

BLON13/002



BRENKLEY ADDITIONAL SURFACE MINE, NEWCASTLE

Trial Trenching

commissioned by Banks Mining

July 2013

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Project Manager

Edward Bailey

Author

Kirsty Dingwall

Fieldwork

Kirsty Dingwall

Graphics

Caroline Norrman

Specialists

Dr Tim Holden – Environmental

Julie Franklin – Finds

Approved by

Edward Bailey – Project Manager



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**Headland Archaeology
North East**

13 Jane Street
Edinburgh EH6 5HE

0131 467 7705

northeast@headlandarchaeology.com

www.headlandarchaeology.com



CONTENTS

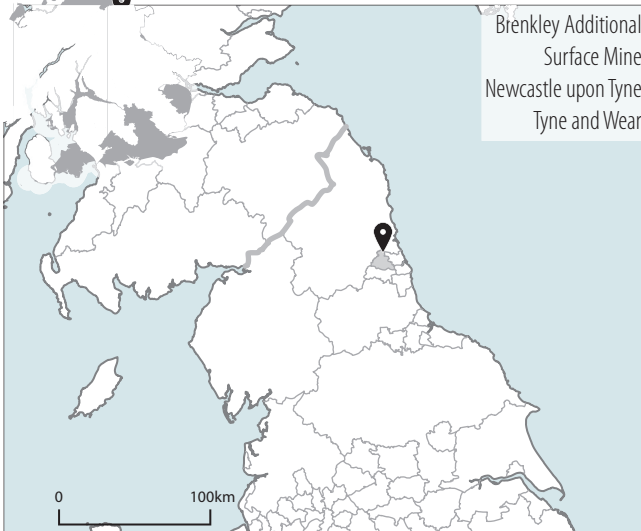
1	INTRODUCTION	1
2	SITE LOCATION (ILLUS 1)	1
3	ARCHAEOLOGICAL BACKGROUND	1
4	OBJECTIVES	2
5	METHODOLOGY	2
6	RESULTS	2
	6.1 Environmental analysis	3
	6.1.1 Method	3
	6.1.2 Discussion	3
	6.2 Finds assessment	3
7	CONCLUSION	4
8	REFERENCES	4
9	APPENDICES	5
	Appendix 1 Site registers	5
	Appendix 1.1 Trench register	5
	Appendix 1.2 Context register	5
	Appendix 1.3 Photographic register	5
	Appendix 1.4 Sample register	5

LIST OF ILLUSTRATIONS

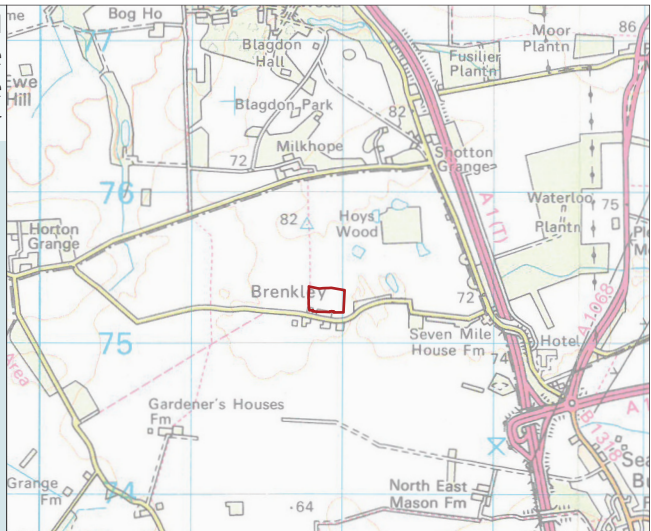
<i>Illus 1</i>		viii
	<i>Site location</i>	
<i>Illus 2</i>		2
	<i>Plan and W-facing section of Trench 1</i>	
<i>Illus 3</i>		3
	<i>General shot of ditch [003] under excavation</i>	
<i>Illus 4</i>		3
	<i>N-facing section of ditch [003]</i>	




LIST OF TABLES

<i>Table 1</i>		3
	<i>Environmental results</i>	
<i>Table 2</i>		3
	<i>Pottery catalogue</i>	



