ASSELBY TO PANNAL NATURAL GAS PIPELINE

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Oxford Archaeology North

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SUMMARY

As a result of forecasted increases in natural gas imports entering the UK via Easington on the north-east coast of England, National Grid has concluded that reinforcement of its National Transmission System will be required. National Grid has been granted permission by the DTI to construct a new 1220mm (48") diameter pipeline, for the transportation of natural gas between existing Above Ground Installations (AGIs) at Asselby in the East Riding of Yorkshire (469959 427294; SE 699 272) and near Pannal in North Yorkshire (425260 450602; SE 252 506). The pipeline will be approximately 62km in length.

The pipeline route is predominantly aligned south-east to north-west, passing near the towns and villages of Drax, Camblesforth, Carlton, Burn, Gateforth, Hambleton, Little Fenton, Sherburn in Elmet, Barkston Ash, Saxton, Aberford, Wothersome, Collingham, East Keswick, Kirby Overblow, North Rigton and Briscoerrig.

A programme of archaeological work has been commissioned by National Grid (NG) and Entrepose Industrial Services Ltd (EIS) - their principle contractor for the phase 1 engineering works - in order to avoid or mitigate any adverse effect that pipeline construction may have on the cultural heritage along the scheme. This report presents the results of evaluation trenching undertaken by Oxford Archaeology North (OA North) as part of this programme.

A phased approach has been taken to the work preceding the evaluation exercise, with a desk-based assessment, local sources review, field reconnaissance survey, fieldwalking survey, geophysical survey, topographic survey and palaeoenvironmental assessment having been previously undertaken, resulting in a recommendations document. The evaluation exercise represents the latest phase of work currently undertaken, although further phases of work are planned.

In total, 87 evaluation trenches were excavated at this time, targeting geophysical anomalies, cropmarks and a number of documentary sites. On the alluvial geology at the eastern end of the scheme a rectangular enclosure, initially identified by geophysical survey, was identified within Trenches 2 and 3, producing Iron Age pottery. Trenches 8, 10b, 11 and 12 all revealed features corresponding to geophysical anomalies and other features that had not been predicted. In Trenches 11 and 12, two large ditches originally identified by geophysical survey were detected, associated with these were other pits and ditches containing a fairly large assemblage of late Romano-British pottery.

The most notable sites located upon the band of Magnesian limestone located towards the centre of the scheme comprised enclosures, boundaries and trackways forming an agricultural and settlement landscape. These included a trackway or field system sampled by Trenches 19a and 19c; a field system and enclosures sampled by Trenches 21-30; a circular feature sampled by Trench 31; a field system/trackway sampled by Trenches 39-41; an enclosure sampled by Trenches 50 and 51; and a field system sampled by Trenches 60-65. The geology of this area responded extremely well to the geophysical survey and it seems likely that most of the significant linear features have been identified.

Seventeen trenches were located on high relief non-calcareous geology to the north-west of the Magnesian limestone. In fifteen of the trenches, the archaeological features discovered corresponded exactly with the anomalies detected by the geophysical survey, the most notable being a curvilinear ditch in Trench 83, which produced prehistoric pottery. Additionally, a pit and a pair of ditches, not detected by geophysical survey, were revealed within Trench 76.

Further fieldwork is recommended at a number of sites, on the basis of this evaluation exercise. Full details are contained within the report.

ACKNOWLEDGEMENTS

Oxford Archaeology North would like to thank Entrepose Industrial Services (EIS) for commissioning the evaluation of behalf of National Grid. In particular, thanks are also offered to Steve Cooke, Sally Hough, Richard Barton, John Knight, Billy Macque, Gary McGlynn (all EIS) for their assistance during the course of the works, as well as all the other EIS employees who lent their support. In addition, thanks are offered to all those employed by National Grid who provided expert advice, especially Derek Cater, NG Archaeologist, who with Andrea Burgess (WYAAS), Gail Falkingham (NYCCS) and Andy Hammon (EH) generally facilitated the project.

The evaluation was undertaken by Paul Clark, Caroline Bulcock, Andrew Frudd, Fiona Gordon, Anthony Haskins, Dana Millson, Rebekah Pressler, Tim Rhodes, and Becky Wegiel. The palaeoenvironmental samples were processed and assessed by Sandra Bonsall and Denise Druce. The flint was examined by Caroline Bulcock, the animal bone by Andy Bates and the remainder of the finds by Chris Howard-Davis. This report was written by Paul Clark and edited by Fraser Brown, who managed the project.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 As a result of forecasted increases in natural gas imports entering the UK via Easington on the north-east coast of England, National Grid has concluded that reinforcement of its National Transmission System will be required.

1.1.2 National Grid has been granted permission by the DTI to construct a new 1220mm (48") diameter pipeline, for the transportation of natural gas between existing Above Ground Installations (AGIs) at Asselby in the East Riding of Yorkshire (469959 427294; SE 699 272) and near Pannal in North Yorkshire (425260 450602; SE 252 506). The pipeline will be approximately 62km in length (Fig 1).

1.1.3 A programme of archaeological work has been commissioned by National Grid (NG) and Entrepose Industrial Services Ltd (EIS) - their principle contractor for the phase 1 engineering works - in order to avoid or mitigate any adverse effect the pipeline construction may have on the cultural heritage along the scheme. This report presents the results of evaluation trenching undertaken by Oxford Archaeology North (OA North) as part of this programme.

1.2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 The pipeline route is predominantly aligned south-east to north-west, commencing at the Asselby AGI and ending at Pannal AGI, passing near the towns and villages of Drax, Camblesforth, Carlton, Burn, Gateforth, Hambleton, Little Fenton, Sherburn in Elmet, Barkston Ash, Saxton, Aberford, Wothersome, Collingham, East Keswick, Kirby Overblow, North Rigton and Briscoerrig (Fig 1).

1.2.2 The pipeline passes through four general landscape zones. From the AGI at Asselby to the Sherburn in Elmet area, the pipeline passes through the Selby District, which is dominated by the floodplain of the River Ouse. This area is low lying (*c* 10m above sea level) and is almost flat. The level landscape of large regular fields, deep drainage dykes and isolated farms is characteristic of reclaimed wetland. To the west, the pipeline passes through the mildly undulating landscape of the Elmet District, to, approximately, the A659 Otley-Tadcaster road. This area, at *c* 70m above sea level, is predominantly under arable agriculture. To the west the pipeline gradually rises up, passing through a more gently undulating zone, characterised by pastoral, agriculture and wooded vales. The land then rises rapidly, to around 200m above sea level at Pannal. Here the landscape is typical Pennine upland, characterised by gritstone outcrops, poor drainage and parcels of pastoral agriculture reclaimed from the moorland.

1.2.3 Details of the topography, geology, pedology, hydrology and landuse of the route can be found in Section 3 of the Archaeological Desk-based Assessment

(NAL 2006a). The pipeline crosses a number of forms of bedrock geology comprising Permian and Triassic sandstones, bands of Permian mudstones, Permian Magnesian Limestone, Namurian Millstone Grit and Lower Westphalian productive coal measures. The pipeline crosses five forms of drift geology and fourteen soil associations (*ibid*).

1.3 PREVIOUS WORK

1.3.1 A phased approach has been adopted for the programme of archaeological works associated with the construction of the pipeline. This is described below. For the purposes of clarity and brevity, work previously published elsewhere will not generally be reproduced in this document. However, reference will be made to earlier survey and mitigation operations, in order to help place the results of the evaluation within their broader landscape and research context. The *Recommendations Document* (*Section 1.3.10*; NAL 2006-7) provides the research framework for this study.

1.3.2 ***Desk-Based Assessment:*** an Archaeological Desk-Based Assessment (ADBA) was carried out by Network Archaeology during 2006 (NAL 2006a). Information was collated for a 1km-wide study corridor centred upon the pipeline centre-line. Searches of national and county databases identified 477 sites of archaeological importance. The pipeline route will have a direct impact upon two statutorily protected sites, both of which are Scheduled Ancient Monuments (part of the Aberford Dyke complex), and will have uncertain impacts upon two Listed milestones/mileposts. General recommendations were made for a range of field surveys, including field reconnaissance along the entire route, fieldwalking of all arable land, and the appropriate use and deployment of geophysical survey. Specific recommendations were also made, including liaison with English Heritage over the crossing of the two Aberford Dyke Scheduled Monuments, the flagging-up of the milepost and milestone, and consideration of widening the field survey corridor across two regionally important sites.

1.3.3 ***Local Sources Review:*** a Local Sources Review (NAL 2007a) was carried out to supplement the ADBA, drawing on additional data sources that were not available when the ADBA was prepared. This identified 71 additional sites of archaeological importance. Potential direct impacts on four additional sites judged to be locally important were identified, along with uncertain impacts on 16 others. This study also reviewed the sources of evidence relating to the Aberford Dykes, supplying a preliminary archaeological background to help inform the proposed programme of investigation for this group of monuments.

1.3.4 ***Field Reconnaissance Survey:*** the Field Reconnaissance Survey undertaken in 2006 investigated 272 fields crossed by the pipeline (NAL 2006b). A further 37 fields were not surveyed, due to access restrictions. Most (32) of these fields were surveyed in 2007, however, and have been reported upon in a separate Addendum (NAL 2007b). Thirty nine of the 165 sites recorded had been documented in the ADBA; these included the Aberford Dykes Scheduled Monuments (SM 31519 and SM 31520). The field survey clarified the extent to which these scheduled monuments survived as upstanding earthworks

(FSU:66 and FSU:68, 69, 71). Field observations on three sites classified as locally important in the ADBA led to them being upgraded to regionally important (Category C), because of their potential rarity within this region and their good state of preservation. These three sites (FSU:107, FSU:108, FSU:109), which will all be directly affected by the pipeline, are in a single field, south of the village of Gateforth, North Yorkshire. A further site (FSU: 156), a stone scatter that possibly represents the bank of the South Dyke in the parish of Saxton with Scarthingwell, was identified as potentially being impacted on by the pipeline in the 2007 survey (NAL 2007a). The survey identified 156 sites assessed as being of local importance. Of these, 50 are sufficiently distant from the pipeline that they are unlikely to suffer any impact during construction. Of the remaining 106, the potential impacts on all but 13 were judged to be minor.

1.3.5 ***Fieldwalking Survey:*** just less than 50% of the pipeline was systematically fieldwalked, in October 2006 (NAL 2006b). The other half was under permanent pasture, was set-aside, arable with standing crops/unploughed stubble and/or fields for which access was unavailable (NAL 2007c). Most (47) of the outstanding 62 arable fields were surveyed in 2007 and have been reported in a separate Addendum (NAL 2007d). Several minor concentrations of medieval artefacts or early modern artefacts were identified, but these were considered to be the result of agricultural manuring or plough spread; as such they are of little archaeological significance. Some 25 pieces of struck flint were also recovered, indicating a low level of human activity in the area in prehistoric times. Several pieces of post-medieval kiln furniture were found that may be related to clay pipe manufacture. A possible sherd of Anglo-Saxon pottery was identified and recommended for thin-section analysis. The kiln furniture, along with clay pipe fragments, has been recommended for further analysis. Otherwise, no significant concentrations of material were found, and no artefacts of intrinsic archaeological importance were identified.

1.3.6 ***Geophysical Survey:*** a geophysical survey was carried out by Bartlett-Clark Consultancy on behalf of Network Archaeology, in October 2006. A 30m-wide sample strip of ground was surveyed along all accessible areas of the pipeline route, and was supplemented by surveys of seven potential re-routes (Bartlett 2006). Initially, some areas could not be surveyed due to access restrictions and crops, though most of these were subsequently surveyed (in 2007) and have been reported in a separate Addenda (Bartlett 2007a; 2007b). In the central and western part of the pipeline route, the soils were particularly conducive to geophysical survey. The responsiveness of the clay and silt soils at the eastern end of the pipeline may not have been as complete; however, a number of positive findings were obtained in this area. The Magnesian limestone geology of the centre of the route gives rise to strongly magnetic soils, which responded well to a magnetometer survey. Numerous archaeological features and other ground disturbances were detected both here, and on the Millstone Grit at the north-western end of the route. Features detected by the survey include a number of enclosures, some of which may indicate settlement sites; others may form parts of field systems. There are also various scatters of small magnetic anomalies, which may be of non-

anthropogenic origin. Examples of ridge-and-furrow and former field boundaries were also identified.

1.3.7 ***Topographic Survey:*** six earthwork sites were recommended for topographic survey, within the field reconnaissance survey report; these are also listed in the Recommendations Document (NAL 2006-7; *Section 1.3.10* below). Two of these comprise the Aberford Dykes Scheduled Monuments (see *1.3.9* below). Other investigated sites included two mounds and two areas of ridge and furrow (NAL 2007e). It has been recommended that the mounds are monitored by watching brief during pipeline construction and that the areas of ridge and furrow are investigated by trench evaluation.

1.3.8 ***Palaeoenvironmental Assessment:*** a desk-based assessment of palaeoenvironmental potential was commissioned for the pipeline (Headland Archaeology 2007). This has developed a deposit model along the route of the pipeline outlining four broad geomorphological zones. With regard to trenching evaluation, the palaeoenvironmental assessment has assisted primarily with the selection of areas of archaeological potential, which also coincide with areas of colluvium and/or palaeoenvironmental deposits (e.g. palaeochannels).

1.3.9 ***Aberford Dykes Document:*** this document (NAL 2007f) has recently been produced, in support of an application for Scheduled Monument Consent, required to construct the pipeline through the Aberford Dykes earthworks. It places the monuments in their historical and archaeological contexts, explores the relevant research priorities and outlines a strategy for further investigation. Area excavation, rather than evaluation, was recommended for the monuments themselves, although trenching is planned for the adjacent areas.

1.3.10 ***Recommendations Document:*** a document setting out the recommendations for archaeological investigations along the route of the pipeline was commissioned by EIS in November 2006. Version 2 of this document was submitted to the various statutory consultees, by Network Archaeology, in January 2007, and a subsequent version in April 2007 (NAL 2006-7). The specific objectives of this document are to assess the need for further evaluation and mitigation prior to, and during, construction. The document is likely to be further revised as additional discussions between the client and curators take place. The Recommendations Document will also include a working Deposit Model. This will be the product of an analysis all of the available archaeological, geotechnical and topographic data for the route. It will be used to predict the likely location, character, and extent of archaeological remains along the pipeline route, as well as the likely impact of the pipeline construction process upon them. A deposit model will also inform the general strategy of the programme of archaeological work, starting with the choice of additional areas for evaluation.

2. METHODOLOGY

2.1 WRITTEN SCHEME OF INVESTIGATION

2.1.1 Following a request from Entrepose Industrial Services, a Written Scheme of Investigation (WSI) for a programme of archaeological evaluation trenching was produced by OA North (*Appendix 1*). All works undertaken complied with the terms of the WSI.

2.1.2 The overall aim of the evaluation was to locate any hitherto unknown archaeology, in order to assist the client in the planning and construction of the pipeline. Specific objectives were as follows:

- to gather sufficient information to establish the extent, condition, character and date, as far as circumstances permit, of any archaeological features and deposits within the areas of investigation;
- locate, sample excavate and record any archaeological remains revealed within the trenches;
- locate, recover, identify, and conserve, as appropriate, any revealed archaeological artefacts;
- locate, recover, assess and analyse, as appropriate, any revealed palaeo-environmental, palaeoeconomic and organic remains;
- recommend measures for preservation in situ of revealed archaeological, palaeoenvironmental, palaeo-economic and organic remains, wherever feasible and desirable;
- determine any need for further evaluation and mitigation work prior to construction;
- generate data for use in producing a geoarchaeological deposit model for the pipeline route;
- to test the results of previous, non-intrusive surveys within evaluated areas (including the results of geophysical survey, plotting of aerial photographs, fieldwalking, field reconnaissance, desk-based assessment and palaeoenvironmental assessment);
- compile an appropriate report/publication; and
- produce a paper and digital archive, which will be deposited within the appropriate repositories.

2.1.3 The stages of investigation completed so far (*Section 1.3*) identified a number of specific areas where there are known or potentially significant archaeological remains. It was these areas that were selected for trenching evaluation. It is likely that further areas will need to be evaluated in the future

either because evaluation was not possible at the time or because they have not yet been identified/agreed. The results of any further evaluation work will be presented in additional reports.

2.1.4 In total, 98 trenches located in 36 plots were agreed for evaluation at this stage (tabulated in *Appendix A* of *Appendix 1*, which states the specific target for each trench (eg ditch-like geophysical anomaly)). In the event, it was only possible to excavate 87 of the trenches at this time, as the land in which the remainder were situated was inaccessible, although the latter will probably be excavated during future programmes of work. Consequently Trenches 5, 6, 17, 46-9, and 67-70 have not yet been excavated.

2.1.5 Of the 98 trenches originally planned, 85 were classed as 'Priority Trenches', ie ones that were definitely to be opened. The other 13 were 'Contingency Trenches', ie ones which were only to be opened if required (eg if 'Priority Trenches' revealed a site whose limits need defining. In most cases it was deemed appropriate to excavate the contingency trenches as well as the priority trenches.

2.1.6 The vast majority of the trenches targeted geophysical anomalies, although a small number of finds scatters and uncorroborated ADBA sites were also targeted. Both anomalies and the intervening blank areas were sampled, in order to pick up any potentially concealed archaeology. In addition, outlying trenches were placed, to try to define the limits of each 'site'.

2.1.7 The trenches were largely narrow and long (2m by 20-60m), although others were shorter and wider (4m by 15-30m). The narrow ones were generally positioned to intersect linear and curvilinear magnetic anomalies, whilst the wider ones aimed to expose pit-like anomalies and parts of possible enclosures (ditch junctions and interiors).

2.2 EVALUATION TRENCHING

2.2.1 The evaluation methodology is presented in detail within the WSI (*Appendix 1*). Locations of the evaluation trenches were set out to one-centimetre accuracy by a professional surveyor using a DGPS survey system. Excavation of the trenches was undertaken using a mechanical excavator, fitted with a toothless ditching blade, approximately 2m wide, under the constant supervision of an experienced archaeologist.

2.2.2 Topsoil and recent overburden were removed in spits no more than 10cm deep, down to the surface of the first significant archaeological deposit or to bedrock or superficial basal deposits, whichever was reached first. Layers of colluvium and/or alluvium were removed in their entirety, where practicable, in order to establish whether they masked any archaeological remains.

2.2.3 When the top of the first significant archaeological horizon was exposed, it was cleaned by hand and inspected for features, which were then be dug by hand. The machining took into account the potential for the presence of structures and coherent layers, such as floors, spreads or middens. All

trenches, including those with no significant archaeological deposits, were recorded. Separate context numbers were issued for the superficial subsoil deposits in each trench, allowing unstratified finds to be located to the trench. Finds from these layers were plotted using tapes, with their locations located on the relevant trench plan or section drawing.

2.2.4 Those parts of each trench that contained archaeological features were cleaned by hand, with careful attention paid to any archaeological remains. All archaeological remains were hand-excavated in an archaeologically controlled and stratigraphic manner, in order to meet the aims and objectives of the project. The complete stratigraphic sequence, down to naturally occurring deposits, was excavated, and the work investigated and recorded all inter-relationships between features, where possible within the confines of a trench.

2.2.5 All features were at least half-sectioned and a minimum of 20% of each linear feature was hand-excavated, in segments normally at least 1m wide, at intervals along the length of each feature, in order to establish their date, character and function. The full depth of all deposits was investigated, wherever feasible, making provision for stepping (where necessary), in order to accomplish this in a safe manner. Intersections between features were fully hand-excavated to determine the stratigraphic sequence, where relationships were uncertain without excavation. Any features or parts of features of particular significance, such as burials, complex re-cuts, bends or terminals, were fully hand-excavated. A minimum of 20% of any spread layers, middens and similar deposits were hand-excavated wherever practicable.

2.2.6 All securely stratified contexts were sampled to determine their functions and origins, for the recovery of artefacts, and to place them within their palaeoenvironmental and palaeoeconomic contexts. In accordance with accepted professional guidelines (English Heritage 2002), bulk samples measured 40 litres in volume, providing that the sampled context was of sufficient volume. Entire contexts were sampled if they were low in volume.

2.2.7 Record sheets approved by the county archaeological curators were used for written field records; in a format acceptable to the IFA. A unique alpha-numeric project code appears on all records. Levels have been recorded to one-centimetre accuracy relative to Ordnance Datum, by utilising temporary benchmarks, installed in each plot chosen for evaluation by a professional surveyor using a DGPS survey system.

2.2.8 Site drawings included trench plans at 1:50, detailed plans at 1:20 or 1:10 of significant features, section drawings at 1:20 or 1:10 of significant features and section drawings of at least one long section of each trench at 1:50. If significant archaeology was found in a trench, then at least two sections, ideally at right angles to each other, were recorded.

2.2.9 Monochrome and colour transparency photographs in 35mm format included overall shots of the site, of each trench, of work in progress and detailed feature shots. A suitable scale, context number and north arrow, where appropriate, appear in each photograph. Digital photography was also used.

2.2.10 Artefact recovery was a standard element of the evaluation. Machine and hand-excavated spoil was visually searched for archaeological finds. All stratified finds, and all pre-20th century unstratified finds were collected for assessment by an appropriate specialist.

2.3 ARCHIVE

2.3.1 The results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (English Heritage 1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. The archive for the archaeological work undertaken at the site will be deposited with the nearest museums (West Yorkshire - Leeds Museum; North Yorkshire - York Museum) which meet Museums' and Galleries' Commission criteria for the long term storage of archaeological material (MGC 1992). This archive can be provided in the English Heritage Centre for Archaeology format, both as a printed document and on computer disks as ASCii files (as appropriate). The archive will be deposited with the nominated museum, as part of the greater project archive, upon the submission of the report. Except for items subject to the Treasure Act and subject to landowner consent, all artefacts found during the course of the project will be donated to the receiving museum.

2.3.2 A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the appropriate Historic Environment Records. A copy of the index to the archive will also be available for deposition in the National Monument Record in Swindon.

3. RESULTS

3.1 INTRODUCTION

3.1.1 The length of the pipeline and the varied terrain through which it runs, preclude the drawing of all encompassing conclusions about the results of the evaluation exercise. It is helpful to break the route down into a number of smaller packages to enable relevant and meaningful discussion held at a more local scale (Table 1; Figs 2-4). The packages (H-K) in bold italics are in West Yorkshire, the remainder are all in North Yorkshire.

Package	Landscape Unit	Plot	Trenches
A	Holocene alluvium	1-4	1, 2, 3 and 4
B	Pleistocene alluvium	10-4	7 and 8
C	Pleistocene alluvium	16-2	9 and 10a
		16-8	10b
		16-9	11 and 12
		17-3	13 and 14
D	High relief calcareous	17-8	15 and 16,
		18-5	18, 19a, 19b, 19c and 20a
E	High relief calcareous	18-9	20b, 21 and 22, ,
		18-10	23 and 24
		18-11	25, 26, 27, 28, 29, 30 and 31
F	High relief calcareous	19-2	32
		19-3	33a and 33b
		19-4	34
		20-1	35
G	High relief calcareous	20-2	36, 37, 38, 39, 40 and 41
H	***High relief calcareous***	***2310***	***4 and 43***
		23-11	***44 and 45,***
		24-5	***50, 51 and 52***
		24-8	***53, 54a, 54b and 54c***
I	***High relief calcareous***	***25-2***	***55, 56, 57, 58a and 58***
		26-2	***59, 60, 61 and 62a***
		26-3	***62b, 62c, 63, 64, 65 and 66a***
J	***Holocene alluvium***	***28-7***	***66b***
K	***High relief non-calcareous***	***28-8***	***71, 72 and 73***
L	High relief non-calcareous	31-4	74 and 75,

Package	Landscape Unit	Plot	Trenches
		31-12	76 and 77
M	High relief non-calcareous	35-2	78
		35-3	79 and 80,
		35-4	81, 82, 83 and 84
		35-5	85
		35-10	86 and 87

Table 1: Concordance Table of Packages

3.1.2 The starting point for deciding the extent of the packages was the four geotopographical landscape units identified in the palaeoenvironmental assessment (Headland Archaeology 2007). It was felt that the nature of the geology and topography would affect the character and visibility of the archaeological remains. Further subdivision was then undertaken on the basis of the known archaeological background and the geographical proximity of the excavation trenches. The packages were either devised to correlate with cultural entities within the landscape that the trenches sampled, for example, areas of cropmark field systems, or in the absence of this, trenches were grouped into spatial clusters. As such, the resulting packages vary widely in terms of size and the number of evaluation trenches they contain, including between one to fifteen trenches. The concordance between the trenches, pipeline plots and landscape units is shown in (*Table 1*). The results of the evaluation are summarised in Table 2. The exact position of the trenches in Ordinance Survey co-ordinates is shown on the figures and given in *Appendix A* of *Appendix 1*.

3.1.3 Table 2 presents a summary of the results of the evaluation. Of the 98 Trenches, 11 were not excavated; 17 contained no archaeological features of any kind; four contained features believed to be of natural origin; four contained only post-medieval land drains or paths; and the remaining 51 trenches contained archaeological features believed to be of potential significance.

