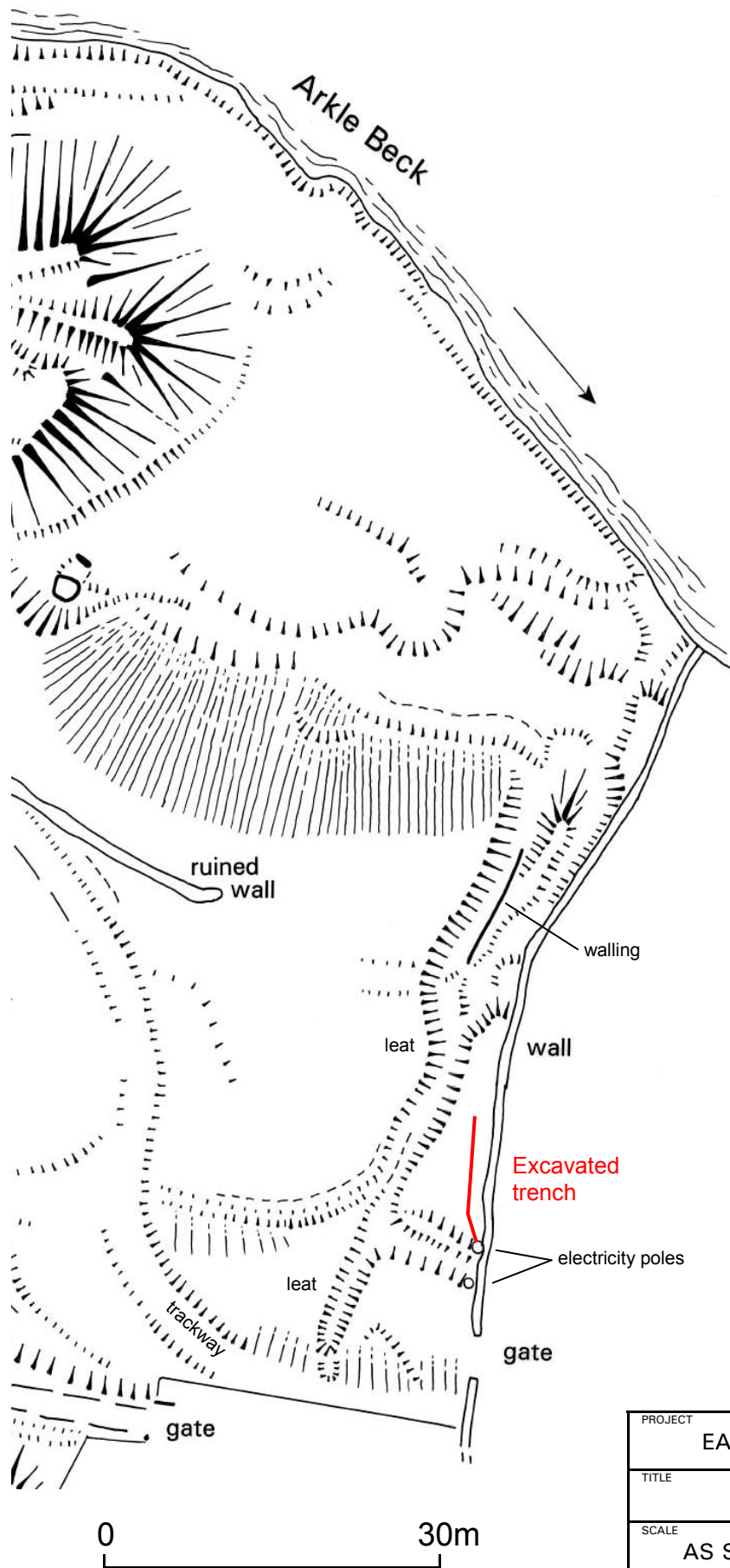
503600N
399750E

Area of watching
brief works

503500N
399750E

to Tan Hill

PROJECT		EARTHING WORKS, CB YARD	
TITLE		EARTHWORK PLAN OF OCTAGON MILL	
SCALE	AS SHOWN	DATE	AUG 2015
EDAS		FIGURE	2



PROJECT		EARTHING WORKS, CB YARD	
TITLE		TRENCH LOCATION	
SCALE	AS SHOWN	DATE	AUG 2015
EDAS		FIGURE	3



Plate 1: South end of trench after excavation, looking S.



Plate 2: North end of trench under excavation, looking N.



Plate 3: South end of trench after reinstatement, looking S.



Plate 4: North end of trench after reinstatement, looking N.

APPENDIX 1: LIST OF CONTEXTS

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<i>Context</i>	<i>Description and Interpretation</i>	<i>Area of Site</i>
001	Clean friable dark brown silty soil , 0.10m thick - topsoil with turf.	All
002	Clean, compacted mixed dark brown silt with gritty orange sandy-clay, 0.25m thick - subsoil.	All
003	Clean, compacted gritty orange sandy clay containing frequent inclusions of angular stone up to 0.30m square, at least 0.15m thick - natural.	All
004	Cut, 1.00m long and 0.35m wide with near vertical straight sides, flat poorly defined base, c.0.40m deep - probably modern feature.	1.50m-2.50m from the S end of trench
005	Fill of 004, composed of mixed 002 and 003, with possible level layer of smaller angular stones set into the base.	1.50m-2.50m from the S end of trench