Brenkley Additional
Surface Mine
Newcastle upon Tyne
Tyne and Wear



-  site boundary
-  trench
-  geophysical anomalies

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Illus 1

Site location

BRENKLEY ADDITIONAL SURFACE MINE, NEWCASTLE

Trial Trenching

Prior to the submission of a planning application for Brenkley Additional Surface Mine, Banks Mining commissioned a programme of archaeological trial trenching. The trial trenching targeted features previously identified through geophysical survey, however none were seen to be archaeological in origin. A single ditch in the north-east of the site was recorded during the evaluation, but was not picked up during the geophysical survey. No dating evidence was recovered from the feature but it is thought to be late Iron Age in date, relating to a probable Iron Age settlement immediately to the north. Extensive evidence of the upstanding remains of medieval ridge and furrow was seen in all trenches and across the whole field.

1 INTRODUCTION

A programme of trial trenching was undertaken in advance of Brenkley Additional Surface Mine, Tyne and Wear. The work was undertaken for Banks Mining. The work was undertaken as a requirement of the Tyne and Wear Archaeology Officer who advises Newcastle County Council. The trench plan was designed by TWM Archaeology (who had undertaken other works at the site) and agreed with the Tyne and Wear Archaeology Officer. A written scheme of investigation was prepared by Headland Archaeology Ltd and approved by the Tyne and Wear Archaeology Officer prior to works commencing.

The trial trenching targeted features previously identified through geophysical survey, however none were seen to be archaeological in origin. A single ditch recorded in the north-east of the site was not picked up during the geophysical survey but is thought to be late Iron Age in date. Extensive evidence of the upstanding remains of medieval ridge and furrow was seen in all trenches and across the site.

2 SITE LOCATION (ILLUS 1)

The area for the extension lies approximately 11km north of Newcastle city centre and 5km west of Cramlington. The site of the mine as a whole is centred on NGR NZ 215 755. This section of work was centred on NZ 2189 2526. The area is currently occupied by open farmland, used for grazing. A small pool lies to the north of the area and Brenkley village borders it to the south.

3 ARCHAEOLOGICAL BACKGROUND

The site is located in a wider archaeological landscape that includes cropmarked enclosures of prehistoric and Romano-British date to post-medieval industrial sites. Specifically, evaluation of the land to the west, north and east of the field found two rectilinear enclosures of Iron Age date approximately 400m north of the northern edge of the field.

The field itself is occupied by extensive well-preserved remains of ridge and furrow cultivation. This was subject to an earthwork survey as part of a previous phase of work. It relates to the medieval village of Brenkley, immediately to the south of the site, and some of the earthwork remains within the southern part of the field may well be further evidence of this.

