

An Archaeological Watching Brief at the Ashington Mine Pipeline Diversion



A section of the pipeline spread, looking north

ARS Ltd Report 2010/20
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EXECUTIVE SUMMARY

In March 2010 Archaeological Research Services Ltd were commissioned by RSK Environment Ltd on behalf of United Utilities to undertake an archaeological watching brief on the western outskirts of Ashington. Due to the commencement of open cast coal mining in the area an existing gas pipeline is to be diverted to the east. The watching brief was carried out while the topsoil was before the installation of the new pipeline. The area that was stripped covered approximately 32000m² and ran roughly from north-east to south- west.

The route of the pipeline ran through six fields in total, one of which had been ploughed and three of which were pasture. A large amount of modern waste was encountered amongst the topsoil deposits and it was evident that the land had been disturbed prior to the watching brief taking place. This predominantly took the form of 20th century midden deposits containing brick rubble, broken glass bottles and pottery sherds although at the northern end of the site debris associated with former farm buildings was also present.

No features of archaeological significance or buried land surfaces were revealed.

1. INTRODUCTION

1.1. Location and scope of work

- 1.1.1. In March 2010 Archaeological Research Services Ltd were commissioned by RSK Environment Ltd on behalf of United Utilities to undertake an archaeological watching brief on the western outskirts of Ashington, Northumberland (Fig. 1). The work was carried out during groundworks for the diversion of a high-pressure gas pipeline. The pipeline is being diverted prior to the commencement of open-cast coal mining in the area.