Trench No.	Trench Area	Figure numbers	Results
1	20m by 2m	5 and 6	No archaeology
2	20m by 2m	5 and 6	Enclosure ditch (Iron Age?)
3	20m by 2m	5 and 6	Enclosure ditch (Iron Age?)
4	20m by 2m	5 and 6	No archaeology except nineteenth century land drains
5	30m by 2m	N/A	Not excavated
6	20 by 2m	N/A	Not excavated
7	30m by 2m	8 and 9	No archaeology
8	30m by 4m	8 and 9	Post-medieval and Romano-British boundary ditches and post-medieval plough scars
9	15m by 4m	10 and 12	Boundary ditch and post-hole; not closely dateable
10a	15m by 4m	10 and 12	No archaeology
10b	30m by 2m	10 and 13	Boundary ditch and pit; not closely dateable
11	30m by 2m	10 and 14	Late Romano-British Ditch and pits - probable settlement
12	30m by 2m	10 and 14	Late Romano-British Ditches and pits - probable settlement; Iron Age and post-medieval pottery
13	30m by 2m	11 and 16	No archaeology
14	15m by 4m	11 and 16	Ditches; not closely dateable
15	15m by 4m	17 and 18	Ditch, not closely dateable
16	30m by 2m	17 and 18	Natural depression

Trench No.	Trench Area	Figure numbers	Results
17	30m by 2m	N/A	Not excavated
18	30m by 2m	17 and 19	Natural solution holes
19a	15m by 4m	17 and 19	Romano-British boundary ditch
19b	15m by 4m	17 and 19	Natural features
19c	15m by 4m	17 and 19	Boundary or enclosure ditch; note closely dateable but possibly Romano-British
20a	30m by 2m	17 and 19	Boundary ditch; possibly Romano-British
20b	20m by 2m	20 and 21	Boundary ditches; not closely dateable
21	50m by 2m	20 and 21	Boundary ditches and natural feature; note closely dateable
22	20m by 2m	20 and 23	Ditch; not closely dateable
23	20m by 2m	20 and 23	Ditch and pits; not closely dateable
24	20m by 2m	20 and 23	Romano-British boundary ditch
25	30m by 2m	20 and 24	Boundary ditch; not closely dateable but possibly Romano-British
26	40m by 2m	20 and 24	Boundary ditch; medieval or earlier
27	20m by 2m	20 and 25	Ditch; not closely dateable
28	10m by 4m	20 and 25	Ditch; not closely dateable
29	20m by 2m	20 and 26	Ditch; not closely dateable
30	15m by 4m	20 and 26	Ditches and a pit; not closely dateable. Worked flint flake
31	2 by 8m by 4m (T-shaped)	20 and 26	Ditches; not closely dateable
32	40m by 2m	28 and 29	Ditch; not closely dateable. Natural feature and worked flint flake
33a	12m by 4m	28 and 29	No archaeology
33b	12m by 4m	28 and 29	Boundary or enclosure ditches; not closely dateable
34	20m by 2m	28 and 30	Boundary ditches; not closely dateable
35	40m by 2m	28 and 31	Boundary ditches; not closely dateable
36	20m by 2m	32 and 33	Boundary ditch; not closely dateable
37	20m by 2m	32 and 33	Ditch and possible posthole; not closely dateable
38	20m by 2m	32 and 34	Ditch; not closely dateable
39	20m by 2m	32 and 35	Boundary Ditch; not closely dateable but possibly Romano-British
40	20m by 2m	32 and 35	Romano-British trackway or boundary ditches, flint arrowhead
41	20m by 2m	32 and 35	Boundary Ditch; not closely dateable but possibly Romano-British
42	10 by 4m	36 and 37	Natural feature
43	30m by 4m	36 and 37	Ditches; not closely dateable but possibly flanking Roman road
44	30m by 2m	36 and 37	No archaeology
45	30m by 4m	36 and 37	Ditches and pits or natural features; not closely dateable
46	30m by 2m	N/A	Not excavated
47	30m by 2m	N/A	Not excavated
48	20m by 2m	N/A	Not excavated
49	30m by 4m	N/A	Not excavated
50	60m by 2m	36 and 38	Romano-British ditches and pits probably settlement features; rotary quern stone and post-medieval pottery
51	40m by 2m	36 and 38	Romano-British ditches, key to drum lock
52	20m by 2m	36 and 38	No archaeology
53	30 by 4m	36 and 39	Boundary ditch; not closely dateable but nineteenth century pottery recovered
54a	20m by 2m	36 and 39	Ditch; not closely dateable
54b	20m by 2m	36 and 39	No archaeology
54c	20m by 2m	36 and 39	No archaeology
55	20m by 2m	40 and 41	No archaeology
56	20m by 2m	40 and 41	Ditch; not closely dateable
57	20m by 2m	40 and 41	Ditch; not closely dateable
58a	20m by 2m	40 and 41	Dry valley and ditch; not closely dateable
58b	20m by 2m	40 and 41	No archaeology
59	20m by 2m	40 and 42	No archaeology
60	20m by 2m	40 and 42	Boundary ditch; not closely dateable
61	20m by 2m	40 and 42	Boundary or trackway ditches; not closely dateable. Fragment of quern stone
62a	20m by 2m	40 and 43	Boundary ditch; not closely dateable
62b	20m by 2m	40 and 43	Boundary ditches; not closely dateable but nineteenth century pottery recovered
62c	20m by 2m	40 and 43	No archaeology
63	20m by 2m	40 and 44	No archaeology
64	30m by 2m	40 and 44	Boundary or trackway ditches; not closely dateable
65	30m by 2m	40 and 44	Boundary or trackway ditches; not closely dateable
66a	20m by 2m	40 and 44	No archaeology
66b	20m by 2m	45 and 46	Boundary ditch; not closely dateable
67	20m by 2m	N/A	Not excavated
68	20m by 2m	N/A	Not excavated
69	20m by 2m	N/A	Not excavated

Trench No.	Trench Area	Figure numbers	Results
70	20m by 2m	N/A	Not excavated
71	20m by 2m	47 and 48	Boundary ditch; not closely dateable
72	20m by 2m	47 and 48	Boundary or trackway ditches; not closely dateable
73	20m by 2m	47 and 48	Ditch; not closely dateable
74	20m by 2m	49 and 50	Boundary ditch; not closely dateable
75	20m by 2m	49 and 50	Path; not closely dateable
76	30m by 2m	49 and 51	Romano-British pit and ditches
77	30m by 4m	49 and 51	No archaeology
78	30m by 2m	52 and 53	Boundary ditch; not closely dateable
79	30m by 2m	52 and 53	Ditch; not closely dateable. Post-medieval pit
80	20m by 2m	52 and 53	Nineteenth century land drain
81	20m by 2m	52 and 54	Boundary ditch; not closely dateable
82	20m by 2m	52 and 54	Boundary ditch; not closely dateable
83	20m by 2m	52 and 54	Prehistoric ditch
84	20m by 2m	52 and 54	No archaeology
85	50m by 2m	52 and 56	Stone-filled land drains and stone path all probably post-medieval
86	30m by 2m	52 and 57	Stone-filled ditch; not closely dateable
87	30m by 2m	52 and 57	Stone-filled ditch; not closely dateable

Table 2: Summary of results

3.1.4 The following results section is arranged by package, with a description and summary for the results of each package, followed by detailed trench descriptions and, finally, by recommendations for further work. The route is discussed from the south-east moving north-west.

3.2 PACKAGE A

3.2.1 Package A (Figs 2 and 5) was located at the south-eastern end of the scheme (North Yorkshire; Newland Parish; Plot 1-4), with the trenches lying at approximately 3m aOD, on a flat low-lying floodplain, to the south-east of the village of Drax, east of Brier Lane and south-east of Halfway house. The package was located on Holocene alluvium.

3.2.2 Two of the trenches (Trenches 2 and 3) were priority trenches, located over geophysical anomalies that appeared to form two sides of a roughly square enclosure (Fig 6). Excavation of these trenches revealed the expected anomalies to be substantial ditches (***1003*** and ***1018***), both containing Iron Age pottery (*Section 4.2*). In addition, a further smaller ditch (***1014***) was located to the west of the enclosure ditch in Trench 3. This feature ran parallel to the enclosure ditch, albeit outside the enclosure, and also contained Iron Age pottery (*ibid*). The two contingency trenches in this field, Trenches 1 and 4, were also excavated, on the strength of the archaeological remains discovered, but neither produced any features, although they suggest the extent of the remains.

3.2.3 ***Trench 1 (Fig 6):*** this trench revealed 0.3m of topsoil sealing alluvium that, when excavated, proved to exceed 2.2m in depth. No archaeological features were observed.

3.2.4 ***Trench 2 (Fig 6):*** the general stratigraphy in this trench comprised 0.35m of topsoil sealing alluvium that, when excavated, proved to exceed 2.4m in depth. A single ditch, ***1003***, was identified, which measured 3m wide and 1.3m deep,

was orientated east/west and cut the alluvium. Animal bone and sherds of probable Iron Age pottery were retrieved from the uppermost fill.

3.2.5 ***Trench 3 (Figs 6 and 7):*** this trench revealed 0.30m of topsoil sealing alluvium that, when excavated, proved to exceed 2m in depth. The geophysical anomaly in the middle of the trench was shown to be a ditch, ***1018***, which was 2.8m wide and 1.24m deep, orientated north/south and cut into the alluvium. The ditch contained unworked flint, animal bone and sherds of probable Iron Age pottery. A second north/south aligned ditch, ***1014***, 8m to the west, was 0.5m wide and 0.3m deep, and contained a single fill that produced animal bone and probable Iron Age pottery.

3.2.6 ***Trench 4 (Fig 6):*** this trench revealed 0.5m of topsoil, over 0.4m of sand, sealing alluvium that, when excavated, proved to exceed 2.5m in depth. Apart from four probable nineteenth century ceramic land drains, this trench was devoid of archaeological features.

3.2.7 ***Recommendations for further work:*** a small open-area excavation will be required in the future. As the contingency trenches suggest the archaeology is confined to the area of the geophysical anomaly, any such excavation should keep closely to its known extents. Any watching brief should pay particular attention to identifying any outlying features relating to the enclosure.

3.3 PACKAGE B

3.3.1 Package B (Figs 2 and 8) was located towards the south-eastern end of the scheme (North Yorkshire; Gateforth Parish; Plot 10-4), with the trenches at approximately 6.5m aOD, in a large flat field to the south-east of Gateforth and to the west of the Selby Canal. The package was located on Pleistocene alluvium, an interpretation that was confirmed by the evaluation trenching.

3.3.2 The trenches in this package were both located over linear geophysical anomalies (Fig 9). Trench 7 revealed no evidence of any archaeological features. The geophysical anomaly within Trench 8 was identified as a large ditch (***1196***), last open in the post-medieval period. A number of other linear features were also detected, including a substantial ditch (***1192***), containing Romano-British pottery (*Section 4.2*).

3.3.3 ***Trench 7 (Fig 9):*** the geology in this trench comprised 0.3m of topsoil, sealing natural deposits of alluvium, which were at least 1.35m thick. No archaeological features were observed within this trench.

3.3.4 ***Trench 8 (Fig 9):*** the geology revealed in this trench consisted of 0.35m of topsoil, sealing natural deposits of alluvium. Six linear features were revealed within this trench, with three parallel linear features at the western end of the trench (***1202***, ***1194*** and ***1198***) probably representing plough scars. Ceramic building material (*Section 4.3*), post-medieval pottery (*Section 4.2*) and worked flint (*Section 4.5*) were recovered from the fills of these features. Further west a large ditch, ***1196***, 3.2m wide and 1.05m deep, was revealed running broadly north-east/south-west across the trench. It contained two fills,

with the lower containing post-medieval pottery and a fragment of metal, whilst the upper fill contained glass. At the western end of the trench two intercutting features were identified. The earlier, a broadly east/west aligned ditch, ***1192***, was over 9m long, 2.2m wide and 0.45m deep. Its single fill contained Romano-British pottery (*Section 4.2*). The later feature, also a small ditch, ***1199***, running for 4m across the trench, was 0.5m wide and 0.3m deep, and contained a single fill, which produced a piece of bone (*Section 4.6*).

3.3.5 ***Recommendations for further work:*** it would be desirable to record the full extent of the Romano-British ditch (***1192***), to excavate further interventions across it and establish or not whether there were any other associated features. This work could perhaps most appropriately be carried out following the construction phase topsoil strip.

3.4 PACKAGE C

3.4.1 Package C (Figs 2, 10 and 11) was located towards the centre of the scheme (North Yorkshire, Sherburn in Elmet and Little Fenton Parishes; Plots 16-2, 16-8, 16-9 and 17-3), with the trenches lying at between 6m and 8m aOD, along a broadly east/west orientated section of the pipeline, running to the north of Sherburn in Elmet and to the south of Church Fenton. The package was sited on Pleistocene alluvium.

3.4.2 Six of the seven trenches in this package were priority trenches, targeting geophysical anomalies, whilst a contingency trench (Trench 13) was located to reveal the extent of the site, should archaeology be discovered in Trench 14. Trench 10b was located in the vicinity of a Bronze Age socketed and looped spearhead (DBA:AY; NSMR MNY10337; NAL 2006a), which possibly indicated a cemetery or burial in this area.

3.4.3 A single undated linear feature (***1186***), which possibly equates to a geophysical anomaly, was observed in Trench 9; a posthole (***1188***) being the only other feature in this trench. No trace was detected of the geophysical anomaly sampled by Trench 10a, and there were no other archaeological features within it. An undated ditch (***1173***) was identified in Trench 10b, which appeared to equate to a geophysical anomaly, additionally, a pit (***1175***) was revealed. Five pits (***1150***, ***1158***, ***1166***, ***1168*** and ***1170***) and a ditch (***1164***) were detected within Trench 11, all of which were dated to the Romano-British period (ceramic dates ranged between the second and late fourth centuries AD). None of the features matched well with the geophysical anomalies. Worked flint objects discovered during fieldwalking (NAL 2007c) also influenced the position of two of the trenches, flints 12069 and 16116 being found near to Trench 9 and flint 16129 near to Trench 13.

3.4.4 Five ditches (***1144***, ***1147***, ***1151***, ***1153*** and ***1156***) and two pits (***1179*** and ***1180***) were revealed within Trench 12, all of which were dated to the Romano-British period (the large ceramic assemblage suggested activity lasting into the fourth century AD; Plate 3). The features in Trenches 11 and 12, which were in close proximity, appear to provide evidence for a Romano-British settlement site in the immediate vicinity.

3.4.5 Trenches 13 and 14 lay some 1.5km further to the west of Trenches 11 and 12. Trench 14 was targeted upon a circular geophysical anomaly and contained six linear features, at least one of which appeared to equate to the anomaly. None of the features contained any dateable cultural material, but a prolonged sequence of activity is suggested. The contingency trench, Trench 13, was excavated because of the concentration of features within Trench 14. However, it proved to contain no archaeological features.

3.4.6 ***Trench 9 (Fig 12):*** the geology in this trench comprised 0.35m of topsoil, sealing 1.45m of natural alluvial deposits. An east/west orientated ditch, ***1186***, which measured >4.7m long, 0.2m wide and 0.05m deep, was revealed towards the middle of the trench, with a possible posthole, ***1188***, 0.4m long, 0.3m wide and 0.2m deep, adjacent to it.

3.4.7 ***Trench 10a (Fig 12):*** the geology in this trench comprised 0.35m of topsoil, sealing over 1.4m of natural alluvial deposits. No archaeology was observed within this trench.

3.4.8 ***Trench 10b (Fig 13):*** the geology in this trench comprised 0.3m of topsoil, sealing natural deposits of alluvium. Two features were revealed within this trench, a pit, ***1175***, and a ditch, ***1173***. The pit measured >0.8m long, 0.55m wide and 0.5m deep and was located towards the western end of the trench. The ditch was 1.3m wide and 0.7m deep, was orientated north/south, and lay towards the middle of the trench.

3.4.9 ***Trench 11 (Fig 14):*** the geology in this trench consisted of 0.45m of topsoil, sealing natural deposits of alluvium. There were six features within this trench; five pits and a single ditch. The broadly north/south ditch, ***1164***, measured 1m wide and 0.4m deep and lay towards the centre of the trench. The north-westernmost pit, ***1150***, measured >0.85m long, >0.65m wide and 0.2m deep, containing pottery and ceramic building material. To the south-east of this pit, two pairs of intercutting pits were observed. Pit ***1166***, 2.3m long, >1.1m wide and 0.4m deep, truncated pit ***1168***, which measured >3.25m long, >0.75m wide and 0.8m deep. Further to the south-east, pit ***1158***, 0.4m long, 0.3m wide and 0.1m deep, truncated pit ***1170***, which measured 1.5m in diameter and 0.5m deep. Pit ***1158*** contained pottery and yielded a rich palaeoenvironmental assemblage (*Section 4.7*), pit ***1166*** contained pottery and bone, pit ***1168*** contained bone and ceramic building material, and pit ***1170*** contained pot, bone and ceramic building material. All the pottery recovered from this trench appeared to date to the Romano-British period, most of it from the latter part.

3.4.10 ***Trench 12 (Figs 14 and 15):*** the geology in this trench comprised 0.25m of topsoil, sealing natural deposits of alluvium. Five linear features and two discrete features were observed within this trench. At the eastern end of the trench a gully, ***1156***, measuring 2m long, 0.3m wide and 0.05m deep, was identified, truncated by a north-west/south-east ditch, ***1147***, which measured >4m long, 1.45m wide and 0.5m deep. The gully contained pottery, dating to the Romano-British period. To the west of these features a north/south aligned ditch, ***1144***, measuring 2m wide and 0.55m deep, was revealed. Identified to the west of this feature was a north-west/south-east ditch, ***1153***, measuring

>4m long, 1.9m wide and 0.3m deep. It contained both pottery and bone and was truncated by a north/south ditch, ***1151***; pit ***1179*** truncated ***1153*** and another pit, ***1180***, lay just west of it. Ditch ***1151*** measured 3.1m wide and 0.4m deep. It contained pottery (Plate 3), bone and unidentifiable metal pieces, and yielded a rich palaeoenvironmental assemblage (*Section 4.7*). One of the pits, ***1180***, measuring 0.7m in diameter and 0.1m deep, was circular, whilst the other, ***1179***, measuring 0.9m long, 0.9m wide and 0.2m deep, was somewhat amorphous. Pit ***1180*** contained bone and metal, whilst ***1179*** contained pottery and bone.

3.4.11 ***Trench 13 (Fig 16):*** the geology in this trench comprised 0.3m of topsoil, sealing natural deposits of alluvium. No archaeological features were revealed within this trench.

3.4.12 ***Trench 14 (Fig 16):*** the geology in this trench comprised 0.25m of topsoil, sealing natural deposits of alluvium. Six ditches were revealed within this trench. The southernmost ditch, ***2165***, measured 0.74m wide and 0.4m deep. This appeared to truncate another ditch, ***2167***, which was orientated broadly north-east/south-west and measured 0.9m wide and 0.15m deep. To the north of these features, running through the middle of the trench, was a curvilinear ditch, ***2163***, measuring 1m wide and 0.2m deep. North of this, was a small gully, ***2154***, measuring 3.2m long, 0.5m wide and 0.2m deep, its eastern terminus lying within the trench. Further north, lay an east/west ditch, ***2161***, measuring 1m wide and 0.4m deep, and containing animal bone. It was truncated by a north-west/south-east ditch, ***2158***, measuring 0.7m wide and 0.25m deep, that terminated approximately where it cut ***2161***.

3.4.13 ***Recommendations for further work:*** the small number of archaeological features recorded in Trenches 9, 10a and 10b merit only a watching brief in their respective vicinities. The dense activity attested by the finds and features in Trenches 11 and 12 suggests a late Romano-British settlement in this area, which will require further excavation. The risk of delays to programme posed by this archaeology means that it should most appropriately be mitigated well in advance of pipeline construction. The concentration of features revealed within Trench 14 suggests the need for further excavation in this area, to establish their form and extent, to investigate the relationships between them and to attempt to recover dating material. This might take place following the strip of the pipeline corridor, as the activity seems well confined, judging by the lack of features in Trench 13. However, given the potentially sensitive nature of the archaeology, it may make sense to excavate at an earlier juncture.

3.5 PACKAGE D

3.5.1 Package D (Figs 3 and 17) lay towards the centre of the scheme (North Yorkshire; Barkston Ash Parish; Plots 17-8, 18-4 and 18-5), with the trenches at between 10m and 26m aOD, along a broadly north-west/south-east orientated section of the pipeline, to the south of Barkston Ash and to the north of Sherburn in Elmet. The trenches were located on high relief calcareous geology.

3.5.2 Trenches 15 and 16 targeted the putative site of a former Friends Burial Ground (NSMR MNY10809), which was marked on the Ordnance Survey mapping as disused (NAL 2006a), with Trench 15 targeting a number of pit-like geophysical anomalies. Neither trench produced any evidence of burials, with a single linear feature in each of the trenches (respectively ***2208*** and ***2212***) being the only archaeology observed. Trenches 19a and 19c sampled geophysical anomalies and cropmarks, which appeared to form a square enclosure, measuring approximately 40m by 40m, and possibly associated with a cropmark trackway (NSMR MNY10814) to the south and east. These cropmarks were thought to possibly comprise part of an early field system. The substantial ditches (***2216***, ***2223*** and ***2225***) forming the enclosure were detected in both trenches, measuring approximately 2.5m wide and 1m deep, with two of the three interventions excavated across them producing Romano-British pottery (dates ranging between the second to late third centuries AD). Trench 19b was located over a number of small geophysical anomalies within the enclosure, although it revealed no archaeology. Contingency Trench 18 targeted a blank area to the south-east of the enclosure and revealed no archaeological features. Trench 20a was located to the north-west of the enclosure and was targeted upon a linear geophysical anomaly, on an orientation that varied from it. A single ditch (***1210***), corresponding to the geophysical anomaly, was revealed within this trench.

3.5.3 ***Trench 15 (Fig 18):*** the geology in this trench comprised 0.3m of topsoil, overlying 0.2m of subsoil, above deposits of colluvium, up to 0.7m deep, which sealed natural deposits of Magnesian limestone. Towards the western end of the trench, a number of very irregular features were revealed, which appeared to be natural in derivation, probably having been formed by trees. A single north-west/south-east ditch, ***2208***, measuring >5.25m long, 1.1m wide and 0.2m deep, lay towards the western end of this trench. It contained no finds.

3.5.4 ***Trench 16 (Fig 18)****:* the general stratigraphy comprised 0.3m of topsoil, over 0.2m of subsoil, sealing natural deposits of Magnesian limestone. A single feature, ***2012***, measuring more than 1.4m long, 0.45m wide and 0.3m deep, was identified within the trench, extending beneath the baulk. The feature may have been an elongated pit, but was probably a natural depression in the limestone and did not seem to be a grave.

3.5.5 ***Trench 18 (Fig 19):*** the general stratigraphy in this trench comprised 0.35m of topsoil, sealing natural deposits of Magnesian limestone. A group of ten small circular and sub-circular features was located towards the southern end of the trench, whilst further north four larger features were revealed. The features all contained very similar, sterile, fills and it seems most likely that they represent natural solution holes (none are therefore shown on the plan).

3.5.6 ***Trench 19a (Fig 19):*** the general stratigraphy uncovered in this trench comprised 0.25m of topsoil, overlying 0.3m of subsoil, sealing natural deposits of Magnesian limestone. Two ditches were revealed, an east/west ditch, ***2223***, measured >4m long, 2.6m wide and 0.8m deep, apparently truncated by the north/south ditch, ***2225***, which was >4.6m long, 2.9m wide and 0.9m deep. Ditch ***2223*** contained probable Romano-British pottery, bone

and a small fragmentary piece of copper alloy, whilst ditch ***2225*** contained bone and Romano-British pottery.

3.5.7 ***Trench 19b (Fig 19):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone. Two small features were investigated but proved to have been formed by natural processes and are not, therefore, on the plan.

3.5.8 ***Trench 19c (Fig 19):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone. A single north/south ditch, ***2216***, was revealed at the north-western end of this trench, measuring >9m long, 2.4m wide and 1m deep. The uppermost fill of the ditch contained animal bone, whilst the lower two fills contained no finds.

3.5.9 ***Trench 20a (Fig 19):*** the general stratigraphy in this trench consisted of 0.4m of topsoil, sealing natural deposits of Magnesian limestone. A single north/south feature, ***1210***, was observed towards the middle of the trench, measuring 0.8m wide and 0.5m deep.

3.5.10 ***Recommendations for further work:*** there was no evidence for burials at the Quaker cemetery, and it is debatable that any ever took place (NAL 2006-7). No further work is recommended in the vicinity of Trenches 15 and 16, beyond tracing the extent of the ditch in Trench 15 during a watching brief, although careful attention should be maintained in case human burials occur, and a pre-construction strip would mitigate any risk of delay to programme caused by any burials the trenches may have missed. The finds recovered from the ditches in Trenches 19a and 20a possibly suggest some habitation or other activity in the vicinity, although not necessarily within the land-take for the current pipeline. It is therefore recommended that the area of Trenches 18-20a is stripped under close archaeological supervision, to find the extent of the features revealed and to reveal any further features present in the area. Further interventions should also be excavated across the ditches, to recover more dating material. It would be desirable to do this in advance of the pipeline construction, in case settlement features are revealed within the enclosure.

3.6 PACKAGE E

3.6.1 Package E (Figs 3 and 20) was located towards the central part of the pipeline (North Yorkshire; Barkston Ash Parish; Plots 18-9, 18-10 and 18-11), to the west of Barkston Ash and to the south of Saxton. The pipeline is orientated broadly north-west/south-east within this package, with the trenches located at between 38m and 45m aOD. The trenches were sited on high relief calcareous geology.

3.6.2 Eleven of the twelve trenches within this package were priority trenches, targeting geophysical anomalies and cropmarks. Cropmarks (NSMR MNY10770), probably indicating field system ditches or enclosures, are known in the fields surrounding the pipeline route. Those targeted by Trenches 21, 24, 26, 29 and 30 all appear to belong to field systems established on broadly the same alignment, with Trenches 26, 29 and 30 sampling small

enclosures associated with them. Trench 25 targeted a geophysical anomaly that appeared to run perpendicular to the other field systems – possibly a cross lynchet. To the immediate east of this trench was the parish boundary between Saxton with Scarthingwell and Barkston Ash. The anomaly targeted in Trench 20b seemed to be on a different alignment to the cropmarks, whilst Trenches 22 and 23 targeted the southern end of an apparently rectangular enclosure. The linear anomaly targeted in Trench 28 was on a slightly different orientation to the main field systems to the west, but may have been associated with a cropmark on a perpendicular orientation to the north-west. T-shaped Trench 31 sampled a circular cropmark, with a discrete central circular feature. A contingency trench, Trench 27, was excavated on account of the archaeology revealed in the rest of the package, and targeted an area of possible pit-like geophysical anomalies.

3.6.3 The trenching confirmed the existence of the anomaly in Trench 20b, which proved to be a substantial ditch (***1279***) that had been recut (***1277***), both of which remain undated. Two of the linear anomalies in Trench 21 were identified, as undated ditches (***2017*** and ***2023***), whilst Trenches 22 and 23 both confirmed the presence of an undated enclosure ditch (***2025*** and ***2143*** respectively). Trenches 24, 25 and 26 proved that the geophysical anomalies corresponded to boundary/enclosure ditches (***2148***, ***1228***, ***1230***, ***1241*** and ***1235***), with Romano-British (possibly late second century AD date) and medieval pottery respectively recovered from the ditches in Trenches 24 and 26. Contingency Trench 27 produced no evidence of any pit-like geophysical features, although an undated gully (***1239***) was identified. An undated ditch (***1247***) caused the geophysical anomaly in Trench 28, and the 'clothesline' enclosure targeted by Trenches 29 and 30 was also positively identified, being defined by substantial ditches (***1252*** and ***1261***). Trench 31 produced evidence for a ring ditch (***1264*** and ***1270***), which survived as a very shallow feature; the anomaly within the ring ditch equated to another linear feature (***1267***). The possibility that this ring ditch is part of a prehistoric monument should not be precluded, especially as a flint flake was recovered from the nearby in Trench 30.

3.6.4 The trenches, therefore, confirm the existence of the field systems and enclosures targeted by the trenches. The pottery recovered from Trench 24 suggests that these may have had their origins in at least the Romano-British period, and the medieval pottery from Trench 26, if not intrusive, implies that they may have remained in use for a prolonged period of time. The circular feature sampled by Trench 14 is intriguing and the possibility that it denotes a prehistoric monument should not be ruled out.

3.6.5 ***Trench 20b (Figs 21 and 22):*** the general stratigraphy in this trench comprised 0.4m of topsoil, overlying 0.2m of subsoil, sealing natural deposits of sand, clay and Magnesian limestone. Two south-west/north-east ditches, ***1279***, measuring >0.6m wide and 0.4m deep, and its much deeper recut, ***1277***, measuring 2.6m wide and 1.3m deep, were identified in the middle of this trench. These did not contain any dating evidence.

3.6.6 ***Trench 21 (Fig 21)****:* the general stratigraphy comprised 0.5m of topsoil, over 0.2m of subsoil, sealing natural deposits of Magnesian limestone. Two linear

features, probably ditches, ran across the width of the trench. The first of these, ***2017***, was at the western end of the trench and measured 1.4m wide and 0.6m deep, whilst the second, ***2023***, which measured 1.7m wide and 1m deep, lay further east, towards the middle of the trench. Both features contained one fill each and seemed anthropogenic despite a lack of finds. A discrete feature, ***2021***, measuring 2m long and 0.5m wide, was also identified to the east of ***2023*** but seemed natural in origin.

3.6.7 ***Trench 22 (Fig 23)****:* the general stratigraphy comprised 0.25m topsoil, over 0.2m of subsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2025***, measuring 1.3m wide and 0.5 deep, was detected, containing animal bone.

3.6.8 ***Trench 23 (Fig 23):*** the general stratigraphy in this trench comprised 0.3m of topsoil overlying 0.2m of subsoil, sealing fragmentary natural deposits of Magnesian limestone. Two pits, ***2136*** and ***2141***, and a single ditch, ***2143***, were revealed within the trench. The westernmost pit, ***2136***, measured >0.8m long, >0.3m wide and 0.4m deep, whilst pit ***2141*** measured >1.1m long, >0.6m wide and 0.5m deep. Ditch ***2143*** measured 2.25m wide and 0.95m deep and was located towards the eastern end of the trench.

3.6.9 ***Trench 24 (Fig 23):*** the general stratigraphy revealed within this trench comprised 0.3m of topsoil, overlying 0.3m of subsoil, sealing fragmentary natural deposits of Magnesian limestone. A single feature, ***2148***, measuring 1.8m wide and 0.6m deep, was revealed running across the middle of the trench, orientated broadly north-east/south-west. The ditch contained two fills, with Romano-British (possibly late second century AD) pottery recovered from the upper fill.

3.6.10 ***Trench 25 (Fig 24):*** the general stratigraphy in this trench comprised 0.35m of topsoil, overlying 0.30m of subsoil, sealing natural deposits of clay. A north/south orientated ditch, ***1228***, measuring 16m long, 1.3m wide and 0.1m deep, was observed in the trench, truncating an earlier east/west ditch, ***1230***, measuring 2.25m wide and 0.65m deep. The north/south ditch ran parallel to the parish boundary between Scarthingwell and Barkston Ash.

3.6.11 ***Trench 26 (Fig 24):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.1m of subsoil, sealing natural deposits of clay. Two broadly north/south ditches were revealed, one towards either end of the trench. Ditch, ***1235***, towards the eastern end of the trench, measured 1.5m wide and 0.5m deep and contained a piece of medieval pottery. Ditch, ***1241***, towards the western end of the trench, measured 1.05m wide and 0.5m deep and produced no finds.

3.6.12 ***Trench 27 (Fig 25):*** the general stratigraphy in this trench comprised 0.45m of topsoil, overlying 0.5m of subsoil, sealing natural deposits of Magnesian limestone and clay. An east/west gully, ***1239***, measuring >2.6m long, 0.4m wide and 0.15m deep, was located towards the middle of the trench, with heavily bioturbated features either side of it, possibly indicating the former presence of hedgerows.

