Betteshanger Colliery Deal **Kent**



Archaeological Evaluation Report



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SEEDA

Betteshanger Colliery Deal Kent

NGR: TR 337 531

ARCHAEOLOGICAL EVALUATION

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SUMMARY

Oxford Archaeology (OA) carried out a field evaluation at Betteshanger Colliery, Deal, Kent on behalf of SEEDA.. The evaluation revealed a number of structures associated with the former colliery, including sinkers buildings, but no earlier features were identified.

1 INTRODUCTION

1.1 Location, planning background and scope of work

- 1.1.1 Between 28th July and 5th August 2003, Oxford Archaeology (OA) carried out a field evaluation at Betteshanger Colliery, Deal, Kent. The work was carried out on behalf of South East England Development Agency (SEEDA) in advance of the redevelopment of the site.
- 1.1.2 Planning permission for the regeneration of Betteshanger Colliery has been granted by Dover District Council. The regeneration project will comprise the construction of business units on the former colliery site, the development of the former spoil tip area to the east for education, arts and sport facilities, and the construction of a new roundabout junction along the existing A258 road, which will provide access between the two areas.
- 1.1.3 An Environmental Impact Assessment (EIA) was produced as part of the planning application. A chapter on Cultural Heritage (OA 2002) was produced by OA for Chris Blanford Associates and included in the EIA. This concluded that the site did have some archaeological potential, though the impact of the development on any archaeology was uncertain. Therefore a condition for a programme of archaeological evaluation followed by further mitigation measures was attached to the permission on advice from Kent County Council Heritage Conservation Group. The condition states;

No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of:

- i. archaeological field works in accordance with a specification and written timetable which has been submitted to and approved by the Local Planing Authority; and
- ii. following on from the evaluation, any safeguarding measures to ensure preservation in situ of important archaeological remains and/or further archaeological investigation and recording in accordance with a specification and timetable which has been submitted to and approved by the Local Planning Authority.
- 1.1.4 This is in line with PPG 16 and Local Planning Policy.
- 1.1.5 Oxford Archaeology were appointed by SEEDA as the Archaeological Contractor responsible for mitigation of the condition and produced a project design for

archaeological evaluation (OA 2003) which was approved by Simon Mason in his capacity as County Archaeological Officer.

1.2 Geology and topography

1.2.1 The site lies on the west side of a valley formed by the North Stream. The bottom of the valley is at c. 4 m OD, rising to c. 23 m OD in the area of the pithead. The geology is Upper Chalk overlain in places by Head Brickearth. The geology is overlain by modern made ground, which varies from 2m - 10 m in depth.

1.3 Archaeological and historical background

- 1.3.1 A comprehensive study of the archaeological and historical background of the site was included in the Cultural Heritage chapter of the EIA (OA 2002). A summary of the findings is included below, but the EIA should be read in conjunction with this document.
- 1.3.2 The EIA identified five known archaeological sites within the former Colliery site ('Area A' of the proposed development). They comprise: pits of an uncertain nature/date discovered during construction of the colliery, the site of the colliery itself, a possible road and park features associated with Northbourne Court and the remains of a ring ditch (the possible remains of a ploughed-out Bronze Age round barrow).
- 1.3.3 Three known archaeological sites were identified within the former Colliery spoil tip ('Area B' of the proposed development). They comprise: the site of a sheepwash and sluice shown in 1840, the cropmark of a small enclosure of uncertain date and nature and the extant remains of the colliery railway sidings (within the area of the former spoil tip).
- 1.3.4 A single known archaeological site was identified within the area of the proposed Roundabout Junction. The site comprises cropmarks of two ring ditches and a curvilinear enclosure visible on air photographs (possibly within the footprint of the proposed new roundabout).
- 1.3.5 In addition to the potential impacts on known sites, the whole of the proposed development lies within an area of high archaeological potential for prehistoric, Roman, later medieval and post-medieval archaeology. Any development within these areas can be considered to be a high risk in terms of having an impact upon hitherto unrecorded archaeology.
- 1.3.6 No operation/indirect impacts have been identified on any Cultural Heritage receptors within the areas of proposed development or surrounding study area, including a nearby Registered Park, Scheduled Monument, Conservation Area and a number of Listed Buildings.

2 EVALUATION AIMS

- 2.1.1 The aims of the evaluation, as specified in the Project Design (OA 2003) were:
 - To determine the presence or absence of archaeological remains.