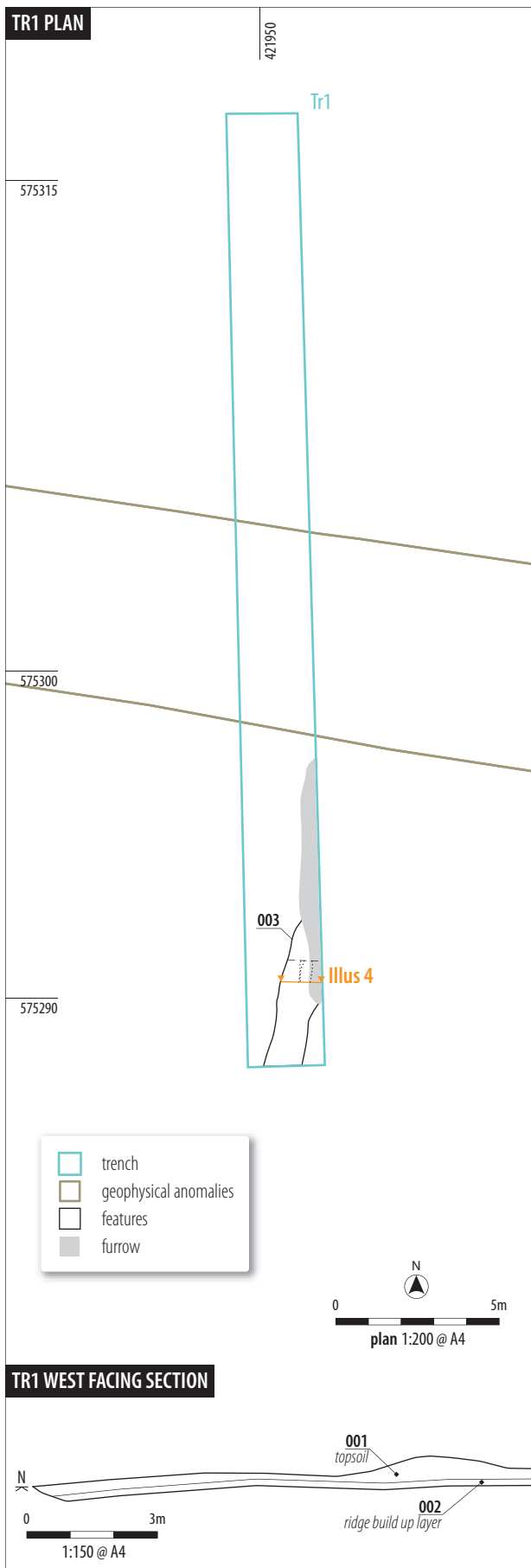
Geophysical survey was undertaken across the field to aid in determining the nature, preservation and extent of any sub-surface remains and anomalies. This also helped to target the trial trenching in areas with the best potential. A hand-held magnetic fluxgate gradiometer was used to undertake the work. Across the majority of the site, the survey detected parallel linear positive anomalies which represent ridge and furrow cultivation. The results closely matched the extant earthworks visible on the ground.

The geophysical survey also detected a number of other magnetic anomalies of possible archaeological origin. The majority of these appeared to be linear in nature (or broken linears) and trial trenches were located to test these features (*Illus 1*).



Illus 2

Plan and W-facing section of Trench 1



4 OBJECTIVES

The objective of the trial trenching was to ascertain whether there are any archaeological constraints that may affect the proposed development. In particular;

To determine the presence or absence of archaeological remains within the area an to ascertain their quality, nature, extent and character as well as their date and degree of survival.

5 METHODOLOGY

The area subject to evaluation comprised a single field, just over 3.4 hectares in area. A sample size of 385.6m² (total area 34,733m²) which equates to 241m of linear trenching 1.6m wide was excavated across the site. The location of the trenches was determined by the presence of geophysical anomalies which were required to be tested. All trenches were numbered and laid out using a pole-mounted Trimble G6 differential GPS programmed with the relevant co-ordinates.

Trenches were excavated using a JCB 3CX mechanical excavator equipped with a 1.6m wide toothless ditching bucket, operating under constant archaeological supervision. Topsoil was removed and machining continued in small spits until either clean geological sediments or archaeological deposits were encountered. The resulting surfaces were hand-cleaned where necessary and any potential archaeological features investigated. As furrows were expected, given the presence of the upstanding remains, they were largely not investigated beyond recording their location in plan.

All trenches were hand drawn at a scale of 1:100 on pro forma sheets. Any deposits were recorded using standard archaeological methods and pro-forma record sheets. Photographs were taken using a digital camera with a minimum of 6MP.

6 RESULTS

A full description of all trenches is provided in Appendix 1.1. A full list of contexts is provided in Appendix 1.2. A total of eight trenches were excavated across the field (*Illus 1*). All were aligned roughly north-south to minimise the interference of the ridge and furrow. As a result, the majority contained at least some evidence of furrows and trenches were usually cut through deeper deposits on one side (through the ridge) than the other (the furrow).