3.6.13 ***Trench 28 (Fig 25):*** the general stratigraphy revealed within this trench comprised 0.55m of topsoil, overlying 0.35m of subsoil, sealing natural deposits of Magnesian limestone. A single broadly east/west undated feature, ***1247***, measuring 1.8m wide and 0.7m deep, was revealed within the trench.

3.6.14 ***Trench 29 (Figs 26 and 27):*** the general stratigraphy in this trench comprised 0.4m of topsoil, overlying 0.25m of subsoil, which sealed natural deposits of Magnesian limestone. A single east/west ditch, ***1252***, measuring 2.4m wide and 1.4m deep, was revealed in the trench, and the heavily bioturbated remains of a possible hedge were also observed.

3.6.15 ***Trench 30 (Figs 26 and 27):*** the general stratigraphy revealed in this trench comprised 0.4m of topsoil, overlying 0.15m of subsoil, which sealed natural deposits of Magnesian limestone. The earliest feature, ***1261***, a north-east/south-west ditch, measured >11m long, >2.5m wide and >1.05m deep. This ditch produced a single flint flake, almost certainly a residual find. Towards the southern end of the trench, a further ditch had been suggested by the geophysical survey, expected to run broadly east/west across the trench. Within the confines of the trench, it was not possible to distinguish this putative feature, from ***1261***, although its existence remains a distinct possibility. A small pit, ***1257***, measuring 0.65m long, 0.55m wide and 0.1m deep and containing burnt deposits, was observed cut into the uppermost fill of ditch ***1261***.

3.6.16 ***Trench 31 (Figs 26 and 27*)*:*** the general stratigraphy in this trench comprised 0.35m of topsoil, sealing natural deposits of Magnesian limestone. The form of the earliest feature in the trench, ***1270***, a ditch measuring >0.75m wide, >0.8m long and 0.2m deep, at the eastern end, could not be fully ascertained as it ran into the eastern baulk. This feature was truncated by a broadly north/south ditch, ***1264***, measuring 1.6m wide and 0.1m deep. A further ditch, ***1267***, was identified at the western end of the trench, orientated north/south and measuring 1m wide and 0.1m deep. This ditch ran through the centre of the putative ring. It contained a single fill, which produced no dateable artefacts. Ditches ***1264*** and ***1270*** were in the correct position to be the ring ditch identified from aerial photographs.

3.6.17 ***Recommendations for further work*:** various different strategies for mitigation are recommended for different parts of this package. The full extent of the features revealed in Trench 20b should be determined, and further interventions excavated, to characterise the features and to attempt to recover dateable evidence. This work could be carried out following the construction phase topsoil strip. It would be sufficient to monitor the area around Trench 21 by watching brief alone.

3.6.18 With regard to Trenches 22 and 23, the area of the enclosure and its immediate vicinity should be stripped under close archaeological supervision, to attempt to locate any internal or related features. Special attention should be paid to the topsoil strip in the wider area to determine the extent of this site. It is possible that an open-area excavation targeting any revealed features may be required following the topsoil strip.

3.6.19 The area sampled by Trenches 24-28, contained features expected from the geophysical survey and from aerial photographs. It would seem sufficient to map the full extent of these features after the construction phase topsoil strip, and to excavate further interventions to help characterise them and to search for dateable material.

3.6.20 Trenches 29 and 30 proved the existence of a substantial 'clothesline' enclosure, identified from aerial photographs. The interior of this enclosure has not been examined and it should be stripped under close archaeological supervision, preferably sometime in advance of the commencement of the construction phase topsoil strip. The substantial enclosure ditches will also require further excavation, to search for dateable material, and to try to reconstruct any chronological development of the enclosure.

3.6.21 Trench 31 seemingly contains elements of a circular feature, first identified from aerial photographs. Given the size and form of this feature, the possibility that it is a prehistoric monument should not be ruled out. The circular feature and its immediate vicinity should be stripped under close archaeological supervision, to allow further investigation; this should take place well in advance of the construction phase topsoil strip.

3.7 PACKAGE F

3.7.1 Package F (Figs 3 and 28) was located towards the central part of the pipeline (North Yorkshire; Saxton with Scarthingwell Parish; Plots 19-2, 19-3, 19-4 and 20-1), west of Saxton and to the south-east of Aberford. The pipeline is orientated broadly north-west/south-east within this package, with the trenches lying at between 30m and 49m aOD. The trenches were located on high relief calcareous geology.

3.7.2 Trench 32 targeted three linear geophysical anomalies, two of which were parallel to each other. Trench 33b targeted a probable enclosure, identified by geophysical survey in the area of cropmarks known from aerial photographs (DBA:CP; NAL 2006a), whilst Trench 33a was located within it, to ascertain the presence or absence of any internal features. Trench 34 targeted a linear geophysical anomaly, which was also identified as a sinuous cropmark from aerial photographs (DBA:CM; NAL 2006a), whilst Trench 35 was sited to examine up to four parallel anomalies, which may also correspond to a field boundary recorded on the 1891 OS map (DBA:HI; NAL 2006a).

3.7.3 The trenches targeting geophysical anomalies all revealed archaeological features, although Trenches 32 and 35 identified fewer features than expected, and a change in the natural geology accounted for one of the anomalies in Trench 32. Trench 33b contained two substantial ditches (***1020*** and ***2269***) evidence of the enclosure it targeted, but Trench 33a, did not detect any features within the enclosure. Trenches 34 and 35 both contained undated ditches (***1111***, ***1116***, ***1119***, ***2053*** and ***2055***), possibly part of field systems or trackways associated with the cropmarks of a possible deserted medieval settlement (NSMR 10772).

3.7.4 ***Trench 32 (Fig 29):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone and clay. A single north-west/south-east ditch, ***2267***, was identified towards the eastern end of the trench, measuring 3.3m wide and 0.65m deep. This ditch contained two fills, the upper of which contained a flint flake. Towards the western end of the trench a banding of the natural geology (***2269***) created the illusion of a feature, which accounted for one of the geophysical anomalies.

3.7.5 ***Trench 33a (Fig 29):*** the general stratigraphy in this trench comprised 0.45m of topsoil sealing natural deposits of Magnesian limestone. No archaeological features were observed.

3.7.6 ***Trench 33b (Fig 29):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.2m of subsoil, sealing natural deposits of Magnesian limestone. Two ditches were observed within this trench, ***1109***, measuring 2.35m wide and 0.8m deep, was orientated east/west and ran across the middle of the trench. Only the eastern side of the other ditch, ***1120***, measuring 1m wide and 0.5m deep, was revealed in the north-western corner of the trench. This feature appeared to be orientated north-east/south-west.

3.7.7 ***Trench 34 (Fig 30):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone. Three ditches were revealed within this trench, all running broadly north-east/south-west. The westernmost ditch, ***1111***, measured 2m wide and 1.05m deep. The remaining two intercutting ditches were located at the eastern end of the trench. The earlier feature, ***1116***, measured 1m wide and 0.3m deep and was truncated by ***1119***, which was 1.45m wide and 0.25m deep; neither ditch contained any finds.

3.7.8 ***Trench 35 (Fig 31)****:* the general stratigraphy in this trench comprised 0.4m of topsoil sealing a number of colluvial deposits, which had a maximum thickness of 1.2m, overlying natural deposits of Magnesian limestone. Two ditches corresponding to geophysical anomalies were identified. The first, ***2055***, ran east/west across the middle of the trench cutting the limestone and measured 2.5m wide and 0.8m deep; its single fill contained animal bone. The other ditch, ***2053***, measuring 1.6m wide and 0.6m deep, lay towards the southern end of the trench, and produced no finds. It truncated an earlier feature, ***2051***, probably a pit, which measured 1.5m long, 0.5m wide and 0.4m deep.

3.7.9 ***Recommendations for further work:*** only one of the three geophysical anomalies identified in Trench 32 was confirmed by the evaluation. It is therefore suggested that after the normal construction phase topsoil strip, the full extent of the ditch should be established and further interventions excavated through it to search for dateable material. The ditches revealed within Trench 33b might merit further investigation; on the geophysical survey they appear to form an enclosure, the interior of which may yet contain features despite the negative results from Trench 33a. The known locations and vicinities of these features should be closely monitored during the construction-period permanent-presence watching brief.

3.7.10 The evaluation proved the existence of the linear cropmark feature targeted by Trench 34 and has revealed further features. The known locations and vicinities of these features should be closely monitored during the construction-period permanent-presence watching brief. Further excavation may provide dating evidence. Trench 35 confirmed the presence of ditches, possibly along a boundary or flanking a trackway and other associated features. Unfortunately, it has not yet been possible to date any of them. The known locations and vicinities of these features should be closely monitored during the construction-period permanent-presence watching brief. Further excavation may be required to retrieve dating evidence.

3.8 PACKAGE G

3.8.1 Package G (Figs 3 and 32) was located towards the centre of the scheme (North Yorkshire; Saxton with Scarthingwell; Plot 20-2), with the trenches lying at between 50m and 54m aOD. The pipeline is orientated broadly north-west/south-east in this package, running east of Aberford and west of Saxton. The trenches were sited on high relief calcareous geology.

3.8.2 Trenches 36, 37 and 38 each targeted single linear geophysical anomalies, whilst Trenches 39, 40 and 41 targeted anomalies that were also identified as cropmarks (NSMR MNY10645), possibly field system ditches or enclosures linked by trackways. A worked flint arrowhead was retrieved from one of these (deposit ***2128*** in ditch ***2127***). Trenches 36, 37 and 38 all revealed the features (***2034***, ***2039*** and ***2133***) causing the geophysical anomalies, which were all relatively small undated ditches. Trenches 39 and 41 revealed the expected ditches (***2119*** and ***2116***) corresponding to the cropmarks and geophysical anomalies, with ***2116*** producing Romano-British pottery. Trench 40, which targeted a pair of cropmarks, revealed five ditches (***2123***, ***2110***, ***2127***, ***2126*** and ***2128***), three of which are dated to the Romano-British period. It seems possible that the features identified constitute elements of a multiple-phase trackway or field system boundary.

3.8.3 ***Trench 36 (Fig 33)****:* the general stratigraphy comprised 0.3m topsoil, over 0.5m subsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2034***, measuring 0.9m wide and 0.2m deep, ran north/south across the width of the trench at its centre, corresponding to a geophysical anomaly.

3.8.4 ***Trench 37 (Fig 33)****:* the general stratigraphy in this trench comprised 0.4m of topsoil, over 0.2m of subsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2039***, ran east/west across the trench, measuring 1m wide and 0.4m deep, corresponding to a geophysical anomaly. In the base of the ditch a possible posthole, ***2040***, was identified, measuring 0.3m in diameter and 0.3m deep.

3.8.5 ***Trench 38 (Fig 38):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2133***, was revealed running broadly north/south across the middle of the trench, measuring 1.6m wide and 0.4m deep.

3.8.6 ***Trench 39 (Fig 35):*** the general stratigraphy revealed in this trench consisted of 0.3m of topsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2123***, measuring 1.3m wide and 0.6m deep, was located towards the middle of the trench, orientated broadly north/south.

3.8.7 ***Trench 40 (Fig 35):*** the general stratigraphy comprised 0.3m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. Five linear features, all orientated broadly east/west, were revealed within this trench. The northernmost of these, ***2119***, measured 0.9m wide and 0.4m deep. The next ditch to the south, ***2129***, measured 2.4m wide and 0.85m deep and contained Romano-British pottery (second to third century AD) and bone. Ditch ***2127***, which was 1.1m wide and 0.35m deep, was located to the south of ditch ***2129***, and produced a single piece of medieval pottery, as well as a residual late Neolithic ripple-flaked oblique arrowhead (Plate 5). Ditch ***2121***, to the south of ditch ***2127***, measured 1.8m wide and 0.7m deep and contained Romano-British pottery (third century AD). The remaining linear feature, ***2110***, measuring 1.6m long, 1.2m wide and 0.2m deep, was a terminus to a feature extending westwards beneath the bulk.

3.8.8 ***Trench 41 (Fig 35):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone. A single ditch, ***2116***, measuring 1m wide and 0.65m deep, was revealed, running broadly north-east/south-west. The ditch contained a single fill, which produced bone and Romano-British pottery.

3.8.9 ***Recommendations for further work:*** It is possible that the excavated ditches in Trenches 36, 37 and 38 define fields or enclosures relating to the cropmark features to the north and south-west. The known locations and vicinities of these features should be closely monitored during the construction-period permanent-presence watching brief. Any watching brief should pay particular attention to identifying and excavating any outlying features relating to these ditches, and these ditches might themselves be further sample excavated.

3.8.10 Trenches 39, 40 and 41 have confirmed the presence of cropmark features possibly defining a boundary or trackway and associated enclosures. The finds suggest a sustained history of use over a long duration, and possibly indicate settlement activity nearby. The high density of features and artefacts make it desirable to undertake further open-area excavation, sampling the area between Trenches 41 and 39, and possibly further east and west if the archaeology continues in this direction. This will provide a more complete plan of the features and allow their characterisation. It may be possible to defer further work until the time when this part of the spread has been stripped, prior to pipe installation, although excavation at an earlier juncture may prove preferable.

3.9 PACKAGE H

3.9.1 Package H (Figs 4 and 35) was located towards the centre of the pipeline (West Yorkshire; Thorner and Wothersome Parishes, Plots 23-10, 23-11, 24-1, 24-2, 24-5 and 24-8), with the pipeline firstly running north-west/south-east,

then turning to north/south, before turning back to north-west/south-east at the north of this area. The package was located to the south-west of Bramham and to the north-east of Thorner, with the trenches being at a height of 85m to 88m aOD. The trenches were located on high relief calcareous geology.

3.9.2 Two of the trenches in this package, Trenches 43 and 53, targeted known Roman roads (respectively WSMR 628 and WSMR 3056), Trench 53 also sampled a cropmark, probably an enclosure ditch (WSMR 4226). Trench 42 targeted geophysical anomalies immediately to the south of the supposed road in Trench 43. Trench 44 targeted a 'blank' area of no known archaeological potential, whilst Trench 45 targeted a number of small geophysical anomalies, possibly related to the nearby cropmarks (WSMR 4166). Trenches 50 and 51 both targeted enclosures, identified as geophysical anomalies and cropmarks (WSMR 4168/4169) respectively, whilst Trench 52 was a contingency trench to help confirm the extent of any features identified in the former two trenches. Trenches 54a, 54b and 54c all targeted linear geophysical anomalies, with the anomaly in Trench 54a also being identified as a cropmark, part of a field system observed to the north of the pipeline route.

3.9.3 A pair of parallel ditches (***1130*** and ***1133***) was located in Trench 43, approximately 10m apart. It is possible that the ditches originally flanked a Roman road, although there was no sign of an *agger*, perhaps because of subsequent plough truncation. A single irregular feature (***1128***), was located in Trench 42, which appeared natural in origin, although being south of the line of the putative Roman road, it might also be explained by quarrying or other activity associated with road construction. Trench 44 was devoid of archaeological features, whilst Trench 45 revealed a ditch (***1215***) and three further features (***1217***, ***1219*** and ***1223***) that appeared to be natural in origin. The enclosures targeted by Trenches 50 and 51 were both identified, each of them producing Romano-British pottery (early second to third centuries AD). Half a rotary quern stone recovered from Trench 50 suggests settlement activity in the immediate vicinity of the trench (Plate 6); both trenches also revealed further, unexpected features. Trench 52 produced no archaeological remains. Single undated linear features were identified within Trenches 53 and 54a; however, apart from a ditch, there was no good evidence for the Roman road anticipated in Trench 53. Trenches 54b and 54c produced no evidence of any archaeological remains; the only find being nineteenth century pottery from Trench 53.

3.9.4 ***Trench 42 (Fig 37):*** the general stratigraphy in this trench comprised 0.46m of topsoil over natural deposits of Magnesian limestone. An irregularly shaped feature, ***1128***, 0.75m deep, was detected in the eastern half of the trench. It is most likely that this was natural in origin, possibly being pitting or fissuring of the limestone.

3.9.5 ***Trench 43 (Fig 37):*** the general stratigraphy in this trench comprised 0.27m of topsoil overlying natural deposits of Magnesian limestone. Corresponding to the line of the expected Roman road, were two east/west aligned ditches, ***1130***, measuring 5.9m wide and 0.38m deep, and ***1133***, measuring 2.44 wide and 0.28m deep. Neither of the features contained any finds.

3.9.6 ***Trench 44 (Fig 37):*** the general stratigraphy in this trench comprised 0.3m of topsoil, sealing natural deposits of Magnesian limestone. No archaeological features were observed within this trench.

3.9.7 ***Trench 45 (Fig 37):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.2m of subsoil, which sealed natural deposits of Magnesian limestone. Two linear features and two discrete features were observed within this trench, although some of these may be natural in origin. The westernmost feature, ***1219***, which measured >1.3m long, 0.7m wide and 0.3m deep, comprised the probable terminus of a curvilinear ditch, although it was heavily bioturbated and may have been entirely natural. The two discrete features, ***1217***, measuring 1.2m long, 0.6m wide and 0.2m deep and ***1223***, measuring 1m long, 0.7m wide and 0.2m deep, were located close to each other towards the eastern end of the trench and appeared to be either shallow pits or natural features. A ditch, ***1215***, measuring >5.4m long, 1.15m wide and 0.45m deep, was located immediately to the east of the two discrete features and was orientated north-west/south-east. It contained a single fill, which produced a piece of possible slag. It seems most likely that this feature was a field boundary ditch.

3.9.8 ***Trench 50 (Fig 38)****:* the general stratigraphy in this trench comprised 0.3m of topsoil, over 0.45m of subsoil, sealing natural deposits of Magnesian limestone. Four ditches and three discrete features were identified truncating the limestone. Three of the ditches, ***2071***, ***2077***, and ***2086***, ran across the trench in an east/west direction, whilst the fourth, ***2069***, which was also the northernmost, was orientated north-east/south-west. Ditches ***2077*** and ***2069*** appeared to be the geophysical anomalies targeted by this trench. Ditch ***2077*** was 1.1m wide and 0.64m deep and contained half a beehive shaped rotary quern stone (Plate 6) and three fragments of Romano-British pottery. Ditch ***2071***, measured 1.4m wide and 0.2m deep, and produced no artefacts. Ditch ***2086***, measuring 1.8m wide and 0.4m deep, also contained no artefacts. Ditch ***2069***, measuring 0.7m wide and 0.4m deep, contained two fills, neither of which produced artefactual remains. The three discrete features in this trench, ***2080***, ***2082*** and ***2084***, were all sub-rectangular in plan and formed a row. All of the features contained a single fill, were less than 0.1m deep and no artefacts were recovered from them. The northernmost (***2084***) measured 0.3m by 0.35m in plan, ***2080*** measured 0.3m by 0.3m in plan and the southernmost (***2082***) measured 0.35m by 0.4m in plan. It seems most likely that they are the postholes of a relatively recent fenceline.

3.9.9 ***Trench 51 (Fig 38):*** the general stratigraphy in this trench comprised 0.4m of topsoil, sealing natural deposits of Magnesian limestone. Two ditches, ***2063*** and ***2067***, were identified; the eastern of which (***2063***) appeared to be the geophysical anomaly targeted by the trench. This feature was >1.4m wide and >0.94m deep, and was not fully revealed in plan, running under the eastern baulk of the trench. It contained a piece of Samian ware and an iron key to a drum lock (Plate 4), which could feasibly be of Romano-British date. The other ditch, ***2067***, measuring 1.75m wide and 0.55m deep, was orientated north-east/south-west.

3.9.10 ***Trench 52 (Fig 38):*** the general stratigraphy in this trench comprised 0.3m of topsoil, over colluvial deposits of up to a metre in depth, sealing natural deposits of Magnesian limestone. No archaeological features were observed within this trench.

3.9.11 ***Trench 53 (Fig 39):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.1m of subsoil, sealing natural deposits of Magnesian limestone. A single east/west orientated ditch, ***1082***, measuring 2m wide and 0.4m deep, was revealed towards the northern end of the trench. This produced no dating evidence.

3.9.12 ***Trench 54a (Fig 39):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.05m of subsoil, sealing natural deposits of Magnesian limestone. A north/south orientated ditch, ***1078***, was revealed towards the eastern end of the trench, measuring 1.8m wide and 0.7m deep. This did not contain any dateable finds.

3.9.13 ***Trench 54b (Fig 39):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. No archaeological features were observed within this trench.

3.9.14 ***Trench 54c (Fig 39):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. No archaeological features were observed within this trench.

3.9.15 ***Recommendations for further work:*** Trench 43 appears to confirm the existence of the putative Roman road. It will probably be necessary to undertake an open-area excavation in order to attempt to better characterise the survival of any such road and attempt to retrieve material evidence that might help confirm its date. Any such excavation should extend at least 10m either side of the course of the possible road, in order to detect any roadside activity. It will probably be possible to defer further work until the time when this part of the spread has been stripped, prior to pipe installation, but excavation at an earlier juncture may be preferable.

3.9.16 No further work is recommended in the vicinity of Trenches 44 and 45, beyond the standard construction-phase permanent-presence watching brief, due to the lack of significant archaeological remains revealed. A small open-area excavation might be required in the vicinity of Trenches 50 and 51, extending no further north than Trench 52; the southern extent of such an excavation cannot presently be determined. It will probably be possible to defer further work until the time when this part of the spread has been stripped, prior to pipe installation, although excavation at an earlier juncture may be preferable.

3.9.17 Although Trench 53 detected a ditch that may have been associated with a Roman road, the feature was not dated and the association is uncertain, as there was no other evidence for the road. The putative location of the road should be closely monitored during the construction-phase watching brief. The area surrounding Trenches 54a, 54b and 54c need only be monitored during the construction-phase watching brief.

3.10 PACKAGE I

3.10.1 Package I (Figs 4 and 40) was located towards the centre of the pipeline (West Yorkshire; Wothersome and Bardsey cum Rigton Parishes; Plots 25-2, 26-2 and 26-3), with the pipeline orientated broadly north-westsouth-east throughout. The package was south of Collingham and to the east of East Rigton, with the trenches lying at a height of 80m to 97m aOD, on high relief calcareous geology.

3.10.2 Trenches 56, 57 and 58b targeted linear geophysical anomalies in the south of this package, whilst Trenches 55 and 58a were contingency trenches located in their vicinity to determine the extent of any archaeological sites discovered. Further north, Trench 59 was a contingency trench, located to the south of Trenches 60 and 61, which were targeting a field system identified from the geophysical survey. It was part of a series of cropmarks (WSMR 4139) that Trench 62a also sampled. Trench 62b targeted a linear geophysical anomaly, which might also have been part of the field system, and Trench 62c was a contingency trench, in its vicinity. Trenches 64 and 65 were positioned to sample another element of this cropmark field system, possibly the conjunction of north/south and east/west trackways. Trench 63 was located to the south and Trench 66a to the north of Trenches 64 and 65, to help determine the extent of any activity associated with the trackways.

3.10.3 Trenches 56 and 57 revealed the expected ditches (***1087*** and ***1094***), whilst Trench 58a revealed an unexpected ditch (***1103***). Trenches 60-62b and 64 and 65 all identified the geophysical anomalies/cropmarks they were targeted on, none of which, unfortunately, yielded any artefacts apart from a single, probably intrusive, sherd of nineteenth century pottery in Trench 63 (in subsoil ***2173***). The remaining trenches, positioned in blank areas within this package, revealed no archaeological remains.

3.10.4 ***Trench 55 (Fig 41):*** the general stratigraphy in this trench comprised 0.2m of topsoil, sealing natural deposits of Magnesian limestone. No archaeological features were found within this trench.

3.10.5 ***Trench 56 (Fig 41):*** the general stratigraphy within the trench comprised 0.3m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. A single north-east/south-west orientated ditch, ***1087***, was revealed in the middle of the trench, which equated to the geophysical anomaly it targeted. This feature was 1.2m wide and 0.55m deep and contained no finds.

3.10.6 ***Trench 57 (Fig 41):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. A single east/west orientated ditch, ***1094***, was revealed in the southern part of the trench, measuring 1.54m wide and 0.84m deep; it contained no finds.

3.10.7 ***Trench 58a (Fig 41):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.1m of subsoil, sealing natural deposits of Magnesian limestone. At the southern end of the trench, a colluvial deposit was identified below the subsoil, which filled a dry valley or fissure in the Magnesian

limestone. This proved steep-sided when excavated to a depth of 2.5m but the base of the feature was not reached. A single north-west/south-east orientated ditch, ***1103***, measuring >2.2m long, 0.9m wide and 0.4m deep, was revealed within the northern part of trench, terminating within it.

3.10.8 ***Trench 58b (Fig 42):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.15m of subsoil, sealing natural deposits of Magnesian limestone. No archaeological features were identified within this trench.

3.10.9 ***Trench 59 (Fig 42):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.15m of subsoil, which sealed the natural deposits of Magnesian limestone. No archaeological features were observed within this trench.

3.10.10 ***Trench 60 (Fig 42):*** the general stratigraphy in this trench comprised 0.4m of topsoil, sealing natural deposits of degraded Magnesian limestone. Two broadly east/west orientated ditches were revealed within the centre of this trench. The northern ditch, ***2259*** (Plate 2), ran across the width of the trench measuring 1.5m wide and 0.7m deep, the southern ditch, ***2261***, terminated within the trench, measuring >1.3m long, 0.7m wide and 0.3m deep.

3.10.11 ***Trench 61 (Fig 41):*** the general stratigraphy in this trench comprised 0.4m of topsoil, sealing natural deposits of degraded Magnesian limestone. Two east/west orientated ditches were revealed within this trench. The northern ditch, ***2248***, measured 1.9m wide and 0.9m deep, the other ditch, ***2250***, measured 1.3m wide and 0.45m deep. A fragment of what was possibly a quern stone was retrieved from the latter ditch (fill ***2249***).

3.10.12 ***Trench 62a (Fig 43):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.15m of subsoil, which sealed natural deposits of Magnesian limestone. A single north-west/south-east orientated ditch, ***2256***, was observed, towards the north-eastern end of the trench, measuring 1.9m wide and 0.65m deep.

3.10.13 ***Trench 62b (Fig 43):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.4m of subsoil, which sealed natural deposits of Magnesian limestone. Three ditches were identified within this trench. The northernmost feature, ***2198***, was orientated north-west/south-east and measured 0.5m wide and 0.1m deep. To the south of this feature, a large ditch, ***2206***, orientated north/south and measuring >3.5m long, 1.75m wide and 0.5m deep, was revealed. An east/west orientated ditch, ***2203***, measuring 0.4m wide and 0.3m deep, was at the southern end of the trench.

3.10.14 ***Trench 62c (Fig 43):*** the general stratigraphy in this trench comprised 0.24m of topsoil, overlying 0.39m of subsoil, which sealed natural deposits of Magnesian limestone. No archaeological features were revealed in this trench.

3.10.15 ***Trench 63 (Fig 44):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.2m of subsoil, sealing natural deposits of Magnesian limestone. No archaeological features were revealed within this trench.

3.10.16 ***Trench 64 (Fig 44):*** the general stratigraphy in this trench comprised 0.30m of topsoil, overlying 0.20m of subsoil, which sealed natural deposits of Magnesian limestone. Three linear features were identified within the trench. The northernmost two features, ***2191***, measuring 0.75m wide and 0.5m deep, and ***2193***, measuring 0.75m wide and 0.5m deep, were immediately next to each other and orientated north-west/south-east. It was unclear if one of these truncated the other or if they were contemporary. To the south of these features a third ditch, ***2186***, measuring 1.3m wide and 0.45m deep, ran east/west through the trench.

3.10.17 ***Trench 65 (Fig 44):*** the general stratigraphy in this trench comprised 0.30m of topsoil, overlying 0.20m of subsoil, which sealed natural deposits of Magnesian limestone. Three ditches were revealed within this trench. Towards the north-western end of the trench, ditch ***2178*** was orientated east/west and measured >2.3m long, 1.9m wide and 0.65m deep. Further south-east the next ditch encountered, ***2181***, was ran north/south and measured >3.5m long, 2.2m wide and 0.7m deep. Still further south-east, ditch ***2188***, measuring 1.5m wide and 0.55m deep, was orientated north-east/south-west.

3.10.18 ***Trench 66a (Fig 44):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.25m of subsoil, sealing natural deposits of Magnesian limestone. No archaeological features were revealed within this trench.