- To determine and confirm the approximate date or date range of any remains, by means of artefactual or other evidence.
- To determine or confirm the approximate extent of any remains.
- To determine the condition and state of preservation of any remains.
- To determine the degree of complexity of the horizontal and/or vertical stratigraphy present.
- To determine or confirm the likely range, quality and quantity of any artefactual evidence present.
- To determine the potential for palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present.
- To make available the results of the investigation.

3 EVALUATION METHODOLOGY

3.1 Scope of fieldwork

- 3.1.1 The area of the evaluation was the former pithead area of the colliery, where a number of terraces are to be created on which structures will be built. The ground level in this area had been substantially made up during the working of the colliery by the deposition of up to 10 m of made ground. The results of a borehole survey carried out by Peter Brett Associates enabled a deposit model to be created showing where the terracing would impact on the original ground level. The areas of investigation thus defined were designated Ai, Aii and Aiii, and trenches were positioned to provide a 5% sample of each of them. Figure 6 shows the borehole data and transect information, which defined the areas of impact. Figure 2 shows the defined impact areas and trench locations.
- 3.1.2 The results of the borehole survey indicated that in areas Ai and Aiii the natural geology should be less than 2 m below the current ground level. In these locations Trenches 1 and 5 were excavated measuring 30 m and 15 m long respectively, and 2 m wide.
- 3.1.3 Area Aii, containing Trenches 2, 3 and 4,was shown by the borehole survey to be overlain by made ground approximately 4 m deep. In advance of excavating each of these trenches, a test pit was dug in order to ascertain whether the natural geology had been truncated prior to the deposition of the made ground. Such truncation would be signalled by the absence of a buried topsoil sealed beneath the made ground, and would indicate that further trenching was unnecessary due to the destruction of any archaeology formerly present. In the event, the results from the test pits were inconclusive due to the possibility that any buried topsoil may have been compressed or contaminated by the made ground. Excavation of evaluation trenches 30 m long therefore proceeded in these locations, the initial test pits being incorporated into the trenches. The depth of Trenches 3 and 4 necessitated battering the trench sides for health and safety reasons.
- 3.1.4 The presence of a number of former service roads and concrete platforms on which colliery buildings had stood placed restrictions on the positioning of the trenches, and necessitated moving Trenches 2, 3 and 4 from their proposed locations (OA 2003) to the positions shown on Fig. 2.

3.1.5 In each trench the overburden was removed down to the first archaeological horizon under close archaeological supervision using a 360° mechanical excavator fitted with a toothless bucket.

3.2 Fieldwork methods and recording

3.2.1 The trenches were cleaned by hand and the revealed features were sampled to determine their extent and nature, and to retrieve finds and environmental samples. A plan was drawn of each trench at a scale of 1:50, and each excavated feature was recorded in section at 1:20. Colour transparency and black-and-white photographs were taken of each feature, as well as more general shots of each trench. All recording was conducted in accordance with the practices detailed in the OA Fieldwork Manual (OAU 1992).

3.3 Finds

3.3.1 No finds were recovered in the evaluation.

3.4 Palaeo-environmental evidence

3.4.1 No deposits suitable for palaeo-environmental sampling were encountered in the evaluation.

3.5 Presentation of results

3.5.1 The stratigraphy encountered in each trench is described individually below, followed by a discussion of the results. Plans and sections are illustrated at the back of the report.

4 RESULTS: GENERAL

4.1 Soils and ground conditions

4.1.1 The site is located on chalk, overlain in Trenches 2, 4 and 5 by brickearth. Made ground was encountered in all trenches, and was particularly deep in trenches 2 and 3. The loose, unstable nature of this material made the excavation of stepped trenches impossible and necessitated the battering of the trench sides instead.

5 RESULTS: DESCRIPTIONS

5.1 Description of deposits

Area Ai, Trench 1 (not illustrated)

- 5.1.1 Area Ai was a generally level area at the foot of the slope formed by the made ground, and had formerly been occupied by the colliery's mineral railway. A single trench, Trench 1, was excavated in this area. It was moved to the north-east of its originally proposed location in order to avoid a service pipe known to pass through this area.
- 5.1.2 Undisturbed natural chalk (101) was exposed at 10 28 m OD, 0.72 m below the current ground level, and overlain at the south-west end of the trench by an orange

silty clay brickearth (102). Throughout the trench, the natural geology was overlain by a deposit of burnt shale (103) 0.3 m thick, which seemed to serve as a make-up layer for a gravel surface (104) 0.1 m thick. This surface is likely to be associated with the use of the area for the mineral railway. The gravel surface was sealed by a layer of made ground up to 0.6 m thick, which is likely to be the result of levelling after the railway had gone out of use.