In general, the deposits in the trenches comprised mottled yellow grey boulder clay natural subsoil, overlain by deposit 002. This was a compact mid orangey-brown clayey silt which filled the furrows and formed the built up material of the ridges. This was between 0.15m and 0.25m in depth and was seen in all trenches. Above

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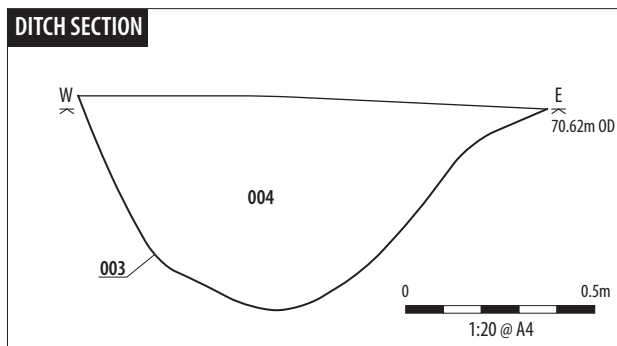
[002], topsoil [001] was present; a very firm mid brown clayey silt. It contained few stones and very rare amounts of pottery (see below). The compactness and lack of anthropogenic material are indications that this field has clearly never been ploughed by modern means and the layers of soil overlying the natural are undisturbed.

A ditch was identified in Trench 1, running NNE to SSW (*Illus 2*). It did not appear in Trench 2. It appear following machining off the base of the furrow within the trench so must pre-date it. The ditch had steep sides and a curved base and was filled with a firm grey silty clay (*Illus 3* and *4*). No finds were recovered during the excavation and the fill appeared to be fairly sterile in terms of environmental material.



Illus 3

General shot of ditch [003] under excavation



Illus 4

N-facing section of ditch [003]

6.1 ENVIRONMENTAL ANALYSIS

by Dr Tim Holden

6.1.1 METHOD

A single sample was received for flotation and wet sieving (*Table 1*).

The bulk sample was subjected to flotation and wet sieving in a Siraf-style flotation machine. The floating debris (the flot) was collected in a 250 µm sieve and, once dry, scanned using a binocular microscope. Any material remaining in the flotation tank (retent) was wet-sieved through a 1mm mesh and air-dried. This was then sorted and any material of archaeological significance removed.

Table 1

Environmental results

Context	Sample	Sample Vol (l)	Charcoal		Coal	Comments
			Qty	Max size (cm)		
004	001	40	++	<0.5	+	Charcoal not retained

Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (15-50) and ++++ = abundant (>50)

NB charcoal over 1cm is suitable for identification and AMS dating

A single fragment of coal was recovered from the retent. The flots comprised modern roots only.

6.1.2 DISCUSSION

Nothing of archaeological significance was present within the sample.

6.2 FINDS ASSESSMENT

by Julie Franklin

Four sherds of medieval pottery, weighing total of 13g were recovered from the topsoil of Trenches 3, 4 and 7. All were of similar pale red fabrics. All are body sherds and their small size precludes any fine dating.

Table 2

Pottery catalogue

Trench	Context	Qty	Weight (g)	Material	Object	Description	Period
3	001	1	3	Pottery (Medi)	Redware	pinkish buff sandy fabric, some sooting on exterior	Medi
4	001	1	3	Pottery (Medi)	Redware	pink gritty sherd, soft fired and abraded	Medi



Trench	Context	Qty	Weight (g)	Material	Object	Description	Period
7	001	2	7	Pottery (Medi)	Redware	two joining sherds, pale red with grey core, hard fired sandy fabric, spot of glaze and some sooting on exterior	Medi

7 CONCLUSION

A single ditch was identified in the north-eastern quadrant of the field. It did not contain any material which could provide a date for it, but it looks potentially late prehistoric or Anglo-Saxon in date, given its character. It is not known where the ditch runs but most likely curves round or turns to the east. It may be an early field boundary or some form of enclosure ditch relating to later prehistoric activity recorded to the north or the possible medieval ditch recorded, to the east, in Trench 55 in TWM Archaeology's evaluation in 2009 (Frain 2010). The only other features recorded were the bases of furrows, from the ridge and furrow visible across the field prior to the evaluation.

8 REFERENCES

- Frain, T 2010 *Brenkley Lane, Tyne and Wear Archaeological Evaluation*, Unpublished client report TWM Archaeology
- Scott, J 2013 *Brenkley North Farm Archaeological Geophysical Survey and Earthworks Survey*, Unpublished client report TWM Archaeology.