3.10.19 ***Recommendations for further work:*** the known locations and vicinities of the features in Trenches 56, 57 and 58a should be closely monitored during the construction-phase permanent-presence watching brief. The extent of the dry valley identified in Trench 58a should also be established as part of the watching brief works. Trenches 59 to 62a all revealed the geophysical anomalies on which they were targeted, with one additional feature, ditch ***2261***, also being identified. It seems reasonable to assume, therefore, that there are few undiscovered linear features in this package. It is recommended that this area be revisited following the construction phase topsoil strip, with further interventions excavated through the features previously recorded in the trenches and any others that might be revealed, in an attempt to date them. The area around Trenches 64 and 65 will require further excavation, to understand the ditches revealed, and their relationships. It will, however, be possible to defer this work until after this part of the spread has been stripped, prior to pipe installation, unless it is preferable to undertake it at an earlier juncture.

3.11 PACKAGE J

3.11.1 Package J (Figs 4 and 45) was located towards the north-western end of the pipeline (West Yorkshire; East Keswick Parish; Plot 28-7), with the pipeline running broadly east/west through this area. The package was located to the west of Collingham and to the north-east of East Keswick, with the single trench excavated in this package lying at a height of 32m aOD. It was thought to be located on Holocene alluvium geology, but deposits of colluvium and boulder clay were detected in the trench.

3.11.2 This trench was positioned to sample a single linear geophysical anomaly that may relate to a cropmark enclosure system (WSMR 5139) approximately 300m further to the west. A ditch (***2102***), within the evaluation trench, corresponded to the anomaly.

3.11.3 ***Trench 66b (Fig 46):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying up to 1m of colluvial deposits, sealing natural deposits of boulder clay. A ditch (***2102***; 2.2m wide and 1m deep) was observed running north/south across the middle of the trench. The feature had a single fill, which produced no finds.

3.11.4 ***Recommendations for further work:*** the known locations and vicinity of this ditch should be closely monitored during the construction-period permanent-presence watching brief. Any watching brief should pay particular attention to dating this feature.

3.12 PACKAGE K

3.12.1 Package K (Figs 4 and 47) was located towards the north-western end of the pipeline (West Yorkshire; East Keswick, Plot 28-8), with the pipeline running broadly east/west through this area. The package was located to the north-east of East Keswick and to the west of Collingham, with the trenches lying at a height of 75m aOD, on high relief non-calcareous geology, which they confirmed (sandstone bedrock being mantled by glacial deposits of boulder clay).

3.12.2 The trenches were all positioned to target linear geophysical anomalies, Trenches 71 and 73 each targeted one anomaly (WSMR 5139), whilst Trench 72 sampled two parallel anomalies that were possibly a trackway. The trenches all revealed relatively shallow ditches (***2090***, ***2096***, ***2098*** and ***2099***) corresponding to features suggested by the geophysical survey. No finds were recovered from any of the features.

3.12.3 ***Trench 71 (Fig 48):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying 0.2m of subsoil, sealing glacial deposits of boulder clay. A single north-east/south-west aligned ditch, ***2090***, measuring 1.1m wide and 0.4m deep, was located in the middle of the trench.

3.12.4 ***Trench 72 (Fig 48):*** the general stratigraphy revealed within this trench comprised 0.25m of topsoil, overlying 0.2m of subsoil, sealing glacial deposits of boulder clay. Two broadly north/south orientated features were revealed towards the middle of the trench. The western feature, ***2098***, measured 0.4m wide and 0.25m deep, whilst the other, ***2096***, measured 0.84m wide and 0.33m deep.

3.12.5 ***Trench 73 (Fig 48):*** the general stratigraphy in this trench comprised 0.25m of topsoil, overlying 0.2m of subsoil, sealing glacial deposits of boulder clay. A single, broadly east/west aligned ditch, ***2099***, was detected towards the middle of the trench, measuring 0.8m wide and 0.4m deep.

3.12.6 ***Recommendations for further work:*** the evaluation trenches all identified the geophysical anomalies on which they were targeted but no further features. As the ditches produced no finds, they were not dated by the evaluation and may require further characterisation. This may be achieved by either a small open area excavation targeted on the known extent of the archaeology or by a watching brief during the construction phase. It will probably be possible to defer further work until this part of the spread has been stripped prior to pipe installation, unless it is preferable to undertake work at an earlier juncture.

3.13 PACKAGE L

3.13.1 Package L (Figs 4 and 49) was located towards the north-western end of the pipeline (North Yorkshire; Kearby with Netherby and Kirkby Overblow Parishes; Plots 31-4 and 31-12), with the pipeline firstly running north-west/south-east, before turning to a more west/east orientation in the western part of this area. The package was located to the south-east of Kirkby Overblow and to the west of Sicklinghall, with the trenches lying at a height of 76m to 116m aOD. The trenches were located on high relief non-calcareous geology, which they confirmed, sandstone bedrock being mantled by glacial deposits of boulder clay.

3.13.2 Trenches 74 and 75 were each positioned so as to target single linear geophysical anomalies, the one in Trench 74 possibly corresponding to a field boundary noted on the 1838 Tithe Map (DBA:FB; NAL 2006a). Trenches 76 and 77 were located between two enclosures of possible medieval date, known from cropmarks (WSMR 5187), which lie outside the pipeline easement, one to the north, the other to the south. A ditch (***1064***) accounted for the anomaly in Trench 74, and a path or trackway (***1062***) for the anomaly in Trench 75. A pit (***2242***), dating to Romano-British period, and a pair of undated parallel ditches (***2238*** and ***2240***) were identified in Trench 76, whilst Trench 77 was devoid of any archaeological features.

3.12.3 ***Trench 74 (Fig 50)****:* the general stratigraphy comprised 0.5m topsoil directly sealing natural deposits of boulder clay. Two features were identified corresponding broadly with the geophysical anomaly in this trench. A south-east/north-west curvilinear ditch, ***1064***, measuring over 9m in length, 0.8m in width and 0.2m in depth, with a single fill containing no finds, was truncated by a post-medieval drain, ***1067***, measuring 2m wide and 0.7m deep, containing a single fill of packed-stones.

3.13.4 ***Trench 75 (Fig 50)****:* the general stratigraphy comprised 0.4m topsoil directly sealing natural deposits of boulder clay. The only feature, corresponding to the geophysical anomaly in this trench, was an east/west path or trackway, ***1062***, measuring 0.8m wide 0.3m deep, formed by a stony layer in a shallow cut.

3.13.5 ***Trench 76 (Fig 51):*** the general stratigraphy in this trench comprised 0.3m of topsoil, overlying a maximum of 0.55m of subsoil, sealing natural deposits of sandstone and degraded sandstone. A pit, ***2242***, measuring 0.8m long, 0.65m wide and 0.15m deep, was located towards the eastern end of the trench, whilst a pair of parallel north/south ditches, ***2238*** and ***2240***, was located further west.

The pit had a single fill, which contained Romano-British pottery (dating from the second century AD or later). The eastern ditch, ***2240***, of the pair, measuring 1.4m wide and 0.65m deep, was slightly larger than the western one, ***2238***, which measured 1m wide and 0.35m deep. It contained no finds.

3.13.6 ***Trench 77 (Fig 51):*** the general stratigraphy in this trench comprised a maximum thickness of 0.4m of topsoil, overlying a maximum thickness of 0.4m of subsoil, sealing natural deposits of sand and sandstone. No archaeological features were revealed within this trench.

3.13.7 ***Recommendations for further work****:* the features recorded in Trenches 74 and 75 clearly related to the anomalies detected by the geophysical survey, and are probably associated with agricultural activity in this area. The known locations and vicinities of these features should be closely monitored during the construction-period permanent-presence watching brief. Previously unknown features were revealed in Trench 76; the topsoil strip in this field should be closely monitored during the construction-period permanent-presence watching brief, to enable any further features to be revealed and the full extent of the existing linear features to be established. Further interventions might be excavated across the linear features to recover dating material.

3.14 PACKAGE M

3.14.1 Package M (Figs 4 and 52) was located towards the north-western end of the pipeline (North Yorkshire; North Rigton Parish; Plots 35-2, 35-3, 35-4, 35-5 and 35-10), with the pipeline running north-west/south-east, before turning to run west/east in the western part of this area. The package was located to the north of North Rigton, with the trenches lying at a height of 100m to 160m aOD. The trenches were located on high relief non-calcareous geology, which they confirmed, sandstone bedrock being mantled by glacial deposits of boulder clay

3.14.2 A series of cropmarks in the field to the north-east of the trenches was known from aerial photographs (DBA:BV; NAL 2006a). Trenches 78, 79 and 80 each targeted linear geophysical anomalies, with those in Trenches 78 and 79 being perpendicular to each other, suggesting they were part of the same field system. Trench 82 also targeted a linear geophysical anomaly, with contingency Trench 81 being positioned to test for the southward continuation of the anomaly. Further to the north Trench 83 sampled a curvilinear geophysical anomaly, and north of it, Trench 84, a contingency trench, was positioned to establish the extent of the archaeology in this direction. Trenches 85, 86 and 87 were each positioned on linear geophysical anomalies; the former trench being at the centre of the package, the latter trenches in the west of it.

3.14.3 The geophysical anomalies targeted by Trenches 78 and 79 were both identified as ditches (***1023*** and ***1051***) and, given that they run perpendicular to each other, they are probably part of one field system. The anomaly in Trench 80 was not identified but a change in the natural geology may account for it. The linear geophysical anomaly targeted by Trench 82 corresponded to a ditch

(***1041***), which continued into Trench 81, where it was recorded as ***1030***. Trench 83 revealed a ditch (***1046***), which equated to the geophysical anomaly and a piece of prehistoric pottery was recovered from the fill of this feature. Trench 84 failed to detect any archaeological features. A probable path (***1054***), corresponding to an anomaly, was located within Trench 85, whilst the other two anomalies appeared to be caused by stone-filled land drains. The anomalies in Trenches 86 and 87 also appeared to be caused by stone-filled drainage ditches (***2003*** and ***2007***), which would appear to be associated with agricultural land improvement and, as such, probably date to the post-medieval period.

3.14.4 ***Trench 78 (Fig 53)****:* the general stratigraphy comprised 0.3m of topsoil, over 0.1m subsoil, sealing natural deposits of boulder clay. A single ditch, ***1051***, measuring 1.5m wide and 0.7m deep, ran through the northern end of the trench. The ditch contained two fills, the lower of which was sampled for palaeoenvironmental remains; there were no finds. As it did not agree with the alignment of the modern day field boundaries, it possibly belongs to an earlier system of land allotment and may be related to ditch ***1023*** in Trench 79.

3.14.5 ***Trench 79 (Fig 53)****:* the general stratigraphy revealed in this trench comprised 0.25m of topsoil, over 0.19m of subsoil, sealing natural deposits of boulder clay. A single ditch, ***1023***, was located towards the centre of the trench, measuring 2.2m wide and 1m deep. A small post-medieval pit, ***1025***, measuring 0.55m long, 0.52 wide and 0.10m deep was also identified within the trench. It contained sherds of pottery that appeared to be seventeenth-eighteenth century in date.

3.14.6 ***Trench 80 (Fig 53)****:* the general stratigraphy comprised 0.3m of topsoil over 0.33m of subsoil, which sealed natural deposits of boulder clay. There were no archaeological features in this trench, apart from a ceramic field drain of probable nineteenth century date.

3.14.7 ***Trench 81 (Fig 54)****:* the general stratigraphy comprised 0.3m of topsoil, over 0.1m of subsoil that sealed natural deposits of boulder clay. A single north/south ditch, ***1030***, measuring 1.3m wide and 0.5m deep, was located at the western end of the trench.

3.14.8 ***Trench 82 (Fig 54)****:* the general stratigraphy within this trench comprised 0.28 of topsoil, over 0.1m of subsoil, sealing natural deposits of boulder clay with many sandstone inclusions. A north/south ditch, ***1041***, measuring 1.9m wide and 0.9m deep, was located towards the middle of the trench.

3.14.9 ***Trench 83 (Figs 54 and 55)****:* the general stratigraphy in this trench comprised 0.4m of topsoil, over 0.3m of subsoil sealing natural deposits of boulder clay with many sandstone inclusions. A curvilinear ditch, ***1046***, measuring 2.5m wide and 0.82 deep, was detected in the eastern end of the trench. A single piece of prehistoric pottery was recovered from the fill of this feature.

3.14.10 ***Trench 84 (Fig 54)****:* the general stratigraphy of this trench comprised 0.23m of topsoil, over 0.1m subsoil that sealed natural deposits of boulder clay. There were no archaeological features in this trench.

3.14.11 ***Trench 85 (Fig 56)****:* the general stratigraphy comprised 0.3m of topsoil, over 0.9 m maximum of colluvium, which sealed sandstone bedrock and fragmented sandstone mixed with boulder clay. Two of the geophysical anomalies in the north-western end of this trench were stone-filled land drains, which appeared relatively recent. A further anomaly, in the south-eastern end of the trench was an upstanding bank of stone (***1054***), measuring 1.5m wide and 0.2m high – possibly the remains of a now disused path.

3.14.12 ***Trench 86 (Fig 57)****:* the general stratigraphy within this trench comprised 0.3m of topsoil sealing natural boulder clay. A single north/south aligned rock-filled ditch, ***2007***, measuring 1.3 wide and 0.4 deep was located within the trench.

3.14.13 ***Trench 87 (Fig 57)****:* the general stratigraphy within this trench comprised 0.35m of topsoil sealing natural deposits of boulder clay. A single north/south aligned rock-filled ditch, ***2003***, was located within this trench, measuring 1.25m wide and 0.4m deep.

3.14.14 ***Recommendations for further work****:* the ditches identified in Trenches 78 and 79 should be closely monitored during the construction-phase watching brief. Any watching brief should pay particular attention to identifying and excavating any outlying features relating to these ditches; and the ditches might also require further sample excavation. An open-area excavation targeting Trenches 81-3 may be required in order to better characterise and date the features located there. The southern end of Trench 84 should mark the northern extent of the excavation, as the features seem to concentrate further to the south and, likewise, there is presently no reason to believe the archaeology continues much further south-east of Trench 81. It will may be possible to defer further work until the time when this part of the spread has been stripped, prior to pipe installation, but it is preferable to undertake work at an earlier juncture. No further work is recommended in the vicinity of Trenches 85, 86 and 87 beyond the usual watching brief, but any dating evidence associated with the drains that can be collected in the future would be of some significance.

4. FINDS AND PALAEOENVIRONMENTAL REMAINS

4.1 INTRODUCTION

4.1.1 In total, 687 fragments of artefacts and animal bone were recovered during the investigation. These have been assessed in related groups and are presented below. A full catalogue is given in *Appendix 3*.

4.2 THE POTTERY

4.2.1 ***Quantification:*** in total, 233 fragments of ceramic vessel were recovered from 17 of the trenches excavated (Table 3 below):

Tr	**2**	**3**	**8**	**11**	**12**	**19**	**24**	**26**	**40**	**41**	**50**	**51**	**53**	**63**	**76**	**79**	**82**
N	2	10	15	10	108	18	6	1	50	5	5	1	1	1	3	4	1

Tr = Trench number and N = sherd count

Table 3: distribution of pottery between trenches

4.2.2 All were examined for the purpose of this assessment, and an outline catalogue created, including a preliminary division by fabric. On the whole, the pottery was in small fragments and considerable abrasion was noted. The latest material, especially, was small and on occasion no more than small chips and spalls. Trenches 12 and 40 were exceptions, producing large unabraded fragments, several of them re-fitting.

4.2.3 The material represents a wide date range, from the late Iron Age to the nineteenth/twentieth century AD, although by far the majority of the fragments examined date to the Romano-British period, and especially the third and fourth centuries AD. (Table 4 below). Both trenches 12 and 40 produced particular concentrations of material, representing *c* 46% and *c* 21.5% respectively of the entire pottery assemblage by fragment count.

Tr	**2**	**3**	**8**	**11**	**12**	**19**	**24**	**26**	**40**	**41**	**50**	**51**	**53**	**63**	**76**	**79**	**82**
IA	2	8			4												
RB			9	10	103	7	6		49	5	3	1			2		1
Med								1	1								
Pm			6		1								1	1	1	4	
ncd		2															
Total	2	10	15	10	108	18	6	1	50	5	3		1	1	3	4	1

Tr = trench, IA = Iron Age, RB = Romano-British, Med = Medieval, Pm = Post-medieval, ncd = not closely dateable

Table 4: distribution of dated pottery between trenches

4.2.4 ***Evaluation***: the majority of the pottery can be dated to the later part of the Romano-British period (third century and later), although a few fragments are

potentially earlier, being of mid-late Iron Age or second-earlier third century date. There was a limited range of common fabric types and forms present.

4.2.5 Recognisable Iron Age material was confined to Trenches 2, 3 and 12, with a single diagnostic rim sherd coming from the latter. Although fragmentary and highly abraded, the material from Trenches 2 and 3 was securely stratified, coming from fills (***1002*** and ***1012***) of ditch ***1003*** and a secondary fill (***1016***) of ditch ***1018***. In the absence of later material, these date the features. The rim and a few body sherds were recovered from topsoil in Trench 12, and although in better condition, must be regarded as of less significance.

4.2.6 Nothing in the Romano-British pottery assemblage suggests direct continuity from the late Iron Age. There are no diagnostic first century forms present and the range of fabrics and forms points to a later second to third century start-date for renewed activity. Samian fragments from Trenches 8 and 51, whilst highly abraded, appear to be East Gaulish in origin, pointing to a later second or third century date. Other greywares, and a small amount of Black Burnished ware from Trench 40 (ditch ***2129*** and pit ***2021***), include later second and earlier third century rim forms, as well as less closely dateable fabrics, again pointing to later second and third century activity. Indeed Trench 40 is unusual in having no pottery dating to the late third or fourth centuries.

4.2.7 The pottery from Trench 12 is predominantly of later third and fourth century date (Plate 3). It seems to comprise mainly Dales ware (*c* AD 250-340) and Huntcliff ware jars, with a small admixture of Crambeck-type greywares and a few fragments of third-century Derbyshire-type wares. Only two small fragments of Nene Valley colour-coated wares were noted, one reused as a spindle whorl. It stands out from other elements of the assemblage in being represented by much larger fragments, and it is clear, especially from the Dales ware, that one or more vessels are represented by several large fragments, perhaps suggesting that they were complete when deposited.

4.2.8 Only two small and abraded fragments of medieval pottery were recovered, from Trenches 26 and 40. That from the former was a club rim from a mid-twelfth-mid-fourteenth century cooking vessel, whilst the latter was a small fragment of a green-glazed reduced fabric, presumably from a jug, and likely to be of later fourteenth to sixteenth century date. Both were recovered from ditch fills (in ditches ***1235*** and ***2127*** respectively) and might thus contribute towards refining their dating.

4.2.9 The few post-medieval sherds were widely distributed, coming from Trenches 8, 12, 50, 53, 63 and 79. They are generally small and abraded, and span a date range from the later eighteenth century to the present day. It seems likely that most, if not all, reached their place of deposition in the course of agricultural activity.

4.2.10 ***Potential***: the late Iron Age and Romano-British components of this relatively small assemblage comprise a range of recognisable fabrics and vessel forms, most of which can be dated with reasonable precision and can therefore, contribute to the dating of the stratigraphic sequence, this being important in the absence of other dateable finds from many of the trenches investigated.

4.2.11 The fabrics present are typical of the region, and give a reasonable indication to the pottery sources drawn upon by smallish rural settlements, especially from the late second century onwards. The assemblage thus has the potential to comment, albeit to a limited degree, on trade and sources of supply. It comprises mainly jars, with limited numbers of dishes and bowls. Mortaria are conspicuous by their almost complete absence (one abraded sherd) and it is clear that few finewares were reaching the sites, with only two abraded fragments of samian and two equally abraded fragments of colour-coated wares present. Again, the resource is limited, but there is some potential to comment on the changes in the composition of the group, and the manner that this might reflect social change. This potential lies mostly within the group from Trench 12.

4.3 CERAMIC BUILDING MATERIAL

4.3.1 ***Quantification:*** 36 fragments of ceramic building material were noted, coming from Trenches 8, 11, and 12. The contexts from which they derive being mainly ditch and pit fills. All were examined for the purpose of this assessment, and an outline catalogue created.

4.3.2 ***Evaluation***: the fragments, for the most part recognisable as fired daub, are extremely small, few being in excess of 20mm maximum dimension. Only one small group of tile fragments was noted, from Trench 11, pit ***1150*** (fill ***1149***), which could be tentatively identified as imbrex roof tile, although the entire group represents considerably less than one tile.

4.3.3 ***Potential***: the assemblage is too small to sustain significant analysis.

4.4 METALWORK AND OTHER FINDS

4.4.1 ***Quantification:*** seven fragments of ironwork were recovered, along with crumbs of copper alloy corrosion product. There were, in addition, single examples of a clay tobacco pipe, and a glass bottle. All were examined for this assessment and an outline catalogue created.

4.4.2 ***Evaluation***: there is nothing of particular interest in the small group of ironwork, although what appears to be a padlock key (Plate 4), possibly of Roman date, was recovered from Trench 51, ditch ***2063*** (fill ***2062***). Both the clay tobacco pipe stem and the fragment of green glass bottle are likely to be of later eighteenth century date. Both are from Trench 8, ditch ***1196*** (fills ***1207*** and ***1195***).

4.4.3 ***Potential***: further analysis of these finds groups will contribute nothing to an understanding of activity on the site and very little to the refinement of dating.

4.5 LITHIC ASSEMBLAGE

4.5.1 ***Introduction:*** in total, four pieces of worked flint and two fragments of worked sandstone were recovered during the course of the evaluation. The

lithic artefacts were collected from a total of six different trenches and all were excavated from sealed archaeological contexts.

4.5.2 ***Methodology:*** each of the artefacts was analysed to identify the type and quality of raw material and any features diagnostic of production technique and subsequent use. This enabled broad definitions of artefact type and some potential date ranges to be established.

4.5.3 ***Quantification:*** The context, raw material, artefact type and possible date range is given for each artefact in Table 5:

OR no.	Context	Trench	Raw material	Artefact type	Potential date
10049	***2249***	61	Sandstone	Possible rotary quern base stone fragment	Iron Age onwards
10680	***2076***	50	Sandstone	Rotary quern stone fragment	Iron Age onwards
10682	***2128***	40	Flint	Rippled-flaked oblique arrowhead	Later Neolithic
10683	***1260***	30	Flint	Flake	Early Neolithic - Early Bronze Age
10684	***2268***	32	Flint	Flake	Early Neolithic - Early Bronze Age
10690	***1201***	8	Flint	Chip	Prehistoric

Table 5: Summary of lithic assemblage

4.5.4 Of the three flint artefacts two are of a relatively poor quality greyish brown stone with white intraclasts, which is most likely to have been procured from secondary glacial sources such as the coastal deposits of East Yorkshire or the various local tills and boulder clays (Young 1987, 86; Roberts *et al* 2001). The third worked flint (***2128***/10682) is completely patinated making it impossible to ascertain the nature and source of the raw material.

4.5.5 The flint assemblage consists of two flakes and one broken ripple-flaked oblique arrowhead (Plate 5). The flakes could feasibly date from any time between Early Neolithic to Early Bronze Age, although their relatively broad, squat shape and lack of evident platform preparation narrows this to a probable Later Neolithic to Early Bronze Age date. The arrowhead can be dated more precisely as oblique forms are only known in Britain from Later Neolithic contexts. A concentration of rippled-flaked forms has been excavated in Yorkshire (Edmonds 1995, 99) suggesting a regional tradition to which this artefact would conform. The chip was not diagnostic.

4.5.6 The quern fragments are most likely to have been produced from locally-occurring sandstone. The hand stone (***2076***/10680) has a central conical hole and 'beehive' profile, typical of a rotary quern stone and is likely to be Iron Age or later in date (Plate 6). The second fragment is flat with a roughly curved edge and has one very slightly concave smoothed surface. It is possible this is a rotary quern stone base also of Iron Age or later date.

4.5.7 ***Provenance:*** all of the flint and stone artefacts were excavated from sealed archaeological contexts but, as the arrowhead and blades are known to be residual in the backfill of a later feature, they are of little significance in their dating and interpretation.

4.5.8 ***Potential for Further Work:*** the lithic assemblage from the evaluation is small, and there is little potential for any further interpretative work at the present time. However, if the results are disseminated in any formal publication, it is recommended that the arrowhead and perforated rotary quern stone are illustrated.

4.6 ANIMAL BONE

4.6.1 ***Introduction:*** a very small collection of Iron Age and Romano-British animal bone was recovered from the evaluation excavations, from species including horse, cattle, sheep/goat, pig and dog, weighing *c* 3kg (Table 6). This material was rapidly scanned in order to assess its condition and potential for analysis.

Species	Iron Age	Romano-British	Undated	Total
Horse	1	3	5	**9**
Cattle	7	12	11	**30**
Pig			1	**1**
Sheep/Goat	6	1		**7**
Dog	2			**2**
Cattle/Horse			1	**1**
Cattle/Red Deer		1	3	**4**
Sheep/Goat/Roe Deer	1	1		**2**
Medium Mammal	26	6		**32**
Large Mammal	13	39	48	**100**
Unidentified Mammal	8	49	113	**170**
Total	**64**	**112**	**182**	**358**
Total identified to a species level	**16**	**16**	**17**	**49**

Table 6: Number of Individual Specimens (NISP) by Species

4.6.2 ***Methodology:*** the material was identified using the reference collection held by the author. All parts of the skeleton were identified where possible, including long bone shafts, skull fragments, all teeth and fairly complete vertebrae. Sheep/goat distinctions were attempted using reference material and Boesneck (1969), although none of the sheep/goat material could be positively identified to either species.

4.6.3 For each species or species group the following were recorded: the number of individual specimens (NISP); preservation category; the number of measurable bones; the number of butchered bones; the number of mandibles or mandibular loose teeth from which the wear pattern could be described; and the number of bones from which the epiphysial fusion state could be identified. The latter two data types are used to assess the age of death of the principal stock animals (cattle, sheep/goat and pig). Biometrical data is used to assess the size, and in some instance, the sex ratio of the principle stock animals. The preservation categories provide a useful indicator to the general condition of the assemblage. These categories are as follows:

very poor: very fragmented bone with a highly eroded surface;

poor: bone with an eroded surface and with less than half the anatomical part present;

moderate: bone with approximately half the anatomical part present and with some erosion to the surface;

good: bone with an uneroded surface and with half or more than half the anatomical part present;

very good: a complete, or near complete, bone with little or no erosion.

4.6.4 ***Quantification and Preservation:*** the total number of iron age and Romano-British animal bones identifiable to a species level from each period is very small (Table 4). Generally the material is in a poor condition, the majority being highly fragmented with a significant amount of surface erosion (Table 7). One Romano-British horse radius had butchery marks. One cattle mandible was recovered from which the age of death could be assessed. In total, five measurable bones were recovered, and thirteen bones from which the epiphysial fusion state could be identified.

Broad Date	**Preservation category %**					**Number**
	Very Poor	Poor	Moderate	Good	Very Good	
Iron Age	76.92	10.77	9.23	3.08	0.00	65
Romano-British	28.57	53.57	12.50	5.36	0.00	112
Undated	20.99	66.85	8.84	3.31	0.00	181
Total	33.52	52.51	10.06	3.91	0.00	358

Table 7: Preservation of animal bone (excluding loose teeth)

4.6.5 ***Potential and recommendations:*** the size of the assemblage is too small to warrant much further analysis. The material should be fully recorded for inclusion in the project archive, and a short report compiled for any future report or publication. The presence of the animal bone within the evaluation trenches suggests that further excavations are likely to produce greater quantities of, albeit poorly preserved, Iron Age and Romano-British bone. As such, the above material may have greater value in analysis as part of this potential larger assemblage.

4.7 PALAEOENVIRONMENTAL REMAINS.

4.7.1 ***Introduction***: a programme of palaeoenvironmental assessment was commissioned for the pipeline, the purpose of which was, primarily, to assist with the selection of areas of archaeological potential that coincide with areas of colluvium and/or palaeo-environmental deposits (eg palaeo-channels; ecofact-rich settlement features). The results of the assessment are presented in full in a catalogue within *Appendix 4*.

4.7.2 To achieve this, a programme of systematic sampling of all securely stratified contexts was implemented in order to eliminate the biases inherent in

judgement sampling strategies and to ensure that significant contexts were more reliably identified during evaluation.

4.7.3 Where dating by artefacts was insecure and/or where dating is a significant issue for the development of subsequent mitigation strategies, samples were also taken for scientific dating, principally radiocarbon (C14) dating.

4.7.4 ***Quantification***: in accordance with accepted professional guidelines (English Heritage 2002), bulk samples of 40 litres in volume, or entire contexts with volumes of less than this, were sampled. In total, 87 bulk samples were taken on site, of these 82 came from ditch fills, and five (***1149, 1158***, ***1174***, ***1258*** and ***1259***) came from pit fills.