Area Aii, Trenches 2,3 and 4

- 5.1.3 This was an area of level ground where pithead buildings and related structures had formerly stood. The borehole survey had indicated that there was approximately 4 m of made ground in this area. A number of former service roads and concrete building platforms were still *in situ*, restricting the possible locations for trenches and necessitating the moving of all three trenches in this area from the locations proposed in the WSI to those shown on Fig. 2.
- 5.1.4 Trench 2 (not illustrated) was located at the north-east end of area Aii, aligned north-west to south-east. Natural geology was encountered at 18.73 m OD at the north-west end, sloping gently down to 17.85 m OD at the south-east. The geology comprised chalk (203) at the south-east end of the trench, overlain for most of the extent of the trench by brickearth (202). This was overlain by a layer of made ground (201) 4.5 m thick and composed of blocks of shale and other mining waste.
- 5.1.5 The proposed location for Trench 3 was in the middle of area Aii, but the presence of a concrete platform occupying this area made it necessary to relocate the trench to the south-east edge of the area under investigation. Excavation revealed natural chalk (301) at the south-west end of the trench at 21.3 m OD, 1.5 m below the current ground level. Undulations in the surface of the chalk were filled by patches of greensand (304). In the north-east half of the trench the chalk dropped away sharply to 17 m OD before starting to level off at the end of the trench. This is probably the original slope of the side of the valley prior to the deposition of the made ground, which now covers the area. The made ground at this point comprised of two distinct layers. The lower part (302) was fairly compact mining waste 3.75 m thick, and exhibiting distinct tip-lines suggestive of the tipping of material down the valley side. The upper part (303) was 1.5 m thick and consisted entirely of large pieces of mudstone up to 0.5 m across.
- 5.1.6 Trench 4 was excavated at the south-west end of area Aii, a short distance from Trench 3 and on the same north-east to south-west orientation. Modern overburden was removed, revealing undisturbed natural chalk (403) at a depth of 0.86 m at 22.04 m OD. This was overlain at the south-west end of the trench by a layer of brickearth (402) 0.25 m thick.
- 5.1.7 The earliest feature encountered was a large pit (413) toward the south-west end of the trench. This feature was 4.6 m wide, extending beyond the limits of the trench, and was excavated by machine to a depth of 2.25 m. It was filled by very compact redeposited chalk and clay (412) with lenses of ash and occasional brick fragments. Its function is uncertain.

- 5.1.8 Structure 411 was cut into the top of pit 413. This was a rectilinear concrete structure which extended to the south-east beyond the limits of the trench. It consisted of walls 0.3 m thick and 1.0 m high with an off-set of 0.2 m wide at ground level. The structure sloped downward to the south-east, and had a creeper chain mounted on the inside of the south-west wall, used to draw skips up slopes. This would suggest that the structure is the top end of a ramp for moving spoil.
- 5.1.9 A concrete stanchion (409) 1.2 m by 1.15 m with vertical iron rods projecting from its upper surface was located immediately adjacent to structure 411, and may have supported a piece of heavy machinery associated with it.
- 5.1.10 At the north-east end of the trench was a concrete bund (405) aligned east-west which formerly contained a conveyor belt. The bund was 6.0 m wide and consisted of a concrete surface flanked by side walls 0.32 m high and 0.42 m wide. It sloped down toward the west, where it had passed beneath a north-south conveyor beyond the trench. Worn patches were visible in the concrete surface where the legs supporting the conveyor had stood.
- 5.1.11 Between concrete structures 405 and 411 lay pit 408. The pit was 2.0 m in diameter and was filled by a dark sandy deposit (407) containing pieces of shale and brick fragments.
- 5.1.12 At the south-west end of the trench was a cut (415) 0.65 m deep and at least 5 m wide, filled with modern demolition rubble (414). This feature is likely to be associated with the demolition of the pithead structures, perhaps resulting from the grubbing out of foundations.
- 5.1.13 When the pithead buildings were demolished, structures 405 and 411 were back-filled with brick rubble (404 and 410). The entire area was then covered by a levelling layer (401) 0.9 m thick.