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9 APPENDICES

APPENDIX 1 SITE REGISTERS

APPENDIX 1.1 TRENCH REGISTER

Trench	Orientation	Description
1	N-S	Excavated across open pasture, cutting through field bank enclosing ridge and furrow. Contains a ditch running NNE-SSW. No archaeological finds recovered. 30m long x 1.6 wide x 0.4m deep.
2	N-S	Excavated across open pasture. Contains a modern ceramic field drain running E-W. No archaeological finds or features recovered. 29.5m long x 1.6m wide x 0.6m deep.
3	N-S	Excavated across open pasture. Trench dug along side of furrow so deeper on the west side. Pottery found within topsoil. 30m long x 1.6m wide x 0.4 m deep.
4	N-S	Excavated across open pasture. Pottery found within topsoil. 30m long x 1.6m wide x 0.4 m deep.
5	N-S	Excavated across open pasture. No archaeological finds or features present. 30m long x 1.6m wide x 0.45m deep.
6	N-S	Excavated across open pasture. Faint traces of furrow base present. No archaeological finds present. 30m long x 1.6m wide x 0.55m deep.
7	N-S	Excavated across open pasture. Subsoils made up of a very patchy, yellow builders clay. Pottery found within topsoil. 30m long x 1.6m wide x 0.55m deep.
8	N-S	Excavated across open pasture. Dirty subsoil interface present. No archaeological finds or features present. 31.5m long x 1.6m wide x 0.55m deep.

APPENDIX 1.2 CONTEXT REGISTER

Context	Description
001	Topsoil. Firm/compact to mid brown, clayey silt. Present across all the trenches. 0.30m deep.
002	Ridge build up layer. Firm/compact to mid orangey brown, clayey silt. Present across the site. 0.15m deep.
003	Cut of ditch. Linear in plan, steep sides and a rounded base with a gradual break of slope. The ditch runs north-north-east to south-south-west and predates ridge and furrow. 0.94m (within slot) x 0.85m x 0.53m.
004	Fill of ditch [003]. Firm/moist, light to mid brown, silty clay with rare inclusions. Uniform clay layer that fills the extent of the ditch. 0.94m x 0.85 x 0.53m.

APPENDIX 1.3 PHOTOGRAPHIC REGISTER

Photo	Digital	Facing	Description
001	Y	N	Record shot of Trench 8.
002	Y	N	Record shot of Trench 6.
003	Y	S	Record shot of Trench 7.
004	Y	NE	Record shot of Trench 5.

Photo	Digital	Facing	Description
005	Y	S	Record shot of Trench 4.
006	Y	N	Record shot of Trench 3.
007	Y	N	Record shot of Trench 2.
008	Y	NE	Working shot of Ditch [003].
009	Y	NE	Working shot of Ditch [003].
010	Y	N	South-facing section of Ditch [003].
011	Y	S	North-facing section of Ditch [003].
012	Y	E	West-facing slope of Ditch [003].
013	Y	N	General shot of Ditch [003].
014	Y	N	General shot of Ditch [003].
015	Y	S	General shot of Ditch [003].
016	Y	NE	General shot of Ditch [003].
017	Y	NE	General shot of Ditch [003].

APPENDIX 1.4 SAMPLE REGISTER

Sample	Context	Description
001	004	Light/mid grey, silty clay fill of ditch [003].



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**Headland Archaeology
North East**

13 Jane Street
Edinburgh EH6 5HE

0131 467 7705
northeast@headlandarchaeology.com

**Headland Archaeology
North West**

10 Payne Street
Glasgow G4 0LF

0141 354 8100
northwest@headlandarchaeology.com

**Headland Archaeology
Midlands & West**

Unit 1, Premier Business Park, Faraday Road
Hereford HR4 9NZ

01432 364 901
midlandsandwest@headlandarchaeology.com

**Headland Archaeology
South & East**

Building 68A, Wrest Park, Silsoe
Bedfordshire MK45 4HS

01525 861 578
southandeast@headlandarchaeology.com

www.headlandarchaeology.com