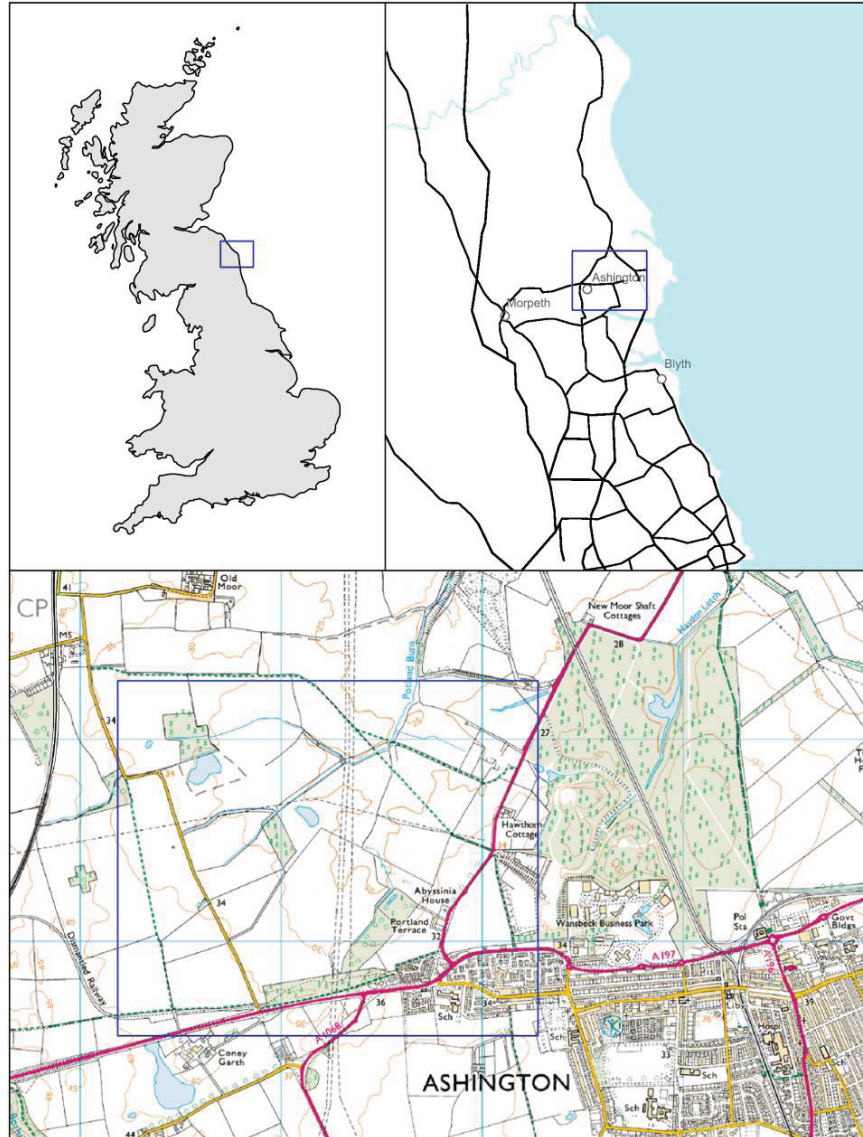


Fig. 1 Site location

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- 1.1.2. The site is centred at NZ 260 884 to the northwest of the town of Ashington and approximately 1.7km north of the River Wansbeck. The site is situated approximately 6km east of the A1.

1.2. Geology and topography

- 1.2.1 The solid geology of the site consists of Westphalian Coal Measures and the superficial geology is made up of glacial till deposits (British Geological Survey 2009). The pipeline route crosses through grazed pasture and arable farmland, separated by old hedgerows. The northern end of the pipeline area was gently undulating, possibly due to subsidence, with numerous wet and marshy areas of grassland and neglected hedgerows which have led to the development of patchy scrub. Towards the central and southern end of the pipeline route the topography is much flatter and is semi-improved grazed grassland. The southern limit of the route lay within a flat, arable field.

2. METHODOLOGY

- 2.1 The specification required that a watching brief should be carried out to observe any ground works taking place for the proposed diversion, in order to identify any potential archaeological remains. This involved monitoring the removal of topsoil along a strip of ground ('the spread') measuring 1096m long and approximately 10m wide that passed through six fields in total (Fig. 2). One of the fields had been ploughed and the other five were pasture. An area at the southern end of the pipeline route, to be used as a site compound was also monitored during topsoil stripping.
- 2.2 The topsoil strip was carried out by 360 degree tracked excavators using a toothless ditching bucket under continuous archaeological supervision. The machine removed the topsoil (001) in level spits until the first potential archaeological horizon (002) was exposed.
- 2.3. A single context recording system was employed. Each layer encountered was given a unique context number and a full written description (a Harris matrix is shown in Appendix I and a full context register is shown in Appendix II). Digital photographs were taken in order to record the ground work.

3. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1 *Prehistoric*

The first evidence for human activity in and around Ashington dates from the Neolithic and later Prehistoric periods. Worked flint has been found near Woodhorn. Also, two flint scatters (N21730 and N21731) which included a number of blades, scrapers and waste material associated with the production of stone tools have been discovered in fields directly to the west of the course of the new gas pipeline. There are two areas of possible ring ditches and linear features dating from the Prehistoric period to the north and to the west of the course of the pipeline, as identified by RSK Environment (2009). There are also a number of other unidentified cropmarks in the wider area that are thought to date from the Prehistoric period.

3.2 *Medieval*

Three sets of cropmarks that lie to the north of the diversion are representative of a Deserted Medieval Village (RSK 2009). Cropmarks (N22859) seen on aerial photographs suggest that there may have been a village to the north of the study area. A plan of Bothal manor which dates to 1820 shows several small in-fields, indicative of medieval agriculture. Ridge-and-furrow in the area supports this theory. There is also a rabbit warren (RSK 2009) to the south of the study area.

3.3 *Post-Medieval*

The majority of Post-Medieval sites in and around the study area relate to extensive coal extraction. The site of Ashington Colliery lies to the south of the study area and Woodhorn Colliery is further to the east.

3.4 *Modern*

To the west and south-west of the study area are the remains of some Second World War defences.

3.5 *Previous Archaeological Work*

In 2005 Tyne and Wear Museums carried out an archaeological and cultural heritage assessment for the Portland Burn Area prior to the commencement of a surface mining scheme. The report concluded that there was evidence of Prehistoric, Roman, Medieval and Post-Medieval activity in the area and it was recommended that a more detailed field-based investigation take place. Durham University Archaeological Services carried out a geophysical survey of 17 fields which highlighted widespread ridge and furrow as well as other anomalies, possibly indicating ditches of uncertain date.

- 3.6 The area around the pipeline extension was therefore considered to be within a multi-period landscape of indeterminate potential, although no features were located within the actual location of the pipeline route.