Area Aiii, Trench 5

- 5.1.14 Area Aiii was a flat area used as a car park until recently, and currently overgrown with grass. Trench 5, the only trench in this area, this trench measured 15 m long and 1.9 m deep and was oriented north-east to south-west.
- 5.1.15 Undisturbed natural brickearth (501) was encountered at 21.17 m. Along the southeast side of the trench the brickearth was overlain by a layer of greyish brown sandy silt 0.1 m thick interpreted as the remains of a buried topsoil (516). This layer was cut by the footings for two rectilinear buildings (502 and 503). Structure 502 lay on the same north-east to south-west orientation as the trench. The full dimensions of the building were not exposed within the trench. It was represented by concrete foundations extending from north-east to south-west for 10.2 m before returning toward north-west and continuing beyond the limits of the trench. The foundations were 0.25 m wide and 0.24 m deep, made from a dark red concrete containing a high proportion of brick fragments and set in a construction cut (512) 0.4 m wide. The concrete foundation supported a horizontal timber (515), while slots were cut into its upper surface at intervals of 1.5 m to hold timber uprights. A line of pre-formed concrete blocks (514) in the same material as the foundation lay alongside it. The blocks measured 0.25 m x 0.25 m x 0.20 m and through the centre of each was a

- square-sectioned hole 50 70 mm across. They did not appear to be in situ, but the similarity of their construction indicates that they were part of building 502. Within the structure were two rectangular features (524 and 525) which probably held postpads or supports for the floor.
- 5.1.16 Building 503 lay on the same alignment as 502 and was made from the same red concrete. Less of this structure was exposed within the trench, its revealed dimensions being 6 m north-east to south-west by 3 m wide. Three rectangular features which originally held internal supports (521, 522 and 523) formed an alignment parallel to the main axis of the building. The building had been accessed by means of a set of three concrete steps (510) on the north-east side, at the foot of which was the remains of a crushed brick path (511).
- 5.1.17 Pit 519 was located between the two buildings. It was square in plan and 1.25 m wide, with a fill containing many broken bricks, and concrete; it may have been a soakaway associated with one or both of the adjacent buildings.
- 5.1.18 These structures and features were sealed by a layer of very loose made ground (509) consisting of mining waste and refuse 1.1 m thick, overlain by a possible clinker surface 0.16 m thick. A layer of made ground (507) 0.13 m thick separated this from a gravel surface (506), which was buried beneath another, more compacted layer of made ground (505). Overlying this was the most recent surface, a layer of brick hardcore laid down for use as a car park.

6 DISCUSSION AND INTERPRETATION

- 6.1.1 The evaluation uncovered no evidence for activity pre-dating the construction of the colliery pithead structures in the area under investigation. The presence of brickearth preserved in four of the five trenches indicates that no general substantial truncation occurred during the construction of the pithead, suggesting that archaeological features are genuinely absent from this area rather than destroyed during the construction process.
- 6.1.2 Trench 3 uncovered the original profile of the valley side, which is now submerged beneath dumps of mining waste.
- 6.1.3 The concrete structures recorded in Trench 4 date to the period of use of the mine and clearly relate to the movement of excavated materials around the site using conveyor belts and skips.
- 6.1.4 The structures uncovered in Trench 5 are believed to be the sinkers' buildings, occupied during the sinking of the mine shafts and then buried beneath made ground after they had become redundant.

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

Trench 1

Ctxt No.	Type	Width (m)	Thick (m)	Comments
101	Layer			Chalk
102	Layer		0.2	Brickearth
103	Layer		0.3	Burnt shale
104	Layer		0.1	Gravel surface
105	Layer		0.6	Made ground

Trench 2

Ctxt No.	Type	Width (m)	Thick (m)	Comments
201	Layer		4.5	Made ground
202	Layer			Brickearth
203	Layer			Chalk

Trench 3

Ctxt No.	Type	Width (m)	Thick (m)	Comments
301	Layer	7 7 6		Chalk
302	Layer		3.75	Made ground
303	Layer		1.5	Made ground
304	Layer			Greensand

Trench 4

Ctxt No.	Туре	Width (m)	Thick (m)	Comments
401	Layer		0.9	Made ground
402	Layer		0.25	Brickearth
403	Layer			Chalk
404	Layer	5.0	0.35	Rubble dump
405	Structure	6.0	>0.4	Bund for
				conveyor belt
406	Void			
407	Fill	2 x >1		Fill of pit 408
408	Cut	2 x >1		Pit
409	Structure	1.2 x	>0.15	Concrete
		1.15		stanchion
410	Layer	3.1 x >2.4	0.85	Rubble dump
411	Structure	3.6 x	1.05	Concrete ramp
412	F:11	>2.8	2.25	T:11 - C - 14 41 2
412	Fill	4.6	2.25	Fill of pit 413
413	Cut	4.6	2.25	Pit
414	Fill	5.0	0.65	Fill of 415
415	Cut	5.0	0.65	Pit