4.7.5 ***Methodology***: ten litres (or the whole context if less than this volume) of each sample were processed and assessed using hand flotation where the flots were collected onto a 250µm mesh, air-dried and examined under a binocular microscope. The contents of each flot, such as cereal grains, cereal chaff, weed seeds and molluscs were quantified, as was material such as coal, clinker, bone, mortar, and ceramic building material (cbm). The presence of modern contaminants such as roots, insect eggs and modern seeds was also noted. The results are shown in the accompanying table (*Appendix 4*), which also summarises the potential of each sample for the analysis of charred plant remains (CPR), waterlogged plant remains (WPR) and for providing suitable material for radiocarbon dating. The remains are quantified on a scale of 1-4 where 1 is rare (1-5 items) and 4 is abundant (>100 items).

4.7.6 Any charcoal fragments within the bulk samples were quantified and provisionally identified where possible. In particular, the presence of any short-lived wood species such as *Alnus* (alder), *Corylus* (hazel) or *Betula* (birch) (diffuse porous wood) was noted, as was the presence of other charred material, such as Poaceae (grass) stems or tuber fragments for the purpose of providing suitable material for dating.

4.7.7 ***Results***: thirty-one of the samples contained limited CPR, with indeterminate charred cereal grains and weed seeds, and Poaceae stem and tuber fragments. Two (***2237*** (Trench 77) and ***2239*** (Trench 76)) contained a single charred hazelnut shell fragment, and one, ***2029*** (Trenhc 19c), contained a single >4mm Fabaceae seed, resembling a possible cultivated pea. Fifty-five of the samples contained uncharred seeds, however, only four of these (***1004***, ***1005*** (both Trench 2)***, 1016*** (Trench 3) and ***2076*** (Trench 50)) appeared to be preserved through waterlogging and therefore of possible antiquity. All of the samples contained some modern roots.

4.7.8 Two of the samples, 23 from ditch fill ***1142*** of ditch ***1151*** (Trench 12), and 20, from deposit ***1157*** in pit ***1158*** (Trench 11), contained common to abundant (>25) CPR and, therefore, had a high potential for further analysis of the charred remains. Both samples were dominated by *Triticum* sp. (wheat) grains and glume bases. Deposit ***1142***, from the ditch, also contained abundant Poaceae stem fragments, culm nodes, and awn fragments, and a number of large Poaceae/*Bromus* sp. (brome) seeds; an assemblage likely to be indicative of cereal crop processing waste.

4.7.9 A number of the samples contained calcined bone fragments, mortar and cbm fragments, deposit ***2062*** in ditch ***2063*** (Trench 51) contained a fragment of clay pipe. A large proportion of the samples contained abundant fragments of coal and clinker.

4.7.10 Nearly all of the samples contained some charcoal fragments; however, only those with common to abundant assemblages were classed as having any potential. Although a number of the samples, including deposits ***1191*** and ***1193*** (both from ditches ***1192*** and ***1194*** respectively; both in Trench 8), and deposits ***1258*** and ***1259*** (both from pit ***1257***; Trench 30) contained very rich, well-preserved charcoal assemblages. The nature of the contexts from which they were derived means that little valuable information could be gained from analysing them (ie they are not related to specific activities such as metalworking or oven use). Instead, the charcoal assemblages, along with any other charred plant remains, were assessed as to their potential for providing material for radiocarbon dating.

4.7.11 Of the 87 samples, 15 contained sufficient suitable material for providing an AMS date where the selection of charred seeds, Poaceae stem fragments and tuber remains would be the first choice (*Appendix 4*). Alternatively, where no CPR is present, short-lived species of wood charcoal would be suitable. In all cases, only those samples with common to abundant charred material were selected, as these are considered as being more likely to represent '*in situ*' deposits, thus limiting the possibility of dating intrusive material.

4.7.12 In addition to the 15 samples containing sufficient material for dating at this stage of the assessment, a further 14 samples are likely to provide sufficient material if additional material were to be processed. Fifty-eight samples were deemed unsuitable for radiocarbon dating purposes.

4.7.13 ***Discussion and Recommendations***: the results of this assessment have shown that the potential for the survival of waterlogged plant remains in the samples from the Asselby to Pannal pipeline is extremely limited. However, although most of the samples have a low potential for the recovery of CPR, two ditch fills ***1142*** and ***1157*** did contain rich charred assemblages, therefore, it is possible that similar features exposed during future excavations may have the potential for containing charred remains. In addition, the data suggests that, in some instances, preservation of the charcoal assemblages from the site is excellent, and that the assessment of the charcoal assemblages should be considered should appropriate features be discovered (eg ovens/kilns, metalworking features, cremations).

4.7.14 The results have demonstrated that suitable material for radiocarbon dating was present in roughly a third of the 87 samples. Of these, 15 would provide enough material for AMS dating as they stand, and a further 14 may provide sufficient material if more of the sample was processed. This is considered in detail within *Section 5.8*.

4.7.15 It is recommended that the remaining material from the two samples highlighted as having a high potential for CPR analysis (deposits ***1142*** and

1157) should be processed and fully analysed, alongside any other material that might be retrieved during any future phases of work at this site.

4.7.16 This assessment of the environmental remains has demonstrated that, in general, there is a low potential for the preservation of charred or waterlogged plant remains along the route of Asselby to Pannal pipeline. Therefore, it is proposed that a more selective sampling strategy should be employed during subsequent archaeological mitigation. This strategy will be devised following discussions with the National Grid Archaeologist, the curators and the Regional English Heritage Scientific advisor.

5. DISCUSSION

5.1 INTRODUCTION

5.1.1 In the following discussion the results of the evaluation are considered along the route of the pipeline, by landscape unit (as defined in the *Palaeoenvironmental Assessment* (Headland Archaeology 2007)), with particular respect to significant archaeological sites discovered and the efficacy of the prospecting methods employed. *Sections 5.2 - 5* consider the effectiveness of the geophysical survey and cropmark data at identifying archaeological sites, with particular regard to the geology. In *Section 5.6* the other non-intrusive methodologies are considered.

5.2 HOLOCENE ALLUVIUM

5.2.1 Five Trenches (Trenches 1-4, Package A (Fig 2) and Trench 66b, Package J (Fig 4)) were located on the Holocene alluvium landscape unit, at two separate locations. A rectangular enclosure, initially identified by geophysical survey, was identified within Trenches 2 and 3, producing Iron Age pottery. A further, previously unknown, ditch was also identified in Trench 3. The two contingency trenches, which were not targeted on known anomalies, failed to produce any archaeological remains. Trench 66b also contained a ditch, which was originally identified by geophysical survey.

5.2.2 This geology is not conducive to cropmark formation and none is known where the pipeline route crosses it. Fortunately, the geophysical survey appears to have been a relatively efficient method of identifying archaeology within the areas of Holocene alluvium. However, the ditches identified in Trenches 2 and 3 were substantial features, and the smaller ditch in Trench 3 was not identified by the survey. This suggests that there is a significant likelihood that other insubstantial linear features or small discrete features, may not have been identified. This may in turn lead to a period bias in the record, as the settlement and agricultural archaeology of the later prehistoric period onwards, will, by its nature, be more visible to geophysical prospecting techniques than the archaeology of earlier prehistoric periods. Despite this inherent bias, it is almost certainly the case that more archaeology was detected by using the geophysical survey to inform the trenching. Moreover, it would have been difficult to justify a greater number of trenches, located in areas where there was no known archaeology, on the off-chance that discrete or insubstantial features might be in fact be present.

5.2.3 Given the date and alluvial nature of the geology, it is not impossible that evidence for human activity occurs within the naturally deposited geological units, either in secondary or primary contexts. However, there was no particular reason to suspect that this was the case on the basis of the deposits encountered within the evaluation trenches. It is possible that future stripping of larger areas of alluvium may reveal potential activity foci, such as palaeochannels.

5.3 PLEISTOCENE ALLUVIUM

5.3.1 Nine trenches (Trenches 7 and 8, Package B; and Trenches 9-14, Package C (all Fig 2)) were located in the Pleistocene alluvium landscape unit, in two separate positions. Trenches 7, 9 and 10a either produced no archaeological remains, or remains that were different in character to those predicted by the geophysical survey. Trenches 8, 10b, 11 and 12 all revealed features corresponding to geophysical anomalies but also produced features that had not been predicted. In the case of Trenches 11 and 12, a focus of activity comprising pits and ditches containing large quantities of cultural material was revealed, whereas the geophysical survey appeared to identify only two of the larger ditches.

5.3.2 Like the Holocene alluvium, the Pleistocene alluvium does not promote the development of cropmarks. Although capable of correctly identifying large linear features, the geophysical survey appears to have been less effective on the Pleistocene alluvium than it was on the Holocene alluvium. The possibility that insubstantial or discrete features have not been detected still remains, and similar biases as those mentioned above might exist. The geophysical survey succeeded in detecting features in Trenches 11 and 12, but its failure to adequately predict the intensive nature of the remains suggests it is of limited efficacy. Despite this, given the lack of cropmarks, more sites have almost certainly been detected than otherwise would have been if geophysical survey had not been employed.

5.3.3 The age of the geological deposits makes the possibility of encountering human remains within them an extremely remote possibility indeed. There might, however, be some value in recording the character and extent of variations in these deposits, if large areas are stripped during pipeline construction, in order to inform the general deposit model.

5.4 HIGH RELIEF CALCAREOUS

5.4.1 Fifty-six trenches (Trenches 15-20a, Package D; Trenches 20b-31, Package E; Trenches 32-35, Package F; Trenches 36-41, Package G (all Fig 3); and Trenches 42-54c, Package H; and Trenches 55-66a, Package I (both Fig 4)) were located in the high relief non-calcareous landscape unit, at six separate positions Fig 3 and 4). The archaeology discovered in the majority of these trenches corresponded extremely well with that predicted by the geophysical survey and the cropmark information plotted from aerial photographs. Several trenches did not reveal the expected archaeology, but, on the whole, these targeted either perceived empty areas, areas in the vicinity of putative Roman roads or trenches positioned on the basis of unconfirmed cartographic evidence (eg the Quaker cemetery in Package G).

5.4.2 The trenches within this landscape unit predominantly revealed evidence of field systems and enclosures, with almost all of the trenches targeted on this type of feature providing positive results. The most notable sites comprised the trackway or field system targeted by Trenches 19a and 19c, the field system and enclosures targeted by Trenches 21-30, the circular feature within Trench

31, the field system/trackways in Trenches 39-41, the enclosures within Trenches 50 and 51 and the field system targeted by Trenches 60-65. The geology of this area responded extremely well to the geophysical survey, which generally confirmed the cropmark evidence, and it is unlikely that further significant linear features are present that remain unidentified. However, just as was the case on the alluvium, there remains a possibility that discrete features went undetected, and this might once again bias the results.

5.5 HIGH RELIEF NON-CALCAREOUS

5.5.1 Seventeen trenches (Trenches 71-3, Package K; Trenches 74-77, Package L; Trenches 78-87, Package M (all Fig 4)) were located in high relief non-calcareous landscape units, at three separate positions. In fifteen of the trenches the archaeology discovered corresponded exactly with the geophysical survey, with the most notable site being a curvilinear ditch in Trench 83, which produced prehistoric pottery. Unexpected features were revealed within Trench 76, comprising a pit and a pair of ditches.

5.5.2 Given the general absence of good cropmark evidence, the geophysical survey appears to have been highly successful at identifying archaeological sites within this landscape unit. However, the discovery of previously unidentified features within Trench 76 (also one of the few areas where there was good cropmark evidence), does raise questions about the comprehensive reliability of geophysics as a prospecting tool on this geology, and the possibility remains that additional features went undetected.

5.6 ASSESSMENT OF THE OTHER NON-INTRUSIVE METHODOLOGIES

5.6.1 The following considers the effectiveness of non-intrusive methodologies only in regard to the evaluation, and it is not intended to be a critique of the overall value of this work in relation to the project as a whole. The desk-based assessment, in tandem with the cropmark evidence, seems to have been a successful and worthwhile methodology with regard to informing the location of the trial trenches. The field reconnaissance survey, fieldwalking and palaeoenvironmental assessment have, so far, proved to be of more limited use.

5.6.2 Generally, the desk-based assessment and the field reconnaissance survey have been useful in helping to determine a viable route for the pipeline and, as far as it has been possible to do so, the pipeline route has avoided archaeological sites of known importance. The evaluation trenches did not reveal any sites omitted from these studies that should have been identified, and there is no current reason to doubt their efficacy. Evidence for the Quaker cemetery (NSMR MNY10809) identified in the desk-based assessment was not found by the evaluation, but almost all of the cropmark sites and other sites identified from cartographic sources were detected. None of the field reconnaissance survey sites were targeted by the trench evaluation. It might be expected that the field reconnaissance survey and desk-based study will continue to be of

relevance during any future watching brief held on works along the pipeline, when they may help interpret any remains that come to light.

5.6.3 It would seem that the fieldwalking survey has been of little help in identifying archaeological sites. No significant scatters of worked flint were identified during fieldwalking which might point to the presence of prehistoric activity, and those flints that did occur near to the trenches seem now to be stray finds, as no others were recovered. The only evaluation site which produced relatively large numbers of finds, an assemblage of Romano-British pottery from Trenches 11 and 12 in Package C, was not identified by fieldwalking, although a Romano-British tile fragment was found *c* 350m further to the west. However, once watching brief works take place, the finds recovered during fieldwalking may yet prove to be associated with activity foci, and any ultimate judgement on the effectiveness of this prospecting technique should be deferred until this juncture.

5.6.4 To date, the palaeoenvironmental assessment was of little relevance to the evaluation beyond allowing the various landscape units to be determined. As the survey methods used to target the evaluation trenches were of variable effectiveness on the different types of geology encountered (each corresponding to a distinct landscape unit), it is not yet possible to comment on how the overall density, type or date of archaeological activity varied between landscape units.

5.6.5 The assessment had the potential to have been more helpful, but colluvial or alluvial deposits, which could have obscured archaeological stratigraphy, were very rarely encountered within the evaluation trenches. However, as the trenches were usually sited on the basis of cropmark features or geophysical anomalies (which seldom occur if features are masked by colluvium or alluvium), there is a possibility that areas that seem devoid of archaeology and were not sampled, might in fact contain features. It may be prudent, therefore, to maintain watching briefs over areas which seem blank, if the palaeoenvironmental assessment identified that they might be subject to such masking.

5.7 CONCLUSIONS

5.7.1 The evaluation suggests that the early phase non-intrusive works seem to have been largely successful in identifying sites of archaeological potential and characterising the likely nature of the archaeology along the route. Where present, the evidence provided by geophysical survey and aerial photographic cropmark plotting appears to be a good indication of the likely presence of archaeological sites and features. The fieldwalking survey presently seems less reliable, but may yet prove its worth.

5.7.2 In general, the evaluation substantiated the validity of the research questions posed by the *Recommendations Document* (NAL 2006-7). For all periods, the archaeology was in keeping with the pre-existing models developed for the region (*ibid*). It is on a site-specific basis that particular research strategies need to be developed, and the most appropriate place to do this will probably

be the site-specific Written Schemes of Investigation produced for future phases of work. The fine-grained interpretations achieved by this scale of analysis may, in isolation or combination, permit a reinterpretation of the regional corpus, particularly if brought together in a synthesis.

5.7.3 ***Early prehistoric period***: the evaluations identified no evidence of surviving organic remains from the Palaeolithic to early Iron Age periods. However, trenches did confirm the presence of deposits that may yet prove fruitful in this regard, and future works along the pipeline have the potential to encounter remains of this nature.

5.7.4 There were no features identified that certainly date to this period, but some of those that have not yet been closely dated could prove to be of great antiquity. Trenches 31 and 43 detected curvilinear ditches, which are possible candidates for prehistoric monuments. If this proves to be the case, then they may be of great significance for many of the research objectives for this period.

5.7.5 Trenches 30, 32 and 40 contained worked flint artefacts that could date to the late Neolithic or early Bronze Age periods. By itself such evidence does little more than attest to the presence of humans in these parts of the landscape, but it does demonstrate the potential for retrieving further finds of this kind along the pipeline, and any such assemblage would make a valuable contribution to the regional corpus and perhaps enhance period narratives conceived at the landscape scale.

5.7.6 The results of the evaluation are typical of what might be expected regionally. Palaeolithic evidence is conspicuously absent, Mesolithic evidence in the form of flint tools might have been expected, but its absence is unsurprising. The scant and equivocal evidence from the Neolithic and Bronze Age periods is consistent with the findings of other studies (Roberts *et al* 2001; Manby *et al* 2003; Roberts 2005; and Brown *et al* 2007), which suggest episodic, unenclosed occupation of the landscape, with monuments being the most archaeologically visible features left by past societies. Other evidence usually only comprises insubstantial features, such as pits; small numbers of finds, often occurring as residual elements in later contexts; and, very rarely, settlement features.

5.7.7 ***Later prehistoric period***: the evidence for this period is slightly better than for the earlier prehistoric period, but, presently, the only features confirmed to be of mid-late Iron Age date are those revealed in Trench 3. An enclosure ditch identified there contained pottery characteristic of this period and is probably associated with a settlement in the vicinity. The deposits sampled from within this feature, when processed, did not, unfortunately, produce a particularly well preserved palaeoenvironmental assemblage, but cereal grains were amongst the botanical taxa, suggesting some agriculture or at least the availability of arable produce.

5.7.8 Despite the dearth of good dating evidence, it might be supposed that some of the other trackways, enclosures and boundary features sampled elsewhere in the trenches along the pipeline also date to the mid-late Iron Age. Previous investigations of the many cropmark features revealed on the Magnesian

limestone have demonstrated that they often originate at this time, despite remaining in use into much later periods (Roberts *et al* 2001; Roberts 2005; and Brown *et al* 2007). The palaeoenvironmental assemblages retrieved from these features during the evaluation were not particularly informative, and they are of limited use while they remain undated. However, there is some potential for dating several of the sampled features by means of radiocarbon assay (*Section 5.8.5*). If this is successful, it may be possible to more confidently identify Iron Age activity.

5.7.9 It is of no little significance that the probable settlement identified in the vicinity of Trench 3 was sited on the alluvium. The presence of such a settlement there means that further similar activity might be expected in this part of the landscape, perhaps even at a similar density as is currently known from cropmark evidence on the Magnesian limestone.

5.7.10 The evidence from the studies referred to above, suggests that the landscape was settled on a more permanent basis from at least the middle Iron Age onwards. The enclosed settlements of this time are archaeologically much more visible than those of earlier periods, and are more commonly encountered. Monuments generally cease to be as important as they were previously, with burials usually taking place within settlements, but there are exceptions, such as the chariot burial at Ferry Fryston. Finds are rare, but they point to wide trading networks and contact with distant areas. The economy is agrarian, with both arable agriculture and animal husbandry being important. The landscape begins to be sub-divided by boundaries at this time, the start of a practise that was to intensify in later periods. The evidence from the evaluation, although scant, is consistent with the results of these studies.

5.7.11 The close dating of Iron Age settlement and agricultural features is going to be of crucial importance in reconstructing the development of the landscape and history of those who lived there. Any artefactual or palaeoenvironmental material retrieved from dated contexts has the potential to be very informative. The study of the probable settlement sampled by Trench 3 and any other sites that can be dated to this period, will probably help to address many of the research objectives proposed by the *Recommendations Document* (NAL 2006-7).

5.7.12 ***Romano-British period***: the evidence from the evaluation for this period is better than it is for any earlier or later periods. This reflects the intensity of habitation in the study area at this time; the patterns of land-use; the archaeological visibility of Romano-British activity; the fact that the pipeline avoids present day occupation centres; and the evaluation sampling strategy.

5.7.13 Just as was the case with the Iron Age, the Romano-British features are largely those associated with agriculture or the settlements that were distributed around an increasingly enclosed landscape. Probable settlements were identified at three locations, in the vicinity of Trenches 11 and 12, Trench 40 and in the area of Trenches 50 and 51; dated trackways or field boundaries were sampled in Trenches 8, 19a, 19c, 24, 40 and 76, and others were almost certainly also of this date. Predominantly, it is evidence for what were probably 'native' societies that was most commonly detected, and previous

studies (Roberts *et al* 2001; Roberts 2005; and Brown *et al* 2007) have repeatedly established continuity between the Iron Age settlements and associated field systems and those of Romano-British date. Evidence for the extension of Roman administrative control over the area, the Roman military and a Romanised infrastructure and economy is provided by the existence of forts and urban centres in the study area linked by roads. One probable road was detected crossing the pipeline route in Trench 43 and another broadly parallel road is known further to north, crossing the pipeline in the area of Trench 53, although no evidence for this was detected by the evaluation. The area between these two roads is densely populated with cropmarks indicating field systems and enclosures.

5.7.14 The artefactual evidence from the evaluation is also better from this period, which is consistent with the findings of the other studies alluded to above. The features of the probable settlement site sampled by Trenches 11 and 12 were particularly productive, yielding a fairly large late Romano-British pottery assemblage, including many large sherds that suggest local use and breakage. The abundance of pottery in comparison to the Iron Age settlement at Trench 3, suggests a very different society and economy had emerged by this time, and the ceramics have the potential to elucidate how this settlement was articulated with other nearby settlements, including urban centres. Earlier Roman and Romano-British wares were also recovered, but there was nothing to suggest direct continuity from the Iron Age ceramic traditions. Other finds retrieved include a key to a drum lock and a quern stone. The former is a find of some status or at least points towards a wealth economy, and those with valuables to protect. The quern stone is a good indicator of a settlement in the locale.

5.7.15 Two samples from Trenches 11 and 12, at one of the probable settlement sites, contained well preserved assemblages of palaeoenvironmental remains. These were dominated by spelt wheat grains, and exhibited characteristics suggestive of cereal processing at the site. The assemblages from the other dated Romano-British features were not as promising, but they did have some potential for radiocarbon dating (*Section 5.8.5*). Although ceramic studies can often provide closer dating for this period, given the general scarcity of finds from the features, it is probably sensible to employ both dating methods. It is also possible that those field boundary features that contain Romano-British pottery had their origins in the Iron Age, and radiocarbon evidence may help determine the nature and degree of landscape continuity.

5.7.16 Generally, the evidence is in keeping with what would be expected within the study area. The sites identified to date have good potential to contribute to the research agenda set out within the *Recommendations Document* (NAL 2006-7).

5.7.17 ***Early medieval and medieval periods***: no evidence has been identified for the post-Roman and early medieval periods. However, the pottery assemblage from Trenches 11 and 12 dates to late within the Roman period, and it is possible that activity at this site continued into the first of these later periods. Study of the ceramics and radiocarbon dating of suitable materials retrieved from any further work at this site have the potential to identify post-Roman

activity. This area, being near to the village of Sherburn in Elmet, lies well within the extent of the British Kingdom of Elmet, and finding material culture that evidences the existence of this polity has long been high on the regional research agenda (NAL 2006-7).

5.7.18 Evidence from the evaluation for the medieval period comprises only a field boundary ditch in Trenches 26, dated by a few pottery sherds, and a ditch in Trench 40 dated by a small piece of pottery. No evidence was identified that might relate to activity associated with the Battle of Towton.

5.7.19 The lack of evidence for medieval activity is probably due to widespread landscape reorganisation taking place after the Romano-British period. Previous projects in the study area (Roberts *et al* 2001; Roberts 2005; and Brown *et al* 2007) have found evidence that certain boundaries established in the Iron Age or Romano-British period remained in use during the medieval period, whereas others fell into disuse to be replaced by new regimes of land allotment. Many of the medieval enclosures probably continued to be used into modern times, surviving as extant hedgerows today. These were not targeted by the evaluation which instead focussed on cropmark and geophysical evidence of relict enclosures belonging to earlier periods. Areas of ridge and furrow that survive along the pipeline route, but which were not sampled in the evaluation, are often likely to date to the medieval period, and provide evidence of agriculture at this time.

5.7.20 Today's settlements commonly have medieval roots and, as the pipeline deliberately avoids settlement centres, it is perhaps unsurprising that medieval finds were few in number. No concentrations of medieval pottery were detected fieldwalking survey (NAL 2007c; 2007d). Those few finds that were recovered from the topsoil, can be explained by practices associated with fertilising the fields using domestic waste, and do not necessarily indicate settlement in the immediate vicinity. However, future works on the pipeline may yet show some correspondence between these concentrations of finds and coeval activity foci.

5.7.21 The results of the evaluation have only limited potential for addressing the research objectives of the *Recommendations Document* (NAL 2006-7) for these periods. They do, however, contribute in a very general way to our understanding of the landscape at this time, if only through negative evidence.

5.7.22 ***Post-medieval and modern periods***: the evidence for the post-medieval and modern periods from the evaluation is similarly depauperate. Trenches 4 and 80 contained land drains and other drainage features were identified in Trenches 85-7. Stone paths that were probably post-medieval in date were identified in Trenches 75 and 85. Post-medieval pottery was recovered from Trenches 8, 12, 50, 53, 63, and 79.

5.7.23 As for the medieval period, the lack of evidence for post-medieval and modern activity can largely be explained by the sampling strategy employed and the fact that the pipeline runs through farmland. The areas of ridge and furrow along the pipeline route evidence widespread changes in farming practises from the medieval period, and some of the modern day boundaries are likely to

originate in acts of enclosure that took place after the medieval period. The land drains provide evidence for agricultural improvement, which probably occurred at around the same time or shortly after the medieval commons were first enclosed in the eighteenth and nineteenth centuries.

5.7.24 The evidence from the pipeline is of only limited relevance to the research objectives presented in the *Recommendations Document* (2006-7 NAL). It does, however, demonstrate that, although significant changes have doubtless taken place in the targeted areas, the patterns of rural settlement and land-use have not fundamentally changed since the medieval period.