4. RESULTS

4.1 *Section A*

Section A of the diverted pipeline route ran from north-north-east to south-west through unimproved and semi-improved pasture fields. Numerous areas of wet and marshy ground, along with three small ponds were also encountered in this section. To the northern end of the section, located approximately The topsoil (001) consisted of turf and very dark brown/grey (10yr 3/1) silty clay soil and varied in depth between 0.2-0.4m. The topsoil contained a large amount of modern waste including pottery, brick, glass and metal. Below this context was yellow/brown (10yr 5/4) natural boulder clay (002) with small stone inclusions which continued beyond the limit of the excavation.

4.2 *Section B*

Section B of the pipeline course ran from east to west through a ploughed field. The ground here was very damp and on the surface there was patchy turf and moss (003). This was stripped in places to reveal very dark brown black (10yr 2/2) peaty deposits (004) however in some places there was a very dark

brown/grey (10yr 3/1) silty clay soil (001) that contained a large amount of modern waste including pottery, brick, glass and metal. Beneath this was yellow/brown (10yr 5/4) natural boulder clay (002).

4.3 *Section C*

Section C of the pipeline ran from east to west and then continued into a small rectangular enclosure which will be the pipeline compound once it has been diverted. The stratigraphy of this section consisted of turf and very dark brown/grey (10yr 3/1) silty clay soil (001). Directly beneath and amongst the topsoil was yellow (10yr 6/6) construction sand (005). There was also a large amount of modern waste including pottery, brick, glass and metal. The excavations did not extend beyond the sand to the natural clay (002).

5. CONCLUSION

5.1 There are a number of archaeological sites dating from different periods in close proximity to the route of the diverted pipeline. However there were no archaeological finds, features or buried land surfaces encountered during the watching brief.

5.2 The amount of modern waste that was present amongst the topsoil in sections A and B of the pipeline indicates that the land may have been disturbed before.

5.3 Section C was towards the end of the pipeline route where the diversion was meeting the existing gas pipeline. The large amount of construction sand that was encountered here was most probably deposited when the original line was laid which would also indicate the land had been subject to a large amount of disturbance prior to the watching brief.