Trench 5

Ctxt No.	Type	Width	Thick	Comments
		(m)	(m)	
501	Layer			Brickearth
502	Masonry	0.25	0.24	Foundation
503	Masonry	0.25	0.32	Foundation
504	Layer		0.18	Hardcore surface
505	Layer		0.33	Made ground
506	Layer		0.05	Gravel surface
507	Layer		0.13	Made ground
508	Layer		0.16	Made ground
509	Layer		1.1	Made ground
510	Structure	0.9 x 0.7	0.42	Steps
511	Layer	0.6		Path surface
512	Cut	13 x	0.1	Construction cut
		0.35		for 502
513	Fill	0.35	0.1	Back-fill of 512
514				
515	Timber	0.15		Timber beam
516	Deposit		0.1	Buried topsoil
517	Cut		0.14	Construction cut for 503
518	Fill		0.14	Back-fill of 517
519	Cut	1.25 x 1.1		Pit/ soakaway
520	Fill	1.25 x 1.1		Fill of 519
521	Cut	0.35 x 0.3	0.06	Cut for post pad
522	Cut	0.65 x 0.55	0.08	Cut for post pad
523	Cut	0.4 x 0.3	0.05	Cut for post pad
524	Cut	0.4 x 0.3	0.05	Cut for post pad
525	Cut	0.35 x 0.3	0.06	Cut for post pad

APPENDIX 2 BIBLIOGRAPHY AND REFERENCES

OA 2002	Betteshanger Colliery, Deal, Kent, Environmental Impact Assessment
OA 2003	Project Design for an Evaluation at Betteshanger Colliery
OAU 1992	OA Fieldwork Manual

APPENDIX 3 SUMMARY OF SITE DETAILS

Site name: Betteshanger Colliery

Site code: NOBC 03

Grid reference: TR 337 531

Type of evaluation: Four 30 m trenches and one 15 m trench

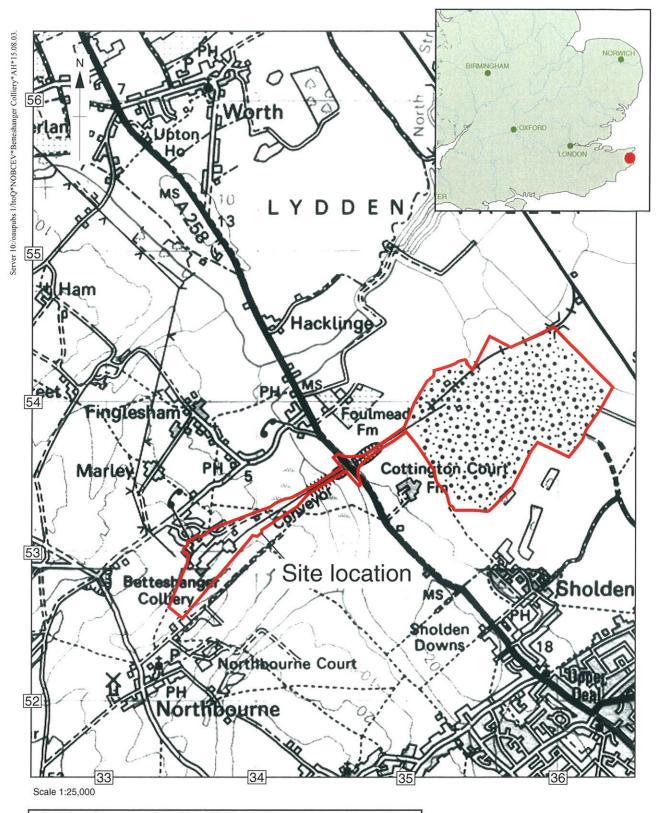
Date and duration of project: 28/7/2003 - 5/8/2003

Summary of results: . The evaluation revealed a number of structures associated with the

former colliery, but no earlier features were identified.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead,

Oxford, OX2 0ES, and will be deposited with Dover Museum in due course.