5.8 RECOMMENDATIONS FOR FURTHER WORK

5.8.1 ***Fieldwork***: various proposals for fieldwork strategies aimed at mitigating the effects of the pipeline on the archaeology detected in the evaluation trenches are discussed in full alongside the results (*Section 3*). Table 8, below, collates them and reports the recommendations in summary:

Trench number	Plot	Package	Recommendations for further work
1	1-4	A	• Open-area excavation in advance of construction phase topsoil strip, confined to the area of Trenches 1 and 2. • Careful watching brief on immediate surroundings.
2			
3			
4			
5	7-2	Not excavated	• Made redundant by pipeline re-route.
6			
7	10-4	B	• Limited excavation subsequent to construction phase topsoil strip. • Watching brief on immediate surroundings.
8			
9	16-2	C	• A watching brief in vicinity of Trenches 9, 10a and 10b. • Open-area excavation in vicinity of Trenches 11 and 12 in advance of construction phase topsoil strip. • Limited excavation in the vicinity of Trench 14, either subsequent to construction phase topsoil strip or at an earlier juncture.
10a			
10b	16-8		
11	16-9		
12			
13	17-3		
14			
15	17-8	D	• Careful watching brief in the vicinity of Trenches 15 and 16, or possibly strip the site early in the programme. • Possibly excavate Trench 17. • Limited excavation in the vicinity of Trenches 18-20a in advance of the construction phase topsoil strip. • Watching brief of the remaining area.
16			
17	18-4	Not excavated	
18	18-5	D	
19a			
19b			
19c			
20a			
20b	18-9	E	• Limited excavation in vicinity of Trench 20b subsequent to construction phase topsoil strip. Careful watching brief in the area surrounding Trench 21. • A watching brief should be maintained during the construction phase topsoil strip in the wider surroundings of Trenches 22 and 23, possibly followed by limited excavations. • Limited excavation in the area of Trenches 24-28 subsequent to the construction phase topsoil strip. • Limited excavation in the vicinity of Trenches 29 and 30 in advance of the construction phase topsoil strip. • Limited excavation in vicinity of Trench 31 in advance of the construction phase topsoil strip. • Watching brief of the remaining area.
21			
22			
23	18-10		
24			
25	18-11		
26			
27			
28			
29			
30			
31			

Trench number	Plot	Package	Recommendations for further work
32	19-2	F	• Limited excavation in the vicinity of Trench 32 subsequent to the construction phase topsoil strip. • The vicinity of Trenches 33b, 33a, 34 and 35 closely monitored during the construction phase watching brief; possibly leading to limited excavation(s). • Watching brief of the remaining area.
33a	19-3		
33b			
34	19-4		
35	20-1		
36	20-2	G	• The vicinity of Trenches 36, 37 and 38 closely monitored during the construction phase watching brief; possibly leading to limited excavation(s). • Limited excavation in the area between Trenches 41 and 39, and possibly further east and west if the archaeology continues in this direction, either in advance or subsequent to construction phase topsoil strip. • Watching brief of the remaining area.
37			
38			
39			
40			
41			
42	23-11	***H***	• Limited excavation in the vicinity of Trench 43 either in advance of or subsequent to construction phase topsoil strip. • Limited excavation in the vicinity of Trenches 50 and 51, extending no further north than Trench 52. Either in advance of or subsequent to construction phase topsoil strip. • Vicinity of Trench 53 carefully monitored during the construction phase topsoil strip, followed by excavation of any features relating to the Roman road. • Possibly excavate Trenches 46-49. • Watching brief of the remaining area.
43			
44			
45			
46	24-1	Not excavated	
47			
48	24-2		
49			
50	24-5	***H***	
51			
52			
53	24-8		
54a			
54b			
54c			
55	25-2	***I***	• Limited excavation in the vicinity of Trenches 64 and 65, and the vicinity of Trenches 59 to 62a, either in advance of or subsequent to the construction phase topsoil strip. • The vicinity of Trenches 56, 57 and 58a closely monitored during the construction phase watching brief; possibly leading to limited excavation(s). • Watching brief of the remaining area.
56			
57			
58a			
58b			
59	26-2		
60			
61			
62a			
62b	26-3		
62c			
63			
64			
65			
66a			
66b	28-7	***J***	• Careful watching brief in vicinity of Trench 66b, possibly some limited excavation.
67		Not excavated	• Possibly excavate Trenches 67-70.
68			
69			
70			
71	28-8	***K***	• Limited excavation in the vicinity of Trenches 71-3, either in advance of or subsequent to the construction phase topsoil strip. • Watching brief of the remaining area.
72			
73			
74	31-4	L	• Careful watching brief in the vicinity of Trenches 74, 75 and 76, possibly followed by limited excavation. • Watching brief of the remaining area.
75			
76	31-12		
77			

Trench number	Plot	Package	Recommendations for further work
78	35-2	M	• Vicinity of Trenches 78 and 79 should be closely monitored during the construction-phase watching brief, possibly followed by limited excavation. • Limited excavation in the vicinity of Trenches 81-3 either in advance of or subsequent to the construction phase topsoil strip; the southern end of Trench 84 should mark the northern extent of the excavation, Trench 81 the southern extend. • Watching brief of the remaining area.
79	35-3		
80			
81	35-4		
82			
83			
84			
85	35-5		
86	35-10		
87			

Packages in bold italics and shaded are in West Yorkshire the others are all in North Yorkshire

Table 8: Summary of the recommendations for future fieldwork based on the results of the evaluation

5.8.2 ***Stratigraphy***: no further stratigraphic analysis is required at this time. The results of the evaluation should be integrated with the results of any further excavation at sites along the pipeline and included in the final report

5.8.3 ***Finds***: no further analysis is recommended for the finds retrieved from the evaluation (*Section 4.2-6* and *Appendix 3*) at this stage and they do not require conservation. The various types of artefacts should be considered alongside any others retrieved from the pipeline, and reported in an integrated report. Several, of the diagnostic pottery sherds, the quern stones, the padlock key and the flint arrowhead should be drawn for this report. The only assemblage that shows any potential for further analysis is possibly the Romano-British pottery retrieved from Trenches 11 and 12. However, as further excavation has been recommended at this site, it would be sensible to defer this until after works have been completed there, when additional finds may be available for study.

5.8.4 ***Palaeoenvironmental material:*** only two palaeoenvironmental assemblages (charred plant remains) were recommended for analysis (*Section 4.7* and *Appendix 4*), these too came from Trenches 11 and 12. Similarly, it would seem to make sense to wait until further works have been completed before undertaking further processing or analysis of the samples, as other, possibly better preserved, material might become available.

5.8.5 ***Radiocarbon dating***: several palaeoenvironmental samples contained material that have some potential to provide a radiocarbon date (Table 9 and *Appendix 4*). In total, 15 of the samples showed good potential for radiocarbon dating and a further 14 samples are promising for dating purposes, although the remainder of the sample should be processed to retrieve more material. However, it is questionable whether any radiocarbon dating should be undertaken at this time. There may be a case for dating features that were identified in trenches where only a watching brief is recommended in the future, but it seems unwise to date those from trenches where further excavation will certainly take place. In the case of the former, dating could inform the next stage of works and might even mitigate the need for further excavation. In the case of the latter, any dating programme should be devised

in order to answer research questions posed in relation to the sites as a whole. Table 9 presents the samples with some dating potential:

Sample number	Trench number	Context number	Feature number	Potential
1	2	***1002***	***1003***	Yes
2	2	***1007***	***1003***	Possible
3	2	***1005***	***1003***	Yes
4	3	***1016***	***1018***	Possible
6	79	***1031***	***1023***	Possible
8	78	***1032***	***1051***	Possible
17	43	***1131***	***1130***	Yes
18	11	***1149***	***1150***	Yes
20	11	***1157***	***1158***	Yes
22	10b	***1172***	***1173***	Possible
23	12	***1142***	***1151***	Yes
26	8	***1191***	***1192***	Yes
27	8	***1193***	***1194***	Yes
29	20a	***1209***	***1210***	Possible
34	29	***1251***	***1252***	Possible
35	30	***1258***	***1257***	Yes
36	30	***1259***	***1257***	Yes
39	31	***1266***	***1267***	Possible
100	22	***2029***	***2025***	Yes
106	50	***2068***	***2069***	Possible
108	50	***2076***	***2077***	Possible
110	71	***2089***	***2090***	Yes
111	72	***2098***	***2099***	Yes
113	72	***2097***	***2098***	Possible
119	40	***2128***	***2129***	Possible
120	23	***2140***	***2141***	Possible
134	64	***2190***	***2191***	Possible
141	77	***2237***	***2238***	Yes
142	76	***2239***	***2240***	Yes

Table 9: Summary of radiocarbon potential

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APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION

INTRODUCTION

GENERAL

This document is the Written Scheme of Investigation (WSI) for Phase 1 of the archaeological trenching evaluation on the Asselby to Pannal Natural Gas Pipeline project. Phase 1 archaeological evaluation has been planned in response to the results of the initial desk-based assessment and field surveys of the pipeline route. The WSI outlines the standards and procedures that will be implemented during this initial evaluation phase. It is anticipated that the results of supplementary field survey, and the conclusions of a palaeoenvironmental assessment of the pipeline route, will identify further targets for evaluation. The planning of additional evaluation trenches will be detailed in forthcoming WSIs covering these further Phases. This current document only provides a method statement for the 98 trenches in 36 plots, the need for which was identified in the initial phase of archaeological evaluation.

This WSI expands upon a generic Evaluation Brief provided by West Yorkshire Archaeology Advisory Service (WYAAS). The procedures used during the evaluation will at all times follow those laid out in both the WYAAS Brief and this WSI.

This document has been produced for Entrepose Industrial Services (EIS) for the consented National Grid (NG) project. It will be circulated to the client(s), Gail Falkingham of the Heritage and Environment Section, North Yorkshire County Council, Andrea Burgess of WYAAS, and regional representatives of English Heritage.

BACKGROUND TO THE DEVELOPMENT

National Grid has been granted permission by the DTI to construct a new 1220mm (48") diameter pipeline, for the transportation of natural gas between existing Above Ground Installations (AGIs) at Asselby in the East Riding of Yorkshire (469959 427294) and near Pannal in North Yorkshire (425260 450602) (Figure 1). The pipeline will be approximately 62km in length.

As a result of forecasted increases in natural gas imports entering the UK via Easington on the north-east coast of England, National Grid has concluded that reinforcement of its National Transmission System will be required.

The pipeline will be built within a 43m wide working width, although this may be increased to accommodate features such as road crossing points, or decreased where possible at sensitive locations.

Construction will involve four main phases of activity. The first phase, 'Right of Way Activities', includes hedge removal, cleaning, fluming and temporary bridging of ditches, fencing the working width, topsoil stripping of access areas and the installation of pre-construction drainage. Topsoil Stripping across the working width will then take place along the length of the pipeline. Pipeline-trench excavation and pipe laying will then follow. The pipe-trench will generally have an excavated depth of 2.5m, and a width of 1.8m. Greater excavation dimensions will be necessary where the pipe is to be bored beneath railways, roads, river crossings and other areas of constraint. Finally, on completion of pipeline construction, reinstatement will take place. This will involve the installation of post-construction drainage followed by the replacement of topsoil.

The pipeline will be constructed from the south-east (at Asselby) progressing north-westwards (to Pannal).

THE PIPELINE ROUTE

The pipeline passes through four basic landscape zones.

At Pannal, at the north-west end of the pipeline, the landscape is typical Pennine upland, characterised by gritstone outcrops, poor drainage and parcels of pastoral agriculture reclaimed from the moorland. This land lies at around 200m above sea level. To the east of this area, the pipeline rapidly loses height, passing through a more gently undulating zone, characterised by pastoral agriculture and wooded vales. This area extends approximately to the A659 Otley-Tadcaster road, where lower relief (c.70m above sea level), better soils and improved drainage allow for the predominance of arable agriculture. This extends through the mildly undulating landscape of the Elmet District. From the Sherburn in Elmet area to the AGI at Asselby, the pipeline passes through the Selby District, which is dominated by the floodplain of the River Ouse. This area is low lying (c.10m above sea level) and is almost flat. The level landscape of large regular fields, deep drainage dykes and isolated farms is characteristic of reclaimed wetland.

Further details of the topography, geology, pedology, hydrology and landuse of the route can be found in Section 3 of the Desk-based Assessment (Network Archaeology 2006).

ARCHAEOLOGICAL WORK COMPLETED TO DATE

Staged Approach to Investigation and Mitigation

The most cost-effective means of managing archaeological risk is to implement a staged approach to investigation and mitigation, as summarised in Table 1.4.1 below. This WSI pertains to Stage 4 works.

Table 1.4.1: Staged Approach to Investigation and Mitigation

Archaeological Stages of Investigation and Mitigation		**Phase of Pipeline Works**
Stage 1	**Route Corridor Investigation Study** an appraisal of archaeological potential	Feasibility assessment
Stage 2	**Desk-based Assessment** of Route Corridor a thorough synthesis of available archaeological information	Conceptual design
Stage 3a	**Field Surveys** of preferred pipeline route, including: field reconnaissance survey, field walking survey and geophysical survey as appropriate	Detailed design
Stage 3b	**Additional Detailed Assessments and Review:** collation of all data collected to date, and review of objectives for subsequent stages (eg. Local Sources Review, Aberford Dykes Document, Recommendations Document and Palaeo-environmental Assessment)	
Stage 4	**Field Evaluation** of targeted areas along preferred pipeline route, including: machine-excavated trenches, hand-dug test-pits and auger survey, as appropriate	
Stage 5	**Mitigation** Detailed investigation of those sites which it is not possible to avoid or desirable to preserve (e.g. excavation and topographic survey)	
Stage 6	**Watching Brief,** including, where necessary, controlled topsoil stripping in advance of construction; permanent presence monitoring of all ground-disturbing activities; and full recording and implementation of appropriate mitigation measures for all discovered archaeological remains.	Construction

Archaeological Stages of Investigation and Mitigation		Phase of Pipeline Works
Stage 7	**Archive and Publication** synthesis and dissemination of results of the previous stages of work	Post-construction

Desk-Based Assessment

An Archaeological Desk-Based Assessment (ADBA) was carried out by Network Archaeology during 2006 (Network Archaeology 2006). Information was collated for a 1km-wide study corridor centred upon the pipeline centre-line. Searches of national and county databases identified 477 sites of archaeological importance. The pipeline route will have a direct impact upon two statutorily protected sites, both of which are Scheduled Ancient Monuments (part of the Aberford Dyke complex), and will have uncertain impacts upon two Listed milestones/mileposts. General recommendations were made for a range of field surveys, including field reconnaissance along the entire route, fieldwalking of all arable land, and the appropriate use and deployment of geophysical survey. Specific recommendations were also made, including liaison with English Heritage over the crossing of the two Aberford Dyke Scheduled Monuments, the flagging-up of the milepost and milestone, and consideration of widening the field survey corridor across two regionally important sites.

Local Sources Review

A Local Sources Review was carried out to supplement the ADBA, drawing on additional data sources that were not available when the ADBA was prepared. This identified 71 additional sites of archaeological importance (NAL 2007). Potential direct impacts on four additional sites judged to be locally important were identified, along with uncertain impacts on sixteen others. This study also reviewed the sources of evidence relating to the Aberford Dykes, supplying a preliminary archaeological background to help inform the proposed programme of investigation for this group of monuments.

Field Reconnaissance Survey

The Field Reconnaissance Survey undertaken in 2006 investigated 272 fields crossed by the pipeline (NAL 2006). A further 37 fields were not surveyed, due to access restrictions. Most of these fields were surveyed in 2007, however, and will be reported upon in a separate Addendum. This text section relates to the 2006 fieldwork only.

Of the 149 sites recorded, 39 had been documented in the ADBA. These included the Aberford Dykes Scheduled Monuments (SM 31519 and SM 31520). The field survey clarified the extent to which these scheduled monuments survived as upstanding earthworks (FSU:66 and FSU:68, 69, 71).

Field observations on three sites classified as locally important in the ADBA led to them being upgraded to regionally important (Category C), because of their potential rarity within this region and their good state of preservation. These three sites (FSU:107, FSU:108, FSU:109), which will all be directly affected by the pipeline, are in a single field, south of the village of Gateforth, North Yorkshire.

The survey identified 142 sites assessed as being of local importance. Of these, 47 are sufficiently distant from the pipeline that they are unlikely to suffer any impact during construction. Of the remaining 95, the potential impacts on all but thirteen were judged to be minor.

Fieldwalking Survey

Just less than 50% of the pipeline was systematically fieldwalked, in October 2006. The other half was under permanent pasture, was set-aside, arable with standing crops/unploughed stubble and fields for which access was unavailable (Network Archaeology Ltd 2006c). Most of the outstanding arable fields were surveyed in 2007 and will be reported in a separate Addendum. The text below relates only to the 2006 fieldwork.

Several minor concentrations of medieval artefacts were identified, but these were considered to be the result of agricultural manuring; as such they are of little archaeological significance. Twelve pieces of struck flint were also recovered, indicating a low level of human activity in the area in prehistoric times. Several pieces of post-medieval kiln furniture were recovered that may be related to clay pipe manufacture. The kiln furniture, along with clay pipe fragments, has been recommended for further analysis. Otherwise, no significant concentrations of material were found, and no artefacts of intrinsic archaeological importance were identified.

Geophysical Survey

A geophysical survey was carried out by Bartlett-Clark Consultancy on behalf of Network Archaeology, in October 2006. A 30m-wide sample strip of ground was surveyed along all accessible areas of the pipeline route, and was supplemented by surveys of seven potential re-routes (Bartlett 2006). Initially some areas could not be surveyed due to access restrictions and crops, though most of these were subsequently surveyed (in 2007) and will be reported upon in a separate Addendum. This text section relates only to the 2006 fieldwork.

In the central and western part of the pipeline route, the soils were particularly conducive to geophysical survey. The responsiveness of the clay and silt soils at the eastern end of the pipeline may not have been as complete; however a number of positive findings were obtained in this area. The Magnesian Limestone geology of the centre of the route gives rise to strongly magnetic soils which responded well to a magnetometer survey. Numerous archaeological features and other ground disturbances were detected both here, and on the Millstone Grit at the north-western end of the route.

Features detected by the survey include a number of enclosures, some of which may indicate settlement sites; others may form parts of field systems. There are also various scatters of small magnetic anomalies, which may be of non-anthropogenic origin. Examples of ridge-and-furrow and former field boundaries were also identified.

Topographic Survey

A number of earthwork sites were recommended for topographic survey, within the field reconnaissance survey report; these are also listed in the Recommendations Document (see 1.5.4 above and 1.5.10 below). These include the Aberford Dykes Scheduled Monuments (see 1.5.9. below). Topographic surveys are currently taking place and will be reported upon when a full set of survey data is available. Most are required in order to inform the strategies for further evaluation at these sites.

Palaeo-environmental Assessment

A palaeo-environmental assessment of potential has been commissioned for the pipeline, the results of which will be submitted for review in due course. Further details are available, within the Recommendations Document (see 1.5.10 below). With regard to trenching evaluation, the palaeo-environmental assessment will assist primarily with the selection of areas of archaeological potential, which also coincide with areas of colluvium and/or palaeo-environmental deposits (e.g. palaeo-channels).

Aberford Dykes Document

This document has recently been produced, in support of an application for Scheduled Monument Consent, required to construct the pipeline through the Aberford Dykes earthworks. This document places the monuments in their historical and archaeological contexts, explores the relevant research priorities and outlines a strategy for further investigation. Area excavation, rather than evaluation, is recommended for the monuments themselves; although trenching is planned for the adjacent areas (these adjacent areas are not covered in by this WSI, because the preliminary field surveys could not be completed in time. A separate WSI pertaining to these areas will be presented in due course.)

Recommendations Document

A document setting out the recommendations for archaeological investigations along the route of the pipeline was commissioned by EIS in November 2006. Version 2 of this document was submitted to

the various statutory consultees, by Network Archaeology, in January 2007, Version 3 is currently in preparation. The specific objectives of this document are to assess the need for further evaluation and mitigation prior to, and during, construction. The document is likely to be further revised as additional discussions between the client and curators take place. A strategy and programme for trenching evaluation is outlined within the recommendations document.

The Recommendations Document will also include a working Deposit Model. This will be the product of an analysis all of the available archaeological, geotechnical and topographic data for the route. It will be used to predict the likely location, character, and extent of archaeological remains along the pipeline route, as well as the likely impact of the pipeline construction process upon them. A deposit model will also inform the general strategy of the programme of archaeological work, starting with the choice of additional areas for evaluation.

PROPOSED WORK

AIMS AND OBJECTIVES OF THE TRENCHING EVALUATION

The overall aim of the evaluation is to locate any hitherto unknown archaeology, in order to assist the client in the planning and construction of the pipeline.

Specific objectives are as follows:

- to gather sufficient information to establish the extent, condition, character and date, as far as circumstances permit, of any archaeological features and deposits within the areas of investigation;
- locate, sample excavate and record any archaeological remains revealed within the trenches;
- locate, recover, identify, and conserve, as appropriate, any revealed archaeological artefacts;
- locate, recover, assess and analyse, as appropriate, any revealed palaeo-environmental, palaeo-economic and organic remains;
- recommend measures for preservation in situ of revealed archaeological, palaeo-environmental, palaeo-economic and organic remains, wherever feasible and desirable;
- determine any need for further evaluation and mitigation work prior to construction;
- generate data for use in producing a geoarchaeological deposit model for the pipeline route;
- to test the results of previous, non-intrusive surveys within evaluated areas (including the results of geophysical survey, plotting of aerial photographs, fieldwalking, field reconnaissance, desk-based assessment and palaeoenvironmental assessment);
- compile an appropriate report/publication; and
- produce a paper and digital archive, which will be deposited within the appropriate repositories.

SELECTION OF AREAS FOR TRENCHING EVALUATION

Areas of Known and Potential Archaeology

The stages of investigation completed so far (see above) have identified a number of specific areas where there are known or potentially significant archaeological remains. These areas have been selected for trenching evaluation (see below). It is likely that further areas will need to be evaluated; these are yet to be identified/agreed.

Currently Agreed Evaluation Trenches

A total of 98 trenches located in 36 plots have been agreed at this stage. The proposed positions of the trenches (by plot) are shown in Figures 2-21 and they are listed in Appendix A. The latter states the specific target for each trench (e.g. ditch-like geophysical anomaly).

Of the 98 trenches, 85 are classed as 'Priority Trenches', i.e. ones that will definitely be opened (depicted in bright red on figures 2-21). The other 13 are 'Contingency Trenches', i.e. ones which will only be opened if required (e.g. if 'Priority Trenches' reveal a site whose limits need defining) (depicted in purple on the figures). Client agreement will be sought before any 'Contingency Trenches' are opened.

The vast majority of the trenches target geophysical anomalies, although a small number of finds scatters and uncorroborated desk-based assessment sites are also targeted. Trenches (usually 'Priority Trenches') target both anomalies and intervening blank areas, in order to pick up any hidden archaeology. In addition, outlying trenches have been placed, in order to define the limits of each 'site'; these are usually 'Contingency Trenches', the excavation of which is contingent upon the identification of an archaeological 'site'.

The trenches are largely narrow and long (2m x 20-60m), whilst some are short and wide (4m x 15-30m). The narrow ones have generally been positioned to intersect linear and curvilinear magnetic anomalies, whilst the wider ones aim to expose pit-like anomalies and parts of possible enclosures (ditch junctions and interiors).

If significant archaeological deposits are found in any of the trenches, they may have to be extended to define and characterise the deposits (usually only necessary if the deposits are not fully exposed in the evaluation trench). Client/Curator agreement will be sought before any such trench extensions are made.

Further Evaluation Areas

In addition to the agreed trenches, further areas (currently not fully identified) will need to be evaluated and an updated WSI pertaining to these will need to be produced.

These further areas are likely to result from the following:

- Outstanding field surveys (completed February 2007, reports due April 2007);
- Palaeo-environmental assessment (commenced, report due April 2007);
- Certain earthwork/building sites (detailed in Appendices A and B of the Recommendations Document) that require prior work (site visits and topographic survey) before the need for further evaluation can be assessed;
- Blank areas of recognised archaeological potential (to be agreed);
- Three specific areas have been discussed as requiring trenching evaluation and these will appear in the updated WSI. They are as follows:

a) Plot 30-10: Possible Site at Tidover; 1 trench proposed but dimensions and precise location to be agreed;

b) Plot 10-9: FSU 108-110 medieval/post-medieval ridge and furrow and possible settlement related features; 2 trenches proposed but precise locations to be agreed.

c) Plot 24-3: platform next to Milner Beck which has potential of having been a past occupation site.

PROCEDURES

GENERAL

The client will approach landowners, tenants and occupiers to advise on the need for, and requirements of, the evaluation.

The client will arrange, prior to the commencement of work, for the limits of the pipeline easement to be pegged. On arrival on site, the staff of the archaeological contractor will report to the site manager or representative of the principal contractor, and will ensure that all health and safety, environmental protection and site security procedures are followed. The archaeologists should also ensure that the contractors are aware of the broad conditions and provisions of this WSI.

All fieldwork staff will be made aware of the reasoning behind the selection of the various areas for evaluation and this WSI and other key documents, such as the results of the geographical survey and desk-based assessment, will be made accessible to site staff during evaluation fieldwork.

MACHINING

The machine operator will be briefed by an experienced archaeologist on the proposed archaeological procedures.

Before work commences, the presence or absence of underground services will be determined, by means of consulting service plans and through the scanning of each proposed evaluation area with a cable-avoiding tool. Such work is the responsibility of the client (EIS), who must also adequately fence off open trenches.

Locations of trenches will be set out to one-centimetre accuracy by a professional surveyor using a DGPS survey system, supplied and organised by the client.

The machine excavations will be closely monitored by a suitably-qualified archaeologist, experienced in soil handling and health and safety.

Excavation will be undertaken using a mechanical excavator, fitted with a toothless ditching blade, approximately 2m wide.

Topsoil and recent overburden will be removed in spits no more than 10cm deep, down to the surface of the first significant archaeological deposit or to bedrock or superficial basal deposits, whichever is reached first. Layers of colluvium and/or alluvium will be removed in their entirety, in order to establish whether they mask any archaeological remains. The client will need to make provision for the use of shoring or stepping to accomplish this, if necessary. All trenches are to be the stated dimensions at their bases.

When the top of the first significant archaeological horizon is exposed, it will be cleaned by hand and inspected for features, which will then be dug by hand. Arbitrary spits down to natural deposits will not be cut through anthropogenic remains (ploughsoil excepted). The machining will take into account the potential for the presence of structures and coherent layers, such as floors, spreads or middens.

All trenches, including those with no significant archaeological deposits, will be recorded. They will not be back-filled until recording is complete. Separate context numbers will be issued for the superficial deposits in each trench, allowing unstratified finds to be located to the trench. Finds from these layers will also be located by hand-held GPS, or plotted using tapes, whichever will deliver the more accurate results. The method used to locate any such finds will be recorded. Their locations will be located on the relevant trench plan or section drawing.

HAND EXCAVATION

Those parts of each trench that contain archaeological features will be cleaned by hand, paying careful attention to any archaeological remains. A site grid, or similar system, will be used in order to facilitate the recording of the revealed features and finds.

All archaeological remains will be hand-excavated in an archaeologically controlled and stratigraphic manner, in order to meet the aims and objectives of the project. The complete stratigraphic sequence, down to naturally occurring deposits, will be excavated, and the work will investigate and record all inter-relationships between features.

No archaeological deposits will be entirely removed, unless this is unavoidable in pursuit of the methodology outlined above. Similarly, it may be necessary to excavate 100% of any deposits that are judged to be particularly vulnerable to further disturbance or degradation.

All features will be at least half-sectioned (i.e. 50% excavated), and a minimum of 20% of each linear feature (e.g. ditches and gullies) will be hand-excavated, in segments normally at least 1m wide, at intervals along the length of each feature, in order to establish their date, character and function. The full depth of all deposits will be investigated, wherever feasible, making provision for stepping or shoring (where necessary), in order to accomplish this in a safe manner. A higher percentage of each structurally-related feature and ring-ditch will be excavated. Intersections between features will be fully hand-excavated to determine the stratigraphic sequence, where relationships are uncertain without excavation. Any features or parts of features of particular significance, such as burials, complex re-cuts, bends or terminals, will be fully hand-excavated.

A minimum of 20% of any spread layers, middens and similar deposits will be hand-excavated wherever practicable.

ENVIRONMENTAL SAMPLING STRATEGY

A programme of environmental sampling that accords with the methodologies outlined in English Heritage (2002) and Association for Environmental Archaeology (1995) will be implemented, in collaboration with recognised palaeo-environmental and bioarchaeological specialists.

All securely stratified contexts will be sampled to determine their functions and origins, for the recovery of artefacts, and to place them within their palaeo-environmental and palaeo-economic contexts. Systematic sampling will eliminate the biases inherent in judgement sampling strategies and will ensure that significant contexts are more reliably identified during evaluation. This will in turn facilitate a more targeted approach to mitigation, which will ensure that the research aims of the project are addressed in a cost-effective manner. Bulk samples and samples taken for coarse-sieving from dry deposits will be processed at the time of the fieldwork, wherever practicable. In accordance with accepted professional guidelines (English Heritage 2002), bulk samples will measure between 40 and 60 litres in volume, providing that the sampled context is of sufficient volume. Entire contexts will be sampled if they are low in volume. Coarse-sieved samples will be in excess of 100 litres where practicable. Specialist samples, such as for General Biological Analysis (GBA), will be in the order of 10 litres. Allowance will be made for a site visit from the environmental consultants/specialists, where appropriate.

Where dating by artefacts is insecure and/or where dating is a significant issue for the development of subsequent mitigation strategies, samples will also be taken for scientific dating, principally radiocarbon (C14) dating, but also archaeo-magnetic and dendrochronological dating, if the nature of the remains permits.

Arrangements will be made for any buried soils and sediment sequences to be inspected and recorded on site, and for samples to be collected, where appropriate, in collaboration with a recognised geoarchaeologist. In such cases the advice of Canti (1996) and English Heritage's Regional Science Advisor will be sought and followed.

Where there is evidence for industrial activity, macro residues will be collected by hand, with separate samples collected for micro-slags (in which case the guidance of Bayley *et al* (2001) and English Heritage (2006) will be followed).

Any sampling strategy that deviates from the above will be agreed in advance with English Heritage's Regional Science Advisor.

Human Remains

If human remains are discovered, the client, principal contractor and local coroner will be informed immediately. It is anticipated that any such remains will be left in situ at this stage. Where, however, excavation and recording of such remains is deemed necessary, due care and respect will be accorded and current guidelines will be followed (McKinley & Roberts 1993). Also, the evaluation may need to be temporarily suspended, to allow the archaeological contractor to comply with procedures relating to Section 25 of the Burial Act 1857; primarily this will consist of gaining a licence from the Department of Constitutional Affairs. Allowance will be made for a site visit by a recognised specialist in osteo-archaeology, where appropriate. Proposals for the final deposition of the human remains will be made in advance of their study and analysis. Further guidance will be gained by reference to English Heritage (2004), Mays *et al* (2004) and Brickley and McKinley (2004).

FIELD RECORDS

Record sheets approved by the county archaeological curators will be used for written field records; these will be in a format which is acceptable to the IFA. A unique alpha-numeric project code will appear on all records.