6. PUBLICITY, CONFIDENTIALITY AND COPYRIGHT

6.1 Any publicity will be handled by the client.

6.2 Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

7. STATEMENT OF INDEMNITY

7.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

8. ACKNOWLEDGEMENTS

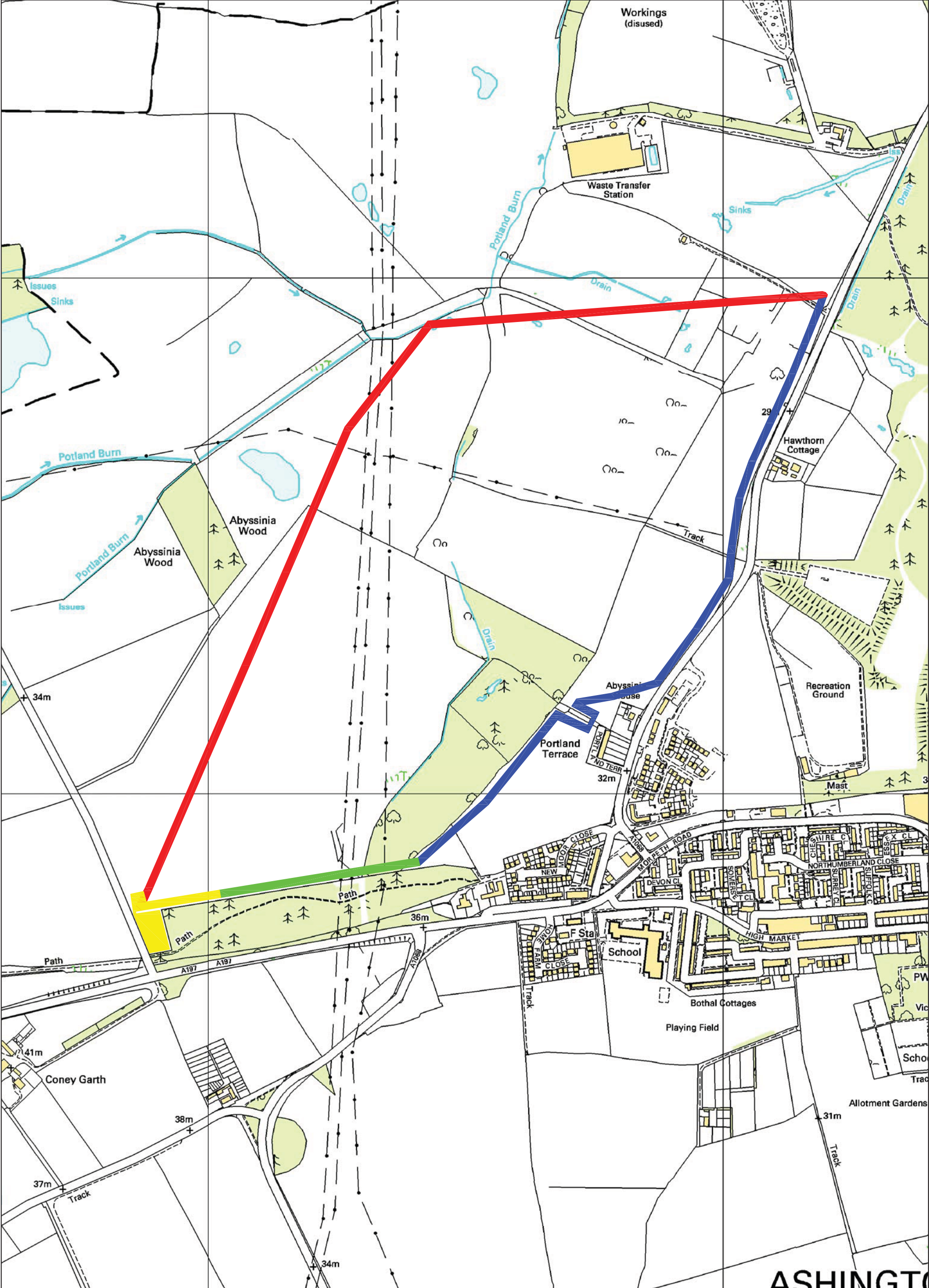
- 8.1 Archaeological Research Services Ltd would like to thank all those involved in this project, in particular United Utilities, Murphy Construction Ltd and Karen Derham of Northumberland County Council.

8. REFERENCES

British Geological Survey 1979. *Geological Survey 1:50000 Map*. Third Edition (Solid). Southampton: Ordnance Survey.

Websites

British Geological Survey www.bgs.ac.uk/geoindex/index.htm



ASHINGTON

Title:
Site Code: ASH10
Drawing Ref: Report Fig. 2
Date: 22 March 2010
Drawn: PC
Scale: 1:1000 at A3

Key:

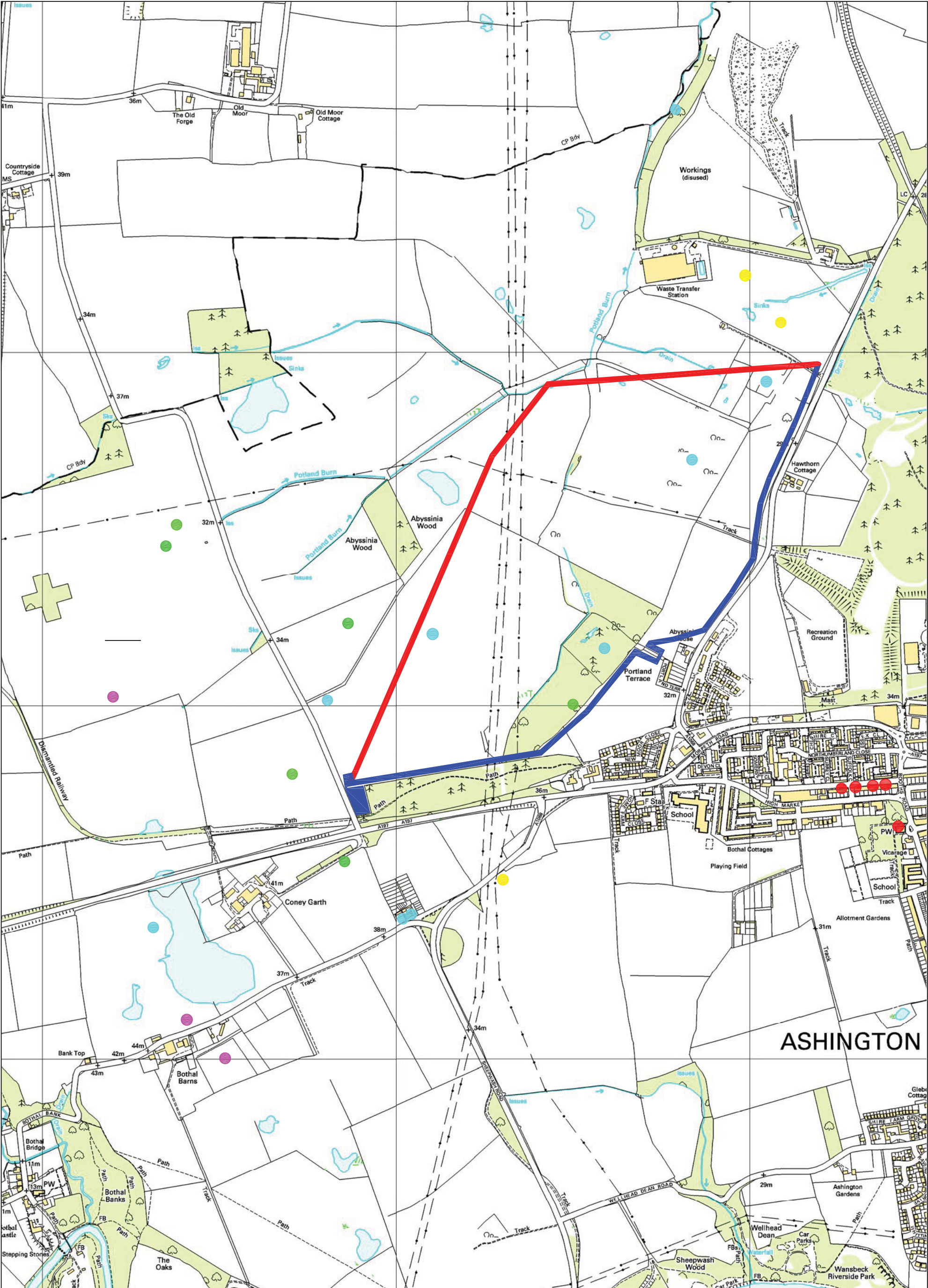
	New pipeline route
	- Section A
	- Section B
	- Section C

Existing pipeline route

0 200 400









Metres

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Title:
Site Code: ASH10
Drawing Ref: Report Fig. 3
Date: 22 March 2010
Drawn: PC
Scale: 1:1000 at A3

Key:

- | | | | |
|---|--------------------|---|-------------------------|
|  | New pipeline route |  | Existing pipeline route |
|  | Prehistoric |  | Post-Medieval |
|  | Medieval |  | Listed Buildings |
|  | Modern |  | Unknown |

Metres 0 200 400



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Figure 4: A view up Section A of the pipeline, looking north.



Figure 5: Part of Section A of the pipeline, looking east.



Figure 6: Part of Section A of the pipeline, looking north.



Figure 7: Part of Section A of the pipeline, looking north.



Figure 8: Wooded area behind the pipeline diversion, looking south.



Figure 9: Section B of the pipeline, looking north.



Figure 10: Part of Section C of the pipeline showing the construction sand amongst the topsoil.