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Figure 1: Site location

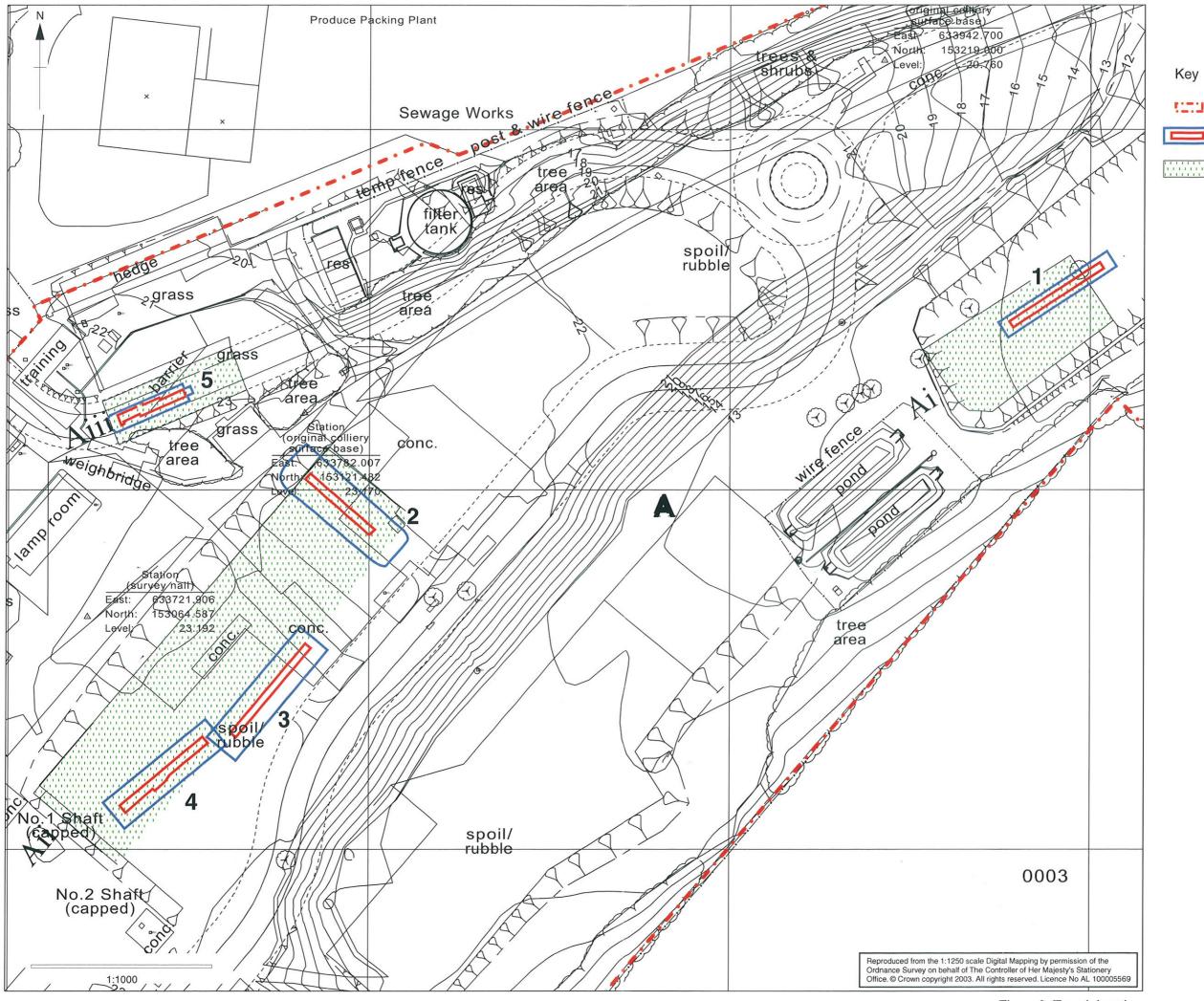


Figure 2: Trench location

Site boundary

Evaluation trench

Area of investigation

24.33 m

SW

301

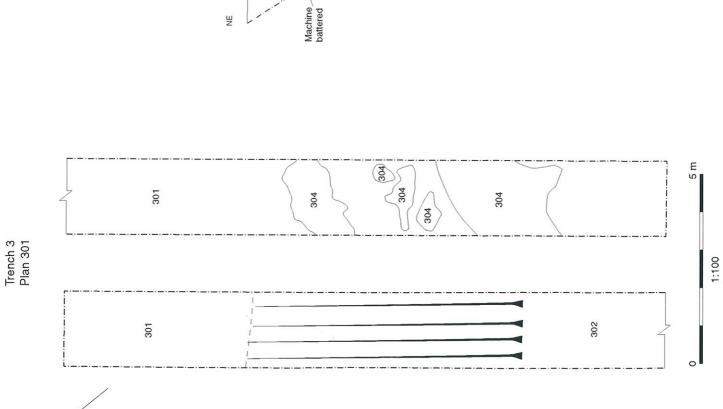
301

302

303

303

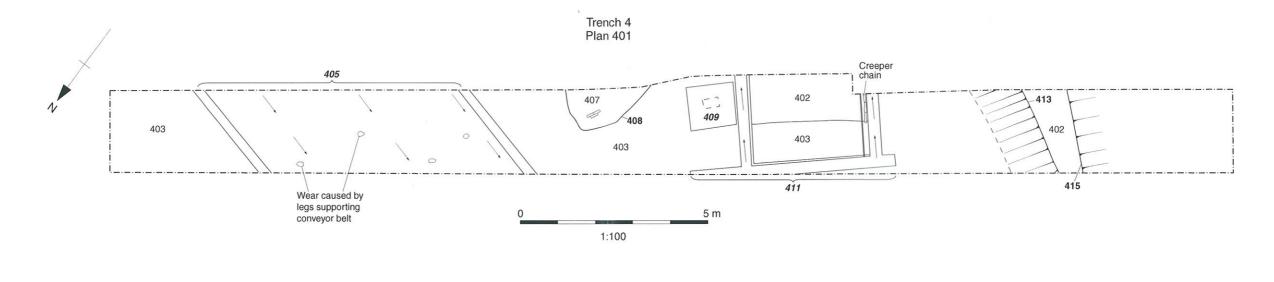
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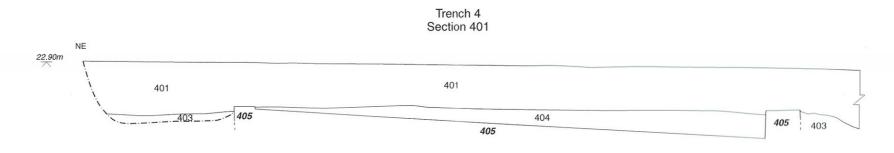