The trenches will be located to one-centimetre accuracy using DGPS. Levels will be recorded to one-centimetre accuracy relative to Ordnance Datum. To this end a temporary bench mark will be installed in each plot chosen for evaluation by a professional surveyor using a DGPS survey system, supplied and organised by the client.

Site drawings will include:

- trench plans at 1:50;
- section drawings of at least one long section of each trench at 1:50. If significant archaeology is found in any particular trench, then at least two sections, ideally at right angles to each other, will be recorded.
- detailed plans at 1:20 or 1:10 of significant features;
- section drawings at 1:20 or 1:10 of significant features.

Monochrome and colour transparency photographs in 35mm format will include overall shots of the site, of each trench, of work in progress and detailed feature shots. A suitable scale, context number and north arrow, where appropriate, will appear in each photograph. Digital photography might also be used.

FINDS

General

Artefact recovery will be a standard element of the evaluation. Machine and hand-excavated spoil will be visually searched for archaeological finds.

All stratified finds, and all pre-20th century unstratified finds will be collected for assessment by an appropriate specialist.

Metal Detecting

Metal detecting will not be a standard element of the evaluation, unless otherwise agreed beforehand by NG/EIS. If it is carried out, topsoil and spoil heaps will be scanned under archaeological supervision (or by a detectorist who also has adequate archaeological experience), and finds will be accurately located, identified and conserved. Any detection will be carried out following the *Treasure Act 1996* Code of Practice (revised 2002).

Treasure

Any finds that may be considered treasure under *The Treasure Act, 1996* (revised 2002), will be reported to the Coroner.

REPORTING

INTRODUCTION

On completion of the Phase-1 evaluations, a report will be written that discusses the significance and potential for further analysis of the recorded stratigraphic data and of any recovered artefacts and soil samples. The report will also include recommendations for further fieldwork, including mitigation excavations where these are judged to be merited. It is intended that this report will be written by the same archaeological contactor that undertakes the evaluation fieldwork.

If the Phase-1 trenching evaluations result in additional archaeological works being undertaken at one or more locations and if it were to be proposed that those additional works would be done by a different archaeological contractor, then the results of the Phase-1 evaluations would need to be reported upon in full before the additional works could start.

Conversely, if the same archaeological contractor were to be used for these two stages of work (as is currently intended), then it is to be hoped that an interim evaluation report would suffice to allow any additional archaeological works to proceed swiftly upon the completion of Phase-1 evaluations. The full evaluation report would then follow later, within a timeframe agreed with the county archaeological curators. The scope of any interim evaluation report would also need to be agreed with the curatorial authorities. The scope of the full evaluation report is described in section 4.3, below.

ARTEFACT AND ECOFACT PROCESSING

Artefact Policies

All retained artefacts will be cleaned, marked, packaged and stored in accordance with current IFA guidelines. The long-term conservation and storage needs of the artefacts will be assessed and allowance made for preliminary conservation and stabilisation of all objects.

Specialist assessment reports, detailing the potential for further analysis, will be produced for each artefact type.

Assessment of artefacts will include inspection of X-radiographs of all iron objects, a selection of non-ferrous artefacts and a sample of any industrial debris relating to metallurgy. A rapid scan of all excavated material will be undertaken by conservators and finds researchers in collaboration. Material considered vulnerable to decay will be selected for stabilisation, after specialist recording. Where intervention is necessary, consideration will be given to possible investigative procedures.

Certain categories of artefact, such as modern and post-medieval pottery, un-diagnostic tile or brick, glass, and animal bone, may be selected for disposal, with the agreement of the museum that will receive the site archive.

Environmental Samples

Any environmental samples will be processed and assessed by a suitable specialist, with a view to their potential for subsequent study.

CLIENT REPORT

The client report will include the following sections:

- Summary;
- Introduction;
- Procedures;
- Results;
- Discussion, including an assessment of the utility of the survey techniques used earlier in the project, a critical review of methodologies used during the evaluations and previous stages of work and the geoarchaeological implications of the evaluation findings (see below);
- Recommendations, including updates to the research goals of the project, Conclusions;
- References;
- Quantified archive index; and
- Appendices (including reports from artefact specialists).

A summary table of archaeological contexts will be produced, showing context numbers, descriptions and interpretations. A descriptive catalogue of finds will summarise artefact types, counts, weights and dates for each excavated context. Finds critical for dating or interpretation will be illustrated, as advised by the artefact specialists.

Environmental assessment will include the identification of remains; quantification by context; discussion and interpretation if warranted; and description of processing methods. The results of any radiocarbon assay will be presented in full, with copies of the laboratory certificates included, as an appendix to the report.

Figures will include:

- overall site location plans;
- trench location plans;
- feature plans;
- section drawings.

Concerning the Discussion

The evaluation report should not be produced, nor exist, in isolation from the wider research goals of the project, or related archaeological survey and mitigation operations. Good practice demands an integrated approach to archaeological analysis and reporting. Therefore,

1. the evaluation report will be written with reference to the research goals of the project. It will primarily include an interpretation of the evaluation results, placing them in their local, regional and, if appropriate, national contexts. The report will also discuss the results of evaluation in relation to their utility in meeting the research goals of the project identified in the Recommendations document (Network Archaeology 2007). The results of the evaluation may merit the redefinition of the research goals of the project, and the report should consider this;

2. the evaluation report will be written with reference to the results of previous, non-intrusive surveys within the evaluated areas (including the results of geophysical survey, plotting of aerial photographs, fieldwalking, field reconnaissance, desk-based assessment and palaeoenvironmental assessment). The opportunity will therefore be taken to test and refine the results and methodology of the earlier survey work;

3. the evaluation report will have a geoarchaeological content. The evaluation fieldwork will be undertaken in a manner that will ensure that its results will be of maximum benefit in contributing to the ongoing development of a deposit model, the first iteration of which will be included in the forthcoming palaeoenvironmental assessment report. Following the advice of Lancaster *(pers.comm.):*

- trench record sheets will describe the topographical location of each trench, i.e. hill top, valley bottom, etc.

- deposits of colluvium and alluvium, as well as the "natural" deposit at the base of each evaluation trench, will be fully recorded using the Museum of London Archaeological Service's soil description flow chart (MOLAS 1994), and paying particular attention to angularity and sorting of inclusions.

- should deposits of colluvium and/ or alluvium be seen to have a sloping or varied profile in any particular trench section, then that trench section will be recorded.

- interpretation will include a consideration of site formation and post-depositional processes.

- areas where widespread masking of archaeological remains is likely to have occurred will be identified.

DISSEMINATION AND PUBLICATION

Copies of any draft, interim or full reports will be provided, as required, to the clients and to the archaeological curators for North Yorkshire, West Yorkshire and East Riding of Yorkshire. The final report will incorporate any comments provided by the curators.

A copy of the final report will be sent to the Historic Environment Records (HERs) for North Yorkshire, West Yorkshire and East Riding of Yorkshire. The report will be supplied to the HERs as hard and/or electronic copy, subject to the individual requirements of the various HERs. It is the responsibility of the principle archaeological contractor to determine these requirements. The various HERs will therefore be contacted as early as possible during the reporting process, to ensure that their requirements regarding digital formatting are met. This will be done in order to facilitate the smooth transfer of excavation data from the site archive into the particular HER database.

A copy of the final report will also be supplied to the appropriate archive repositories, as hard and/or electronic copy, subject to the individual requirements of the various repositories.

An OASIS form detailing the results of the fieldwork will be filled out by the contractor responsible for the production of the report.

If the evaluation of a particular area were to produce results that merit publication, allowance would be made for the preparation and publication of a summary report in a local journal. This would comprise, as a minimum, a brief note on the results of the evaluation, a summary of the material held in the site archive, and the archive's location. For evaluation sites where further excavation is deemed necessary, results from both evaluation and excavation will be incorporated into the final client report for that site. The results of this may merit wider dissemination, in a local, national or period-based journal (or monograph), chosen according to the nature and date of the remains uncovered, the policies of the editors of the publishing body, and subject to the approval of the relevant curatorial authorities.

NUMBERING SYSTEMS

All archaeological contractors will be required to use the same plot numbering system that has been used in all archaeological documentation produced to date. Similarly any future phases of archaeological trenching evaluations will be required to continue the trench numbering sequence begun in Phase 1.

PROJECT ARCHIVE

In the interests of the production and deposition of a series of unified archives, one for each county traversed, the ownership of the several archives generated by the various archaeological contractors will remain with Entrepose Industrial Services (main works contractor) prior to their deposition with one or other of the museums listed below. Furthermore Entrepose Industrial Services reserves the right to receive and then to amalgamate these various archives prior to deposition.

The archive will be prepared in accordance with the relevant county museum archiving requirements. These museums are, as follows:

- West Yorkshire - Leeds Museum;
- North Yorkshire - Skipton Museum;
- East Riding of Yorkshire - East Riding Museums Service, Beverley Museum.

Archive preparation will also conform to the following published guidelines:

- *Management of Archaeological Projects*, second edition (1991), English Heritage;
- *Digital Archives from Excavation and Fieldwork: Guide to Good Practice*, Second Edition (Richards and Robinson 2000).

A digital version of the archive and reports will be submitted to the Archaeology Data Service (ADS) and the results of all interventions will be recorded in the OASIS database.

PUBLICATION, CONFIDENTIALITY & COPYRIGHT

Prior to deposition of the archive, including reports and summary accounts for publication, no publicity will be promoted, except with the specific sanction of the clients. Response to casual enquiries will be restricted to statements concerning the need for the work and the procedures involved.

Under the *Environmental Information Regulations 2005* (EIR), information submitted to HERs becomes publicly accessible, except where disclosure might lead to environmental damage. Accordingly, information disclosure issues (such as when copies of the reports and the archive should become public documents) will be agreed in writing between EIS/NG and the curators, prior to the completion of the project.

Any other arrangements concerning copyright, confidentiality and publicity will be agreed with the client and the HERs at the outset of the project.

PRINCIPLES, STANDARDS AND CONDUCT

Oxford Archaeology fully endorses the Institute of Field Archaeologists':

- *Code of Conduct* (revised edition September 2002);

- *Standard and Guidance for Archaeological Field Evaluation* (1994, revised edition September 2001); and
- *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (revised edition September 2000).

The management of the project will be in accordance with the methods and practice described in *Management of Archaeological Projects*, second edition (English Heritage, 1991).

WORK PROGRAMME

The current anticipated start date is the 16th July 2007. The fieldwork is expected to take around four weeks to complete.

STAFFING

PROJECT STAFF

Overall responsibility for the project will be held by Fraser Brown, with day-to-day management being undertaken by Paul Clark. Further details of staffing will be made available nearer the start date.

INDEPENDENT SPECIALISTS AND TECHNICAL SERVICES

Table 9.2: Proposed Specialists

Prehistoric pottery	Chris Cumberpatch (independent, Sheffield)
Romano-British pottery	Jerry Evans (independent, Leicester) Ruth Leary (independent, Nottingham)
Saxon pottery	Dr Alan Vince (independent, Lincoln)
Medieval pottery	Jeremy Bradley (OA North) Jane Young (independent, Lincoln) Dr Alan Vince (as above)
Post-medieval and modern pottery	Rebekah Pressler or Chris Howard Davis (OA North) Dr Alan Vince (as above)
Faunal remains	Andy Bates (OA North)
Human remains	Louise Loe (Oxford Archaeology)
Palaeo-environmental analysis	Elizabeth Huckerby, Lucy Verril or Denise Druce (OA North)
Flint artefact studies	Caroline Bulcock (OA North)
Special finds and metalwork	Chris Howard Davis (OA North)
Roman special finds and glass	Chris Howard Davis (OA North)
Ceramic building material	Chris Howard Davis (OA North)
Artefact conservation	Jenny Jones (Durham University)

MONITORING

Oxford Archaeology will inform the client and curators of progress on a weekly basis during the fieldwork, and, during office work, on a fortnightly basis. The curators will be afforded access to the site at any reasonable time. This will include a site tour and overview by the senior archaeologist present, and an opportunity to view all the open trenches, any finds still on site, and any records not in immediate use.

HEALTH & SAFETY

All Health and Safety requirements falling upon Oxford Archaeology will be discharged in accordance with its current Health and Safety Policies and all relevant statutory legislation. Copies of Oxford Archaeology's current Health and Safety Policies can be provided upon request.

Risk assessments will be carried out by Oxford Archaeology, in advance of site work, for approval by the client. These will be documented and updated where necessary, throughout the course of the project (see Appendix B).

All site staff will be supplied with a copy of the Health and Safety Policy Documents of Oxford Archaeology, and of the Risk Assessments. They will also have access to a copy of this method statement.

The site file will contain details of the nearest hospital and the swiftest and safest route to it, along with the contact phone numbers of site personnel, offices, Project Manager and client representatives, to be used in the event of an emergency. Site staff will be given this information prior to commencing work and will be asked to sign to say they have understood the risks likely to be encountered along the route and the safe method of working to be adhered to in order to minimise these risks.

Oxford Archaeology will require access to the health and safety policies of all other contractors present at the work place, in compliance with The Management of Health and Safety Regulations 1992.

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Appendix A

Tables of Evaluation Trenches

Areas for Trench Evaluation

EIS Plot No.	Description	Period	Area Priority	Sources						Parish	County	Reason for trench evaluation	No Trenches	NGR	Fig.
				DBA	*Field Reconn.*	*Field Walking*	*Geo-physics*	*Palaeo-environ. Assess.*	*Local Source Review*						
1.4	?Part of enclosure	Undetermined	High				Anomalies			Newland	N.Yks		4	468750 425680	2
7.2	Linear features: ?enclosures	Undetermined	Medium				Anomalies			Temple Hirst	N.Yks	Possible early field system/ settlement	2	460670 427080	3
10.4	Linear/Pit Anomalies	Undetermined	Medium				Anomalies			Gateforth	N.Yks	Possible early field system/ settlement	2	457300 428020	4
16.2	Anomalies/ Flints	Undetermined	High			Flints: 12069, 16116	Anomalies			Sherburn in Elmet	N.Yks	May be sub-surface prehistoric features	2	453630 434150	5
16.8	Linear anomaly	Undetermined	Medium	MON 56345 (spearhead), DBA AY ridge and furrow			Anomalies			Little Fenton	N.Yks	Possible early field system	1	452380 434600	6
16.9	Weak curving linear feature	Undetermined	Medium				Anomalies			Little Fenton	N.Yks	Possible early field system	2	452230 434700	6
17.3	Enclosure/ Flint	Undetermined	High			Flint: 16129	Anomalies			Sherburn in Elmet	N.Yks	May be sub-surface prehistoric features	2	450710 434930	7
17.8	?Cemetery site	Post-medieval	High	NSMR MNY10809: Quaker cemetery site						Barkston Ash	N.Yks	Burials could exist here	2	450120 435100	8
18.4	Track	Undetermined	High	NSMR MNY10814: enclosures			Anomalies			Barkston Ash	N.Yks	Possible early field system	1	448720 435330	8

EIS Plot No.	Description	Period	Area Priority	Sources						Parish	County	Reason for trench evaluation	No Trenches	NGR	Fig.
				DBA	*Field Reconn.*	*Field Walking*	*Geo-physics*	*Palaeo-environ. Assess.*	*Local Source Review*						
18.5	Enclosure	Undetermined	High	NSMR MNY10814: enclosures			Anomalies			Barkston Ash	N.Yks	Possible early settlement	4	448600 435400	8
18.9	Enclosures/ field system	Undetermined	High	NSMR MNY10770: enclosures			Anomalies			Barkston Ash	N.Yks	Possible early field system/ settlement	2	447975 435900	9
18.1	Enclosures/ field system	Undetermined	High	NSMR MNY10770: enclosures			Anomalies			Barkston Ash	N.Yks	Possible early field system/ settlement	2	447660 436050	9
18.11	Enclosures/ field system	Undetermined	High	NSMR MNY10770: enclosures			Anomalies			Barkston Ash	N.Yks	Possible early field system/ settlement	7	447270 436240	9
19.2	Enclosure	Undetermined	High	DBA:CP: ?ring ditches/enclosures			Anomalies			Saxton with Scarthingwell	N.Yks	Possible early field system/ settlement	1	446650 436355	10
19.3	Enclosure	Undetermined	High	DBA:CP: ?ring ditches/enclosures			Anomalies			Saxton with Scarthingwell	N.Yks	Possible early field system/ settlement	2	446525 436390	10
19.4	Cropmark ditch	Undetermined	High	DBA:CM: ?enclosures			Anomalies			Saxton with Scarthingwell	N.Yks	Possible early field system/ settlement	1	446240 436615	10
20.1	Complex linear feature	Undetermined	High	DBA:HI: field boundary			Anomalies			Saxton with Scarthingwell	N.Yks	Could be substantial early boundary marker	1	445500 436880	11
20.2	?Track, enclosure, ditch	Undetermined	High	NSMR MNY10645: track/enclosure			Anomalies			Saxton with Scarthingwell	N.Yks	Possible early field system	6	445300 437330	11

EIS Plot No.	Description	Period	Area Priority	Sources						Parish	County	Reason for trench evaluation	No Trenches	NGR	Fig.
				DBA	*Field Reconn.*	*Field Walking*	*Geo-physics*	*Palaeo-environ. Assess.*	*Local Source Review*						
23.1	Roman road	Roman	High	WSMR 620: Ilkley to Tadcaster Roman road			Anomalies			Thorner	W.Yks	May locate preserved Roman road, and deposits adjacent	2	439620 441050	12
23.11	Enclosure/ structure	Undetermined	High				Anomalies			Thorner	W.Yks	Possible settlement/ structure	2	439560 441200	12
24.1	Cropmark ditches	Undetermined	High	WSMR 4166: ring ditches/enclosures			Anomalies			Thorner	W.Yks	Possible early field system/ settlement	2	439500 441350	12
24.2	Enclosure	Undetermined	High				Anomalies			Thorner	W.Yks	Possible settlement/ structure	2	439340 441800	13
24.5	Enclosure and assoc. features	Undetermined	High	WSMR 4168: enclosure			Anomalies			Wothersome	W.Yks	Possible early field system/ settlement	3	439270 442230	13
24.8	Roman road and associated features	Roman	High	WSMR 3056: Roman road; WSMR 4226: enclosure/ditch			Anomalies			Wothersome	W.Yks	May locate preserved Roman road, and deposits adjacent	2	439370 442660	14
25.2	Possible enclosures	Undetermined	High				Anomalies			Wothersome	W.Yks	Possible early field system/ settlement	4	438860 443410	15
26.2	Possible enclosures	Undetermined	High	WSMR 4139: ring ditches/enclosures			Anomalies			Bardsey cum Rigton	W.Yks	Possible early field system	4	438550 444000	16
26.3	Cropmarks, ?track	Undetermined	High	WSMR 4139: ring ditches/enclosures			Anomalies			Bardsey cum Rigton	W.Yks	Possible early field system	4	438490 444370	16

EIS Plot No.	Description	Period	Area Priority	Sources						Parish	County	Reason for trench evaluation	No Trenches	NGR	Fig.
				DBA	*Field Reconn.*	*Field Walking*	*Geo-physics*	*Palaeo-environ. Assess.*	*Local Source Review*						
28.7	Linear features/ field system?	Undetermined	High	WSMR 5139: enclosure/ditches			Anomalies			East Keswick	W.Yks	Possible early field system/ settlement	4	436740 445425	17
28.8	Linear features/ field system?	Undetermined	High	WSMR 5139: enclosure/ditches			Anomalies			East Keswick	W.Yks	Possible early field system/ settlement	3	436460 445410	17
31.4	Ditches and enclosures	Undetermined	High	DBA:FB			Anomalies			Kearby with Netherby	N.Yks	Possible early field system/ settlement	2	434550 448130	18
31.12	Enclosures	Undetermined	High	WSMR 5187: 'enclosures'						Kirkby Overblow	N.Yks	Possible early field system/ settlement	2	433020 448690	19
35.2	Enclosures and other anomalies	Undetermined	High				Anomalies			North Rigton	N.Yks	Possible early field system/ settlement	1	428975 449665	20
35.3	Enclosures and other anomalies	Undetermined	High				Anomalies			North Rigton	N.Yks	Possible early field system/ settlement	2	428935 449695	20
35.4	Enclosures	Undetermined	High	DBA: BV: field system			Anomalies			North Rigton	N.Yks	Possible early field system/ settlement	4	428730 450000	20
35.5	Linears; ?cultivation	Undetermined	Medium				Anomalies			North Rigton	N.Yks	Possible early field system	1	428560 450170	20
35.1	Linear features	Undetermined	High				Anomalies			North Rigton	N.Yks	Possible early field system	2	427450 450090	21

Summary of Evaluation Trenches

Trench No.	Plot No.	Trench Area	Priority or Contingency	No of trenches in plot	Target	NGR				Fig
						East 1	*North 1*	*East 2*	*North 2*	
1	1-4	20m x 2m	Contingency	4	limits of site	468788.78	425702.48	468808.18	425697.42	2
2	"	20m x 2m	Priority		?enclosure (geophysical)	468756.24	425678.50	468761.31	425697.85	"
3	"	20m x 2m	Priority		?enclosure (geophysical)	468733.25	425682.54	468752.65	425677.48	"
4	"	20m x 2m	Contingency		limits of site	468698.21	425668.11	468703.28	425687.47	"
5	7-2	30m x 2m	Priority	2	?trackway (geophysical)	460655.76	427078.33	460683.86	427089.07	3
6	"	20 x 2m	Priority		ditch-like (geophysical)	460652.18	427087.68	460659.35	427068.98	"
7	10-4	30m x 2m	Priority	2	ditch-like (geophysical)	457404.01	428039.89	457388.80	428014.00	4
8	"	30m x 4m	Priority		ditch-like (geophysical)	See table below				"
9	16-2	15m x 4m	Priority	2	pit-like (geophysical)	See table below				5
10a	"	15m x 4m	Priority		pit-like (geophysical)	See table below				"
10b	16-8	30m x 2m	Priority	1	ditch-like (geophysical)	452377.21	434601.49	452406.33	434593.95	6
11	16-9	30m x 2m	Priority	2	?enclosure (geophysical)	452246.78	434705.95	452266.75	434683.49	6
12	"	30m x 2m	Priority		?enclosure (geophysical)	452211.49	434707.19	452241.57	434707.19	"
13	17-3	30m x 2m	Contingency	2	limits of site	450713.51	434917.25	450742.49	434909.19	7
14	"	15m x 4m	Priority		?enclosure (geophysical)	See table below				
15	17-8	15m x 4m	Priority	2	pit-like nr burial grd (geophysical)	See table below				8
16	"	30m x 2m	Priority		?Quaker burials (NSMR MNY10809)	449079.67	435081.37	449109.75	435082.29	"
17	18-4	30m x 2m	Priority	1	?trackway (geophysical)	448708.86	435308.64	448736.28	435321.01	8
18	18-5	30m x 2m	Contingency	5	blank area within site	448640.32	435379.64	448644.35	435349.90	8
19a	"	15m x 4m	Priority		?enclosure ditches (geophysical)	See table below				"
19b	"	15m x 4m	Priority		?enclosure centre (geophysical)	See table below				"
19c	"	15m x 4m	Priority		?enclosure ditches (geophysical)	See table below	?	?	?	"
20a	"	30m x 2m	Priority		ditch-like (geophysical)	448544.59	435434.83	448574.67	435434.83	"
20b	18-9	20m x 2m	Priority	3	ditch-like (geophysical)	448064.67	435870.10	448079.24	435856.36	9
21	"	50m x 2m	Priority		?trackways (geophysical)	447959.52	435909.11	448004.92	435887.84	9
22	"	20m x 2m	Priority		?enclosure (geophysical)	447889.48	435952.35	447889.48	435932.34	"
23	18-10	20m x 2m	Priority	2	?enclosure (geophysical)	447853.14	435964.99	447873.20	435964.99	9
24	"	20m x 2m	Priority		ditch-like (geophysical/cropmark)	447733.21	436014.74	447751.38	436006.26	
25	18-11	30m x 2m	Priority	7	ditch-like (geophysical/cropmark)	447659.15	436064.38	447663.87	436034.73	9
26	"	40m x 2m	Priority		?enclosure (geophysical)	447562.22	436082.41	447601.85	436088.69	"
27	"	20m x 2m	Contingency		pit-like/blank area (geophysical)	447466.63	436129.44	447475.22	436147.51	"
28	"	10m x 4m	Priority		ditch-like (geophysical)	See table below				"
29	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	447261.30	436246.71	447264.95	436227.04	"
30	"	15m x 4m	Priority		?enclosure (geophysical/cropmark)	See below				"
31	"	2 x 8m x 4m (T-shaped)	Priority		?enclosure (geophysical/cropmark)	See table below				"
32	19-2	40m x 2m	Priority	1	?trackway/ditch-like (geophysical)	446629.88	436356.47	446669.73	436356.48	10

Trench No.	Plot No.	Trench Area	Priority or Contingency	No of trenches in plot	Target	NGR				Fig
						East 1	*North 1*	*East 2*	*North 2*	
33a	19-3	12m x 4m	Priority	2	?enclosure (geophysical)	See table below				10
33b	"	12m x 4m	Priority		?enclosure (geophysical)	See table below				"
34	19-4	20m x 2m	Contingency	1	ditch-like (geophysical/cropmark)	446228.89	436617.83	446245.52	436606.65	10
35	20-1	40m x 2m	Priority	1	?trackways (geophysical)	445739.67	436902.19	445746.36	436862.72	11
36	20-2	20m x 2m	Contingency	6	ditch-like (geophysical)	445475.10	437145.49	445494.74	437141.41	11
37	"	20m x 2m	Priority		ditch-like (geophysical)	445430.98	437207.70	445430.98	437187.70	"
38	"	20m x 2m	Priority		ditch-like (geophysical)	445231.26	437387.97	445211.93	437393.31	"
39	"	20m x 2m	Priority		ditch-like (geophysical)	445015.82	437441.40	445035.45	437445.50	"
40	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	444993.67	437464.23	444997.79	437444.65	"
41	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	444956.50	437466.18	444976.12	437470.27	"
42	23-11	10 x 4m	Priority	4	?enclosure (geophysical)	See table below				12
43	"	30m x 4m	Priority		Roman road (WSMR 628)	439617.75	441035.52	439617.84	441065.53	12
44	"	30m x 2m	Priority		blank area between sites	439567.82	441146.74	439596.05	441136.37	"
45	"	30m x 4m	Priority		pit-like (geophysical)	See table below	?	?	?	"
46	24-1	30m x 2m	Priority	2	?enclosure (geophysical)	439504.23	441306.04	439514.65	441334.21	12
47	"	30m x 2m	Priority		ditch-like (geophysical/cropmark)	439452.21	441449.46	439473.23	441427.98	
48	24-2	20m x 2m	Priority	2	limits of site	439344.01	441759.54	439353.39	441777.22	13
49	"	30m x 4m	Priority		?enclosure (geophysical)	439329.16	441809.21	439353.54	441791.61	"
50	24-5	60m x 2m	Priority	3	?enclosure (geophysical)	439255.13	442173.37	439255.68	442233.40	13
51	"	40m x 2m	Priority		?enclosure (geophysical/cropmark)	439312.09	442278.64	439271.98	442278.64	"
52	"	20m x 2m	Priority		limits of site	439279.30	442333.47	439281.93	442313.64	"
53	24-8	30 x 4m	Priority	4	Roman road (WSMR 3056)	See table below				14
54a	"	20m x 2m	Priority		ditch-like (geophysical/cropmark)	439287.64	442688.98	439307.18	442693.48	"
54b	"	20m x 2m	Priority		ditch-like (geophysical)	439247.01	442745.37	439251.73	442725.92	"
54c	"	20m x 2m	Priority		ditch-like (geophysical)	439212.60	442763.49	439229.45	442752.63	"
55	25-2	20m x 2m	Contingency	5	limits of site	438881.94	443351.77	438862.82	443345.74	15
56	"	20m x 2m	Priority		ditch-like (geophysical)	438852.28	443384.91	438871.08	443377.95	"
57	"	20m x 2m	Priority		ditch-like (geophysical)	438863.32	443427.46	438867.62	443407.93	"
58a	"	20m x 2m	Contingency		limits of site	438847.95	443456.01	438843.39	443475.49	"
58b	"	20m x 2m	Priority		ditch-like (geophysical)	438826.58	443490.78	438836.41	443508.22	"
59	26-2	20m x 2m	Contingency	4	limits of site	438585.58	443928.31	438594.27	443910.26	16
60	"	20m x 2m	Priority		?enclosure (geophysical)	438568.07	443973.27	438563.14	443953.88	"
61	"	20m x 2m	Priority		?enclosure (geophysical)	438541.71	444028.21	438536.78	444008.81	"
62a	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	438507.95	444094.51	438522.55	444108.22	"
62b	26-3	20m x 2m	Priority	6	ditch-like (geophysical)	438565.87	444165.58	438573.83	444147.22	16
62c	"	20m x 2m	Contingency		ditch-like (geophysical)	438564.36	444170.54	438582.76	444178.47	"
63	"	20m x 2m	Priority		limits of site	438503.20	444332.78	438511.31	444314.48	"
64	"	30m x 2m	Priority		?enclosure (geophysical/cropmark)	438499.86	444371.71	438493.72	444342.33	"
65	"	30m x 2m	Priority		?enclosure (geophysical/cropmark)	438492.85	444385.07	438465.96	444398.50	"