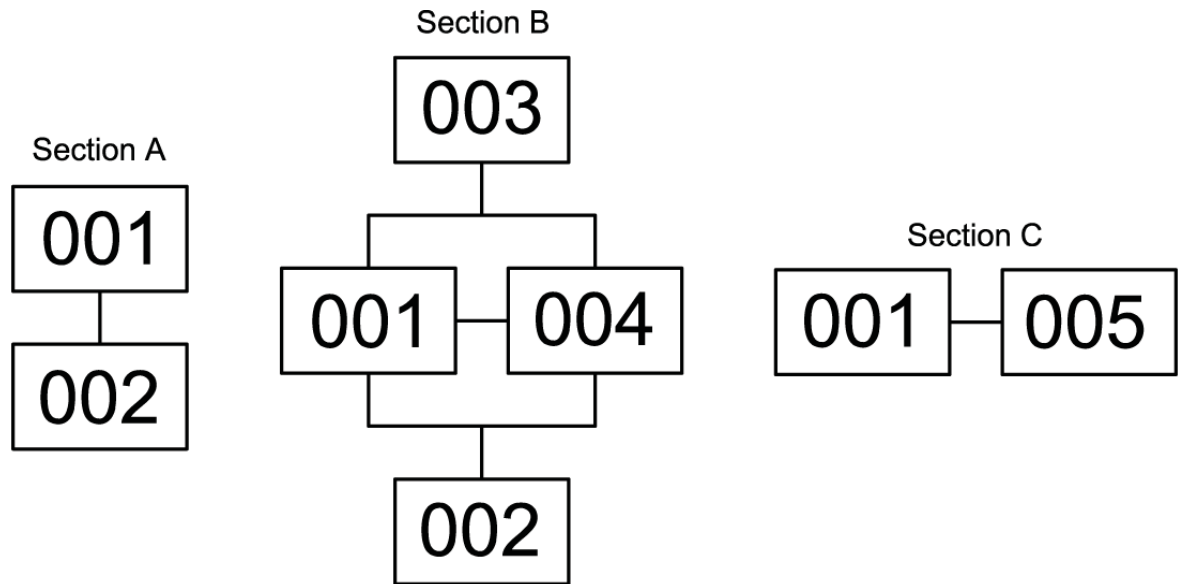


Figure 11: Section C of the pipeline looking north.

APPENDIX II: CONTEXT REGISTER

Context No.	Trench	Description
001	-	Turf and topsoil
002	-	Yellow/brown boulder clay
003	-	Patchy turf and moss
004	-	Dark peaty deposits in Section B
005	-	Yellow construction sand

APPENDIX III: HARRIS MATRIX



APPENDIX IV: SPECIFICATION

High Pressure Gas Pipeline Diversion, Ashington, Northumberland.

Written Scheme of Investigation for an Archaeological Watching Brief.



1.0 Introduction

- 1.1 A watching brief has been requested by the Archaeological Officer for Northumberland County Council for the groundworks associated with the diversion of a high pressure gas pipeline near Ashington, Northumberland (NZ 260 884).
- 1.2 This document is a written scheme of investigation confirming the nature of the works to be undertaken by Archaeological Research Services Ltd.

2.0 Objective

- 2.1 The watching brief will provide for achieving an appropriate level of *preservation by record* for any archaeological deposits exposed, or surface earthworks impacted, during the development groundworks.

3.0 Background

- 3.1 The Northumberland HER and the NMR indicates that prehistoric activity in the form of ring ditches and flint scatters have been identified in close proximity to the proposed pipeline. Cropmarks likely to be related to a Deserted Medieval Village at New Moor Farm and an earthwork related to a Medieval rabbit warren are also located nearby. Post-medieval activity in the area is represented by coal extraction, the immediate colliery area and Ashington itself.

4.0 Fieldwork Methodology

- 4.1 Archaeological Research Services Ltd will provide an archaeological officer at all times during any ground works within specified area. A mechanical excavator will be used for the groundworks and the archaeologist on site will ensure that a toothless ditching bucket will be used where possible. The on site archaeologist will be given the opportunity to stop site work in order to investigate potential archaeological features and adequate time will be allowed for recording any such features.