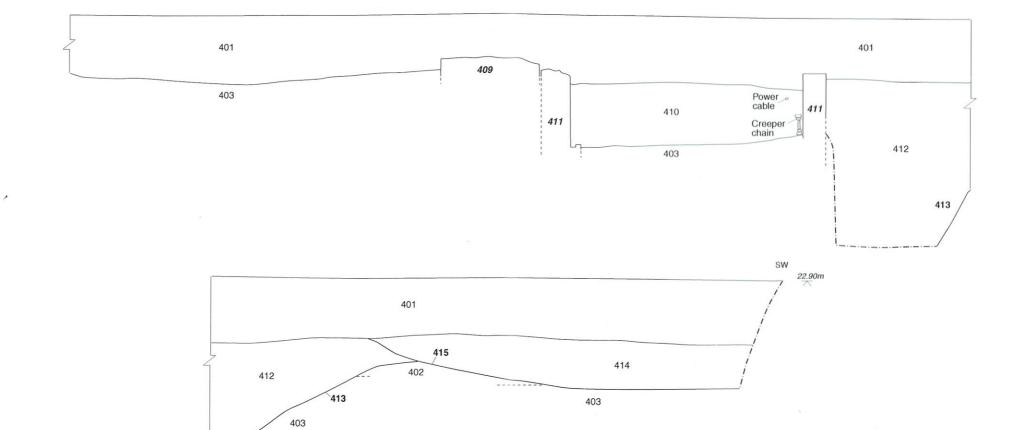
10 m

1:200

Figure 3: Trench 3, plan and section

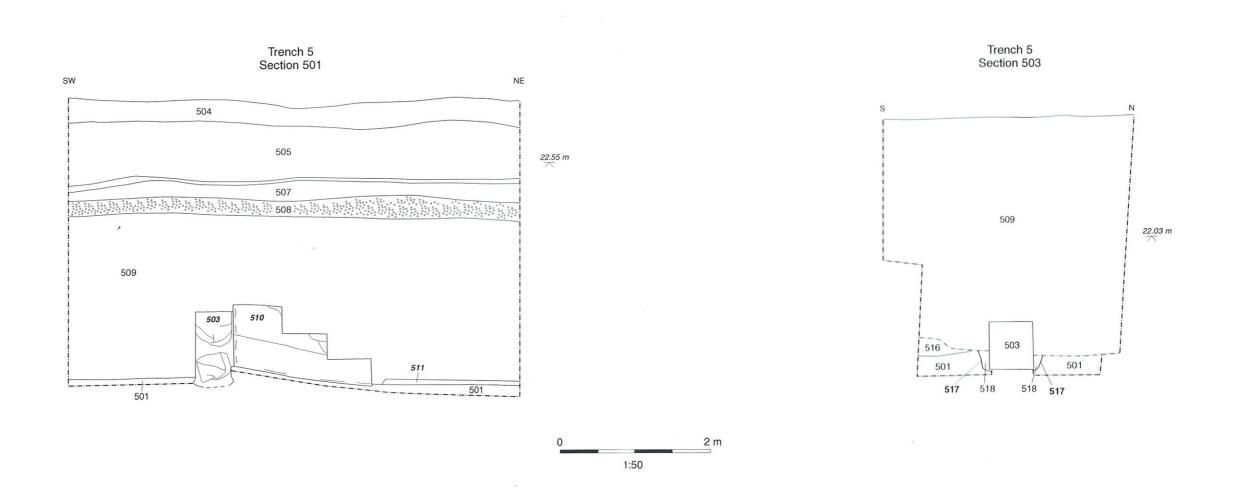






1:50 Figure 4: Trench 4, plan and section

5 m



1:100

Figure 5: Trench 5, plan and sections

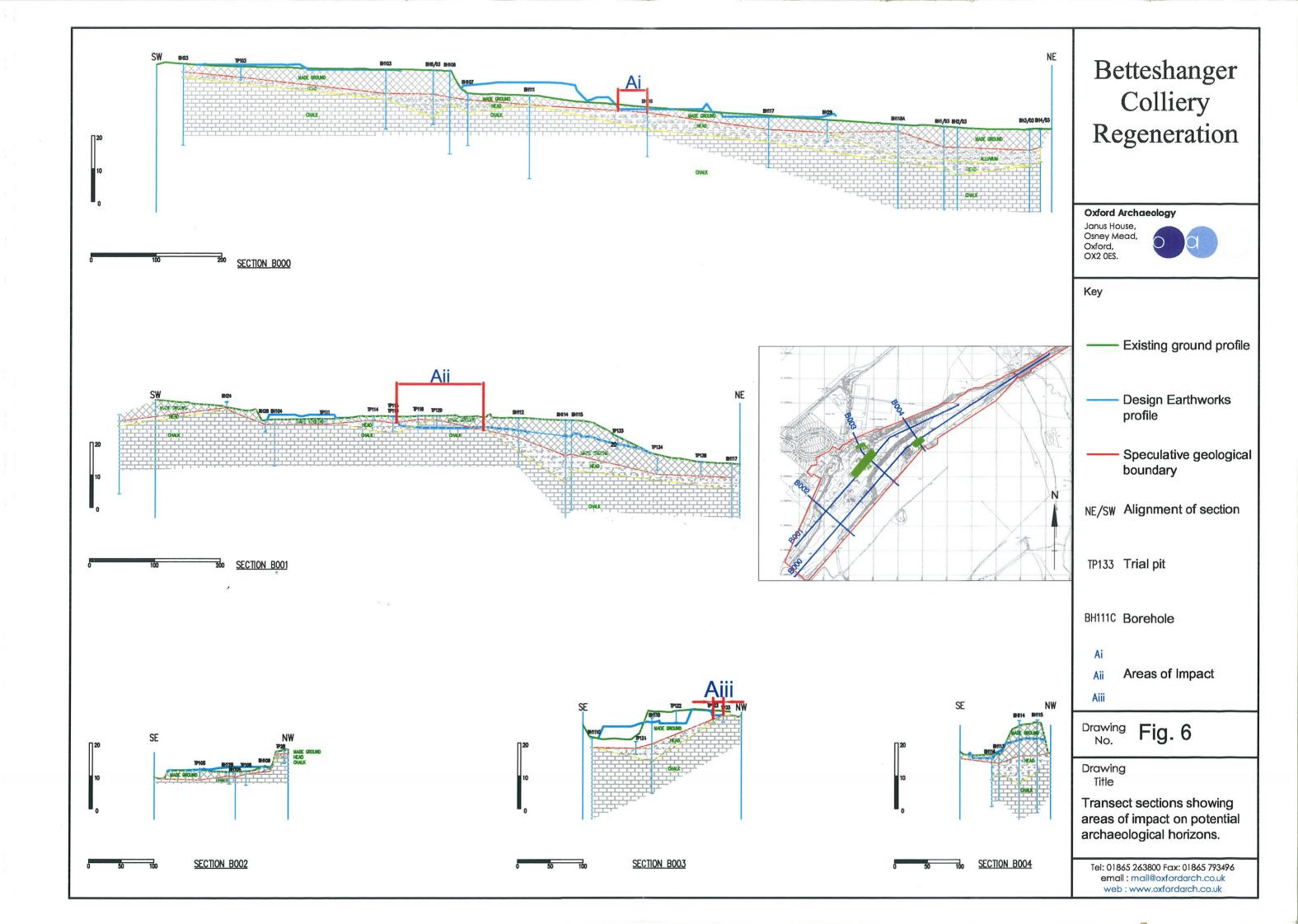


Trench 5: 'Sinkers Buildings,' view to northwest



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Trench 5: 'Sinkers Buildings,' view to southeast





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