- 4.2 A written, drawn and photographic record will be maintained during the watching brief plus all significant archaeological remains will be recorded and/or retrieved. All excavations will be recorded in accordance with normal principles of archaeological evaluation upon pro forma context sheets. All significant architectural features will be photographed (with scale) *in situ* and their location recorded on a plan of the site.
- 4.3 Where archaeological features and/or deposits are identified during the watching brief, then a sufficient quantity of the said features will be investigated by hand to allow their date, nature and degree of survival to be ascribed. All features thus investigated will be recorded in plan and section and significant archaeological finds recovered will be retained for analysis. Any archaeological features identified will be photographed and drawn in plan at a scale of 1:20 and in section at a scale of 1:10. The stratigraphy, where relevant and apparent, will be recorded within the area of the excavation.
- 4.4 For brick structures, the record will include details of brick dimensions and type (handmade/machine-made, plain/frogged), mortar (colour, composition, hardness) and the extent of structures (number of courses, thickness in skins).
- 4.5 A plan of the excavated areas will be maintained, features noted and section lines recorded. All drawings will be carried out at an appropriate scale and all contexts will be recorded using a single context recording system. The site archive will include plans and sections at an appropriate scale, a scale photographic record, and full stratigraphic records on recording forms/context sheets or their electronic equivalent. Should archaeological features be present then the locations and height AOD of the features will be accurately fixed, surveying in either the planning baselines or the features themselves.
- 4.6 The watching brief will be undertaken in accordance with the Institute of Field Archaeologists *Standards and Guidelines for Archaeological Watching Briefs* (2001).
- 4.7 Any human remains discovered will initially be left *in-situ* and, if removal is deemed necessary, this will be undertaken in accordance with the relevant Ministry of Justice regulations.
- 4.8 Archaeological Research Services Ltd will ensure that heavy plant or machinery will not be operated in the immediate vicinity of archaeological remains until the remains have been recorded. Contractors and plant operators will be notified that any observations of archaeological remains must be reported immediately to the archaeological officer on site.
- 4.9 A risk assessment will be undertaken before commencement of the work and health and safety regulations will be adhered to at all times.

5.0 Artefact and Ecofact collection and recording

- 5.1 Artefact collection policy will be concerned with the provision of adequate samples for meeting the objectives of the work. Discarded artefactual materials will be described and quantified through assignment to broad categories in the field. Analysis of finds will be undertaken, as necessary, by suitably qualified specialists. Retained finds will be cleaned, marked, catalogued and packed in materials, as appropriate, for long term storage (see 8. Archive Deposition below).
- 5.2 Unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest. Finds of "treasure" will be reported to the Coroner in accordance with the Treasure Act (1996).
- 5.4 Collection policies for structural remains and industrial residues have been set out by the Society of Museum Archaeologists (SMA, 1993). The presence of such materials within a context will be recorded even where comprehensive retention is not considered appropriate.
- 5.5 It is not considered likely that waterlogged, palaeoenvironmental or human remains will be encountered at any stage of this project. However, should such remains be identified work will cease and a meeting arranged between Archaeological Research Services Ltd, the landowner and the Archaeological Officer to discuss further procedures.

6.0 Monitoring Arrangements

- 6.1 Notice of the commencement of the project has been given to the Northumberland County Council Archaeological Officer. The archaeological contact will be:

Karen Derham
Archaeological Officer
County Hall
Morpeth
Northumberland
NE61 2EF
Tel: 01670 534057
- 6.2 Archaeological Research Services Ltd will liaise with the Archaeological Officer at regular intervals throughout the course of the work.

7.0 Report

7.1 Following completion of the watching brief Archaeological Research Services Ltd will produce a report which will include,

- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology
- A location plan showing all excavated areas with respect to nearby fixed structures and roads
- Illustrations of all archaeological features with appropriately scaled hachured plans and sections (illustrating height AOD)
- An objective summary statement of results
- Conclusions
- Supporting data – tabulated or in appendices
- Index to archive and details of archive location
- References
- Statement of intent regarding publication
- A copy of the OASIS form

7.2 Copies of the final report will be deposited with the Northumberland Historic Environment Record.

8.0 Archive Deposition

8.1 A digital, paper and artefactual archive will be prepared by Archaeological Research Services Ltd, consisting of all primary written documents, plans, sections, photographs and electronic data (in a format to be agreed by the repository museum which in this case will be the Great North Museum). Contact will be made with the Museum and an accession number obtained prior to the commencement of fieldwork.

8.2 All artefacts and associated material will be cleaned, recorded, properly stored and deposited in the archive (see above).

8.3 A full set of annotated, illustrative pictures of the site, excavation, features, layers and selected artefacts will be supplied to the HER and deposited with the archive as digital images on a CD ROM that will be attached with the report.

8.4 At the start of work (immediately before fieldwork commences) an OASIS online record <http://ads.ahds.ac.uk/project/oasis/> will be initiated and key fields completed on Details, Location and Creators forms. All parts of the OASIS online form will be completed for submission to the HER. This will include an uploaded .pdf version of the entire report (a paper copy will also be included within the archive).

9.0 Changes to Methodology or Work Programme

- 9.1 Changes to the approved methodology or programme of works will only be made with the prior written approval of the Archaeological Officer.