Trench No.	Plot No.	Trench Area	Priority or Contingency	No of trenches in plot	Target	NGR				Fig
						East 1	*North 1*	*East 2*	*North 2*	
66a	"	20m x 2m	Priority		limits of site	438455.47	444440.30	438463.58	444421.99	"
66b	28-7	20m x 2m	Priority	5	ditch-like (geophysical)	437060.32	445278.83	437079.72	445283.91	17
67	"	20m x 2m	Priority		limits of site	436789.02	445374.03	436801.85	445358.65	"
68	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	436774.69	445395.02	436769.83	445414.44	"
69	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	436739.84	445427.33	436719.84	445425.89	"
70	"	20m x 2m	Priority		?enclosure (geophysical/cropmark)	436654.39	445416.37	436673.98	445420.65	"
71	28-8	20m x 2m	Priority	3	ditch-like (geophysical)	436557.11	445418.33	436575.61	445410.61	17
72	"	20m x 2m	Priority		ditch-like (geophysical)	436445.94	445409.46	436464.90	445415.96	"
73	"	20m x 2m	Priority		pit-like (geophysical)	436426.66	445412.30	436433.95	445393.68	"
74	31-4	20m x 2m	Priority	2	ditch-like (geophysical)	434550.85	448136.72	434566.73	448124.50	18
75	"	20m x 2m	Priority		ditch-like (geophysical)	434535.00	448174.74	434535.00	448194.76	"
76	31-12	30m x 2m	Priority	2	adjacent cropmarks (WSMR 5187)	433063.24	448693.73	433093.14	448696.99	19
77	"	30m x 4m	Priority		adjacent cropmarks (WSMR 5187)	See table below	?	?	?	"
78	35-2	30m x 2m	Priority	1	ditch-like (geophysical)	428976.86	449680.83	428974.07	449650.95	20
79	35-3	30m x 2m	Priority	2	?enclosure (geophysical)	428922.33	449699.73	428952.29	449696.95	20
80	"	20m x 2m	Priority		ditch-like (geophysical)	428900.02	449731.18	428885.25	449744.70	"
81	35-4	20m x 2m	Contingency	4	limits of site	428745.13	449947.76	428764.67	449952.26	20
82	"	20m x 2m	Priority		ditch-like (geophysical)	428733.82	449973.20	428753.36	449977.69	"
83	"	20m x 2m	Priority		?enclosure (geophysical)	428732.63	450016.25	428718.16	450002.40	"
84	"	20m x 2m	Contingency		limits of site	428706.05	450038.76	428696.12	450056.15	"
85	35-5	50m x 2m	Priority	1	ditch-like (geophysical)	428546.67	450182.80	428582.19	450147.48	20
86	35-10	30m x 2m	Priority	2	ditch-like (geophysical)	427459.91	450088.24	427431.22	450097.27	21
87	"	30m x 2m	Priority		ditch-like (geophysical)	427418.07	450088.71	427387.97	450089.11	"

Co-ordinates for Corners of 4m Wide Trenches

Tr. No.	CORNER 1		CORNER 2		CORNER 3		CORNER 4	
	East 1	**North 1**	**East 2**	**North 2**	**East 3**	**North 3**	**East 4**	**North 4**
8	457159.21	428010.30	457157.79	428006.56	457185.91	427995.91	457187.32	427999.65
9	453644.38	434159.17	453646.98	434162.21	453658.42	434152.46	453655.82	434149.43
10	453595.11	434161.73	453597.71	434164.77	453609.16	434155.02	453606.55	434151.98
14	450708.80	434919.63	450704.59	434934.05	450700.74	434932.93	450704.95	434918.52
15	449164.88	435085.55	449164.99	435081.55	449180.04	435082.01	449179.93	435086.01
19a	448619.09	435391.48	448621.23	435394.86	448633.93	435386.81	448631.79	435383.43
19b	448604.96	435398.99	448607.78	435396.15	448597.09	435385.59	448594.27	435388.43
19c	448577.66	435396.77	448589.75	435388.72	448574.91	435393.39	448587.61	435385.34
28	447370.72	436182.53	447374.68	436183.15	447376.25	436173.26	447372.30	436172.64
30	447199.69	436265.18	447203.59	436266.04	447206.85	436251.40	447202.94	436250.54
31 NW-SE	447157.30	436284.83	447159.01	436288.45	447152.66	436291.44	447153.52	436293.25
31 NE-SW	447149.89	436294.96	447146.46	436287.72	447150.09	436286.01	447150.95	436287.82
33a	446523.99	436391.19	446526.64	436394.19	446535.64	436386.23	446532.98	436383.24
33b	446526.21	436411.56	446530.22	436411.30	446529.44	436399.31	446525.44	436399.57
42	439625.96	441037.69	439625.96	441033.69	439635.99	441033.69	439635.99	441037.69
43	439617.82	441058.03	439621.83	441058.01	439621.77	441043.00	439617.77	441043.02
45	439558.39	441193.17	439572.37	441198.69	439573.84	441194.96	439559.86	441189.44
49	439326.81	441805.97	439329.16	441809.21	439337.29	441803.34	439334.94	441800.11
53	439294.73	442667.77	439298.64	442668.67	439305.39	442639.43	439301.48	442638.53
77	433004.27	448677.91	433023.11	448701.32	433026.24	448698.82	433007.40	448675.41

Trench 31 is a T-shaped trench

APPENDIX 2: CONTEXT INFORMATION

Context	Trench	Context Type	Interpretation	Description
1000	2	Deposit	Topsoil	Topsoil
1001	2	Deposit	Natural deposit	Silt alluvium
1002	2	Deposit	Ditch	Silty-clay fill of Ditch ***1003***
1003	2	Cut	Ditch	Cut segment in large V-shaped ditch
1004	2	Deposit	Ditch	Silty-clay fill of Ditch ***1003***
1005	2	Deposit	Ditch	Silty-clay fill of Ditch ***1003***
1006	1	Deposit	Topsoil	Topsoil
1007	1	Deposit	Natural deposit	Silt alluvium
1008	4	Deposit	Topsoil	Topsoil
1009	4	Deposit	Natural deposit	Sand alluvium
1010	4	Deposit	Natural deposit	Silt alluvium
1011	3	Deposit	Topsoil	Topsoil
1012	3	Deposit	Ditch	Clay fill of Ditch ***1003***
1013	3	Deposit	Natural deposit	Clayey-silt alluvium
1014	3	Cut	Ditch	Cut segment in small U-shaped ditch
1015	3	Deposit	Ditch	Silty-sand upper fill of Ditch ***1018***
1016	3	Deposit	Ditch	Clayey-silt secondary fill of Ditch ***1018***
1017	3	Deposit	Ditch	Silt lower fill of Ditch ***1018***
1018	3	Cut	Ditch	Cut segment in large V-shaped ditch
1019	79	Deposit	Topsoil	Topsoil
1020	79	Deposit	Subsoil	Subsoil
1021	79	Deposit	Natural deposit	Boulder clay
1022	79	Deposit	Ditch	Clayey-silt fill of Ditch ***1023***
1023	79	Cut	Ditch	Cut segment in large V-shaped ditch
1024	79	Deposit	Pit	Sandy-clay fill of Pit ***1025***
1025	79	Cut	Pit	Cut segment in small sub-rectangular pit
1026	81	Deposit	Topsoil	Topsoil
1027	81	Deposit	Subsoil	Subsoil
1028	81	Deposit	Natural deposit	Boulder clay
1029	81	Deposit	Ditch	Silty-clay fill of Ditch ***1030***
1030	81	Cut	Ditch	Cut segment in U-shaped ditch
1031	79	Deposit	Ditch	Sandy-clay lower fill of Ditch ***1023***
1032	84	Deposit	Topsoil	Topsoil
1033	84	Deposit	Subsoil	Subsoil
1034	84	Deposit	Natural deposit	Boulder clay
1035	80	Deposit	Topsoil	Topsoil
1036	80	Deposit	Subsoil	Subsoil
1037	80	Deposit	Natural deposit	Boulder clay
1038	82	Deposit	Topsoil	Topsoil
1039	82	Deposit	Subsoil	Subsoil
1040	82	Deposit	Ditch	Silty-clay fill of Ditch ***1041***
1041	82	Cut	Ditch	Cut segment in large V-shaped ditch
1042	82	Deposit	Natural deposit	Sandy gravel
1043	83	Deposit	Topsoil	Topsoil
1044	83	Deposit	Subsoil	Subsoil
1045	83	Deposit	Ditch	Sandy silty-clay fill of Ditch ***1046***
1046	83	Cut	Ditch	Cut segment in large V-shaped ditch
1047	83	Deposit	Natural deposit	Mixed sandstone and boulder clay

Context	Trench	Context Type	Interpretation	Description
1048	78	Deposit	Topsoil	Topsoil
1049	78	Deposit	Subsoil	Subsoil
1050	78	Deposit	Natural deposit	Boulder clay
1051	78	Cut	Ditch	Cut segment in V-shaped ditch
1052	78	Deposit	Ditch	Sandy-clay fill of Ditch ***1051***
1053	85	Deposit	Topsoil	Topsoil
1054	85	Deposit	Structure	Linear field boundary comprised large angular stones
1055	85	Deposit	Natural deposit	Clayey-silt colluvium
1056	85	Deposit	Natural deposit	Sand colluvium
1057	85	Deposit	Natural deposit	Sandstone bedrock
1058	74	Deposit	Topsoil	Topsoil
1059	74	Deposit	Natural deposit	Boulder clay
1061	75	Deposit	Topsoil	Topsoil
1062	75	Deposit	Structure	Linear trackway comprising medium sized compacted stones
1063	75	Deposit	Natural deposit	Boulder clay
1064	74	Cut	Ditch	Cut segment in small curvilinear ditch
1065	74	Deposit	Ditch	Clay fill of Ditch ***1064***
1066	74	Deposit	Ditch	Silty-clay fill of Ditch ***1067***
1067	74	Cut	Ditch	Cut segment in U-shaped ditch
1068	53	Deposit	Topsoil	Topsoil
1069	53	Deposit	Subsoil	Subsoil
1070	53	Deposit	Natural deposit	Magnesian limestone bedrock
1071	54b	Deposit	Topsoil	Topsoil
1072	54b	Deposit	Subsoil	Subsoil
1073	54b	Deposit	Natural deposit	Magnesian limestone bedrock
1074	54c	Deposit	Topsoil	Topsoil
1075	54c	Deposit	Subsoil	Subsoil
1076	54c	Deposit	Natural deposit	Magnesian limestone bedrock
1077	54a	Deposit	Ditch	Sandy-silt fill of Ditch ***1078***
1078	54a	Cut	Ditch	Cut segment in large U-shaped ditch
1079	54a	Deposit	Topsoil	Topsoil
1080	54a	Deposit	Subsoil	Subsoil
1081	54a	Deposit	Natural deposit	Magnesian limestone bedrock
1082	53	Cut	Ditch	Cut segment in wide shallow ditch
1083	53	Deposit	Ditch	Clayey-silt fill of Ditch ***1082***
1084	56	Deposit	Topsoil	Topsoil
1085	56	Deposit	Subsoil	Subsoil
1086	56	Deposit	Ditch	Sandy-gravel fill of Ditch ***1087***
1087	56	Cut	Ditch	Cut segment in V-shaped ditch
1088	56	Deposit	Natural deposit	Magnesian limestone bedrock
1089	58b	Deposit	Topsoil	Topsoil
1090	58b	Deposit	Subsoil	Subsoil
1091	58b	Deposit	Natural deposit	Magnesian limestone bedrock
1092	57	Deposit	Topsoil	Topsoil
1093	57	Deposit	Ditch	gravelly-sand fill of Ditch ***1094***
1094	57	Cut	Ditch	Cut segment in V-shaped ditch
1095	57	Deposit	Subsoil	Subsoil
1096	57	Deposit	Natural deposit	Magnesian limestone bedrock
1097	55	Deposit	Topsoil	Topsoil

Context	Trench	Context Type	Interpretation	Description
1099	55	Deposit	Natural deposit	Magnesian limestone bedrock
1100	58a	Deposit	Topsoil	Topsoil
1101	58a	Deposit	Subsoil	Subsoil
1102	58a	Deposit	Natural deposit	Magnesian limestone bedrock
1103	58a	Cut	Ditch	Cut segment in V-shaped ditch terminus
1104	58a	Deposit	Ditch	Sandy-silt fill of Ditch ***1103***
1105	58a	Deposit	Natural deposit	Sandy-clay colluvium
1106	33b	Deposit	Topsoil	Topsoil
1107	33b	Deposit	Subsoil	Subsoil
1108	33b	Deposit	Ditch	Clayey-silt fill of Ditch ***1109***
1109	33b	Cut	Ditch	Cut segment in large V-shaped ditch
1110	33b	Deposit	Natural deposit	Magnesian limestone bedrock
1111	34	Cut	Ditch	Cut segment in large U-shaped ditch
1112	34	Deposit	Ditch	Clayey-silt upper fill of Ditch ***1111***
1113	34	Deposit	Ditch	Sandy-silt lower fill of Ditch ***1111***
1114	34	Deposit	Topsoil	Topsoil
1115	34	Deposit	Ditch	Silty-clay fill of Ditch ***1116***
1116	34	Cut	Ditch	Cut segment in small V-shaped ditch
1117	34	Deposit	Natural deposit	Magnesian limestone bedrock
1118	34	Deposit	Ditch	Silty-clay fill of Ditch ***1119***
1119	34	Cut	Ditch	Cut segment in small shallow U-shaped ditch
1120	33b	Cut	Ditch	Cut segment in U-shaped ditch
1121	33b	Deposit	Ditch	Silty snady-clay fill of Ditch ***1120***
1122	33a	Deposit	Topsoil	Topsoil
1123	33a	Deposit	Natural deposit	Magnesian limestone bedrock
1124	42	Deposit	Topsoil	Topsoil
1125	42	Deposit	Natural deposit	Magnesian limestone bedrock
1126	43	Deposit	Topsoil	Topsoil
1127	43	Deposit	Natural deposit	Magnesian limestone bedrock
1128	42	Cut	Ditch	Cut segment in large double U-shaped ditch
1129	42	Deposit	Ditch	Sandy clayey-silt fill of Ditch ***1128***
1130	43	Cut	Ditch	Cut segment in wide shallow U-shaped ditch
1131	43	Deposit	Ditch	Sandy-silt fill of Ditch ***1130***
1132	43	Deposit	Ditch	Sandy-silt fill of Ditch ***1133***
1133	43	Cut	Ditch	Cut segment in wide shallow U-shaped ditch
1134	10b	Deposit	Topsoil	Topsoil
1135	10b	Deposit	Natural deposit	Clayey-silt alluvium
1136	10b	Deposit	Natural deposit	Clay alluvium
1137	10b	Deposit	Topsoil	Topsoil
1138	10b	Deposit	Natural deposit	Clayey-silt alluvium
1139	10b	Deposit	Natural deposit	Clay alluvium
1140	12	Deposit	Topsoil	Topsoil
1141	12	Deposit	Natural deposit	Clay alluvium
1142	12	Deposit	Ditch	Silty-clay fill of Ditch ***1151***
1143	12	Deposit	Ditch	Clayey-silt fill of Ditch ***1144***
1144	12	Cut	Ditch	Cut segment in wide U-shaped ditch
1146	12	Deposit	Ditch	Silty-clay fill of Ditch ***1147***
1147	12	Cut	Ditch	Cut segment in wide U-shaped ditch
1148	12	Deposit	Natural deposit	Sandy-clay alluvium
1149	11	Deposit	Pit	Clayey-silt fill of Pit ***1150***

Context	Trench	Context Type	Interpretation	Description
1150	11	Cut	Pit	Cut segment in small sub-circular U-shaped pit
1151	12	Cut	Ditch	Cut segment in wide U-shaped ditch
1152	12	Deposit	Ditch	Silty-sand fill of Ditch ***1153***
1153	12	Cut	Ditch	Cut segment in heavily truncated wide U-shaped ditch
1155	12	Deposit	Ditch	Clayey-silt fill of ditch ***1156***
1156	12	Cut	Ditch	Cut segment in small shallow curvilinear ditch terminus
1157	11	Deposit	Pit	Sandy-clay fill of Pit ***1158***
1158	11	Cut	Pit	Cut segment in small sub-circular U-shaped pit
1163	11	Deposit	Ditch	Silty-clay fill of Ditch ***1164***
1164	11	Cut	Ditch	Cut segment in small U-shaped ditch
1165	11	Deposit	Pit	Silty-clay fill of Pit ***1166***
1166	11	Cut	Pit	Cut segment in large shallow sub-circular pit
1167	11	Deposit	Pit	Silty-clay fill of Pit ***1168***
1168	11	Cut	Pit	Cut segment in large sub-circular pit
1169	11	Deposit	Pit	Silty-clay fill of Pit ***1170***
1170	11	Cut	Pit	Cut segment in large sub-circular pit
1172	10b	Deposit	Ditch	Clayey-silt fill of Ditch ***1173***
1173	10b	Cut	Ditch	Cut segment in U-shaped ditch
1174	10b	Deposit	Pit	Clayey-sand fill of Pit ***1175***
1175	10b	Cut	Pit	Cut segment in sub-circular U-shaped pit
1178	12	Deposit	Pit	Silty-clay fill of Pit ***1179***
1179	12	Cut	Pit	Cut segment in small sub-circular U-shaped pit
1180	12	Cut	Pit	Cut of unexcavated small sub-circular pit
1181	10a	Deposit	Topsoil	Topsoil
1182	10a	Deposit	Natural deposit	Sandy-clay alluvium
1183	9	Deposit	Topsoil	Topsoil
1184	9	Deposit	Natural deposit	Clayey-sand alluvium
1185	9	Deposit	Ditch	Clayey-silt fill of Ditch ***1186***
1186	9	Cut	Ditch	Cut segment in small shallow U-shaped ditch
1187	9	Deposit	Posthole	Silty-clay fill of Posthole ***1188***
1188	9	Cut	Posthole	Cut segment in small U-shaped posthole
1189	8	Deposit	Topsoil	Topsoil
1190	8	Deposit	Natural deposit	Silt alluvium
1191	8	Deposit	Ditch	Silty-clay fill of Ditch ***1192***
1192	8	Cut	Ditch	Cut segment in wide U-shaped ditch
1193	8	Deposit	Ditch	Clay organic fill of Ditch ***1194***
1194	8	Cut	Ditch	Cut segment in small shallow ditch terminus
1195	8	Deposit	Ditch	Silty-clay upper fill of Ditch ***1196***
1196	8	Cut	Ditch	Cut segment in large U-shaped ditch
1197	8	Deposit	Ditch	Clayey-silt fill of Ditch ***1198***
1198	8	Cut	Ditch	Cut segment in shallow U-shaped ditch
1199	8	Cut	Ditch	Cut segment in small U-shaped ditch
1200	8	Deposit	Ditch	Sandy-clay fill of Ditch ***1199***
1201	8	Deposit	Plough furrow	Silty-clay fill of Plough furrow ***1202***
1202	8	Cut	Plough furrow	Cut segment in shallow plough furrow
1203	7	Deposit	Topsoil	Topsoil
1204	7	Deposit	Natural deposit	Clayey-sand alluvium
1205	7	Deposit	Natural deposit	Silty-clay alluvium

Context	Trench	Context Type	Interpretation	Description
1206	7	Deposit	Natural deposit	Silty-clay alluvium
1207	8	Deposit	Ditch	Silty-clay lower fill of Ditch ***1196***
1208	20a	Deposit	Topsoil	Topsoil
1209	20a	Deposit	Ditch	Silty-sand fill of Ditch ***1210***
1210	20a	Cut	Ditch	Cut segment in V-shaped ditch
1211	20a	Deposit	Natural deposit	Magnesian limestone bedrock
1212	45	Deposit	Topsoil	Topsoil
1213	45	Deposit	Subsoil	Subsoil
1214	45	Deposit	Ditch	Clayey-sand fill of Ditch ***1215***
1215	45	Cut	Ditch	Cut segment in wide U-shaped ditch
1216	45	Deposit	Pit	Silty-sand fill of Pit ***1217***
1217	45	Cut	Pit	Cut segment in small shallow sub-circular pit
1218	45	Deposit	Ditch	Clayey-silt fill of Ditch ***1219***
1219	45	Cut	Ditch	Cut segment in shallow U-shaped curvilinear ditch
1220	44	Deposit	Topsoil	Topsoil
1221	44	Deposit	Natural deposit	Magnesian limestone bedrock
1222	45	Deposit	Pit	Sandy-silt fill of Pit ***1223***
1223	45	Cut	Pit	Cut segment in shallow sub-circular pit
1224	45	Deposit	Natural deposit	Magnesian limestone bedrock
1225	25	Deposit	Topsoil	Topsoil
1226	25	Deposit	Subsoil	Subsoil
1227	25	Deposit	Ditch	Silt fill of Ditch ***1228***
1228	25	Cut	Ditch	Cut segment in wide shallow U-shaped ditch
1229	25	Deposit	Ditch	Clayey-silt fill of Ditch ***1230***
1230	25	Cut	Ditch	Cut segment in wide V-shaped ditch
1231	25	Deposit	Natural deposit	Magnesian limestone bedrock
1232	26	Deposit	Topsoil	Topsoil
1233	26	Deposit	Subsoil	Subsoil
1234	26	Deposit	Ditch	Sandy-clay fill of Ditch ***1235***
1235	26	Cut	Ditch	Cut segment in U-shaped ditch
1236	27	Deposit	Topsoil	Topsoil
1237	27	Deposit	Subsoil	Subsoil
1238	27	Deposit	Plough furrow	Sandy-clay fill of Plough furrow ***1239***
1239	27	Cut	Plough furrow	Cut segment in shallow plough furrow
1240	26	Deposit	Ditch	Clayey-silt fill of Ditch ***1241***
1241	26	Cut	Ditch	Cut segment in U-shaped dithc
1242	26	Deposit	Natural deposit	Boulder clay
1243	27	Deposit	Natural deposit	Magnesian limestone bedrock
1244	28	Deposit	Topsoil	Topsoil
1245	28	Deposit	Subsoil	Subsoil
1246	28	Deposit	Ditch	Sandy-clay fill of Ditch ***1247***
1247	28	Cut	Ditch	Cut segment in wide V-shaped ditch
1248	28	Deposit	Natural deposit	Magnesian limestone bedrock
1249	29	Deposit	Topsoil	Topsoil
1250	29	Deposit	Subsoil	Subsoil
1251	29	Deposit	Ditch	Clayey-sand fill of Ditch ***1252***
1252	29	Cut	Ditch	Cut segment in large U-shaped ditch
1253	29	Deposit	Natural deposit	Boulder clay
1254	30	Deposit	Topsoil	Topsoil

Context	Trench	Context Type	Interpretation	Description
1255	30	Deposit	Subsoil	Subsoil
1256	30	Deposit	Natural deposit	Magnesian limestone bedrock
1257	30	Cut	Pit	Cut segment in small sub-circular pit
1258	30	Deposit	Pit	Charcoal-rich lower fill of Pit ***1257***
1259	30	Deposit	Pit	Burnt clay upper fill of Pit ***1257***
1260	30	Deposit	Ditch	Sandy-clay fill of Ditch ***1261***
1261	30	Cut	Ditch	Cut segment in large V-shaped ditch
1262	31	Deposit	Topsoil	Topsoil
1263	31	Deposit	Ditch	Clayey-sand fill of Ditch ***1264***
1264	31	Cut	Ditch	Cut segment in shallow U-shaped curvilinear ditch
1265	29	Deposit	Ditch	Sandy clay fill of Ditch ***1252***
1266	31	Deposit	Ditch	Sandy-silt fill of Ditch ***1267***
1267	31	Cut	Ditch	Cut segment in shallow U-shaped ditch
1268	31	Deposit	Natural deposit	Magnesian limestone bedrock
1269	31	Deposit	Uncertain	Silty-clay fill of uncertain feature ***1270***
1270	31	Cut	Uncertain	Cut segment in uncertain feature
1271	20b	Deposit	Topsoil	Topsoil
1272	20b	Deposit	Subsoil	Subsoil
1273	20b	Deposit	Natural deposit	Clayey-sand colluvium
1274	20b	Deposit	Ditch	Clayey-silt fill of Ditch ***1279***
1275	20b	Deposit	Ditch	Sandy-clay lower fill of Ditch ***1277***
1276	20b	Deposit	Ditch	Silt upper fill of Ditch ***1277***
1277	20b	Cut	Ditch	Cut segment in large V-shaped ditch
1278	20b	Deposit	Ditch	Silt secondary fill of Ditch ***1277***
1279	20b	Cut	Ditch	Cut segment in small truncated U-shaped ditch
1280	20b	Deposit	Natural deposit	Sand colluvium
1281	20b	Deposit	Natural deposit	Fragmented limestone colluvium
1282	20b	Deposit	Natural deposit	Sandy-silt colluvium
2000	87	Deposit	Topsoil	Topsoil
2001	87	Deposit	Natural deposit	Clay
2002	87	Deposit	Ditch	Clayey-silt fill of Ditch ***2003***
2003	87	Cut	Ditch	Cut segment in U-shaped ditch
2004	86	Deposit	Topsoil	Topsoil
2005	86	Deposit	Natural deposit	Silty-clay alluvium
2006	86	Deposit	Ditch	Silty-clay fill of Ditch ***2007***
2007	86	Cut	Ditch	Cut segment in U-shaped ditch
2008	16	Deposit	Topsoil	Topsoil
2009	16	Deposit	Subsoil	Subsoil
2010	16	Deposit	Natural deposit	Magnesian limestone bedrock
2011	16	Deposit	Pit	Sandy-clay ill of Pit ***2012***
2012	16	Cut	Pit	Cut segment in shallow sub-circular pit
2013	21	Deposit	Topsoil	Topsoil
2014	21	Deposit	Subsoil	Subsoil
2015	21	Deposit	Natural deposit	Magnesian limestone bedrock
2016	21	Deposit	Ditch	Sandy-clay fill of Ditch ***2017***
2017	21	Cut	Ditch	Cut segment in V-shaped ditch
2018	21	Deposit	Natural feature	Fill of ***2019***
2019	21	Cut	Natural feature	Cut segment in natural feature
2020	21	Deposit	Pit	Clayey-sand fill of Pit ***2021***
2021	21	Cut	Pit	Cut segment in large sub-circular pit

Context	Trench	Context Type	Interpretation	Description
2022	21	Deposit	Ditch	Clayey-silt fill of Ditch ***2023***
2023	21	Cut	Ditch	Cut segment in large U-shaped ditch
2024	22	Deposit	Ditch	Sandy-clay upper fill of Ditch ***2025***
2025	22	Cut	Ditch	Cut segment in V-shaped ditch
2026	22	Deposit	Topsoil	Topsoil
2027	22	Deposit	Subsoil	Subsoil
2028	22	Deposit	Natural deposit	Magnesian limestone bedrock
2029	22	Deposit	Ditch	Sandy-silt lower fill of Ditch ***2025***
2030	36	Deposit	Topsoil	Topsoil
2031	36	Deposit	Subsoil	Subsoil
2032	36	Deposit	Natural deposit	Magnesian limestone bedrock
2033	36	Deposit	Ditch	Sandy-silt fill of Ditch ***2034***
2034	36	Cut	Ditch	Cut segment in shallow U-shaped ditch
2035	37	Deposit	Topsoil	Topsoil
2036	37	Deposit	Subsoil	Subsoil
2037	37	Deposit	Natural deposit	Magnesian limestone bedrock
2038	37	Deposit	Ditch	Silty-clay fill of Ditch ***2039***
2039	37	Cut	Ditch	Cut segment in small U-shaped ditch
2040	37	Cut	Posthole	Cut of posthole in edge of Ditch ***2039***
2041	35	Deposit	Topsoil	Topsoil
2042	35	Deposit	Subsoil	Sandy clay colluvium
2043	35	Deposit	Natural deposit	Magnesian limestone bedrock
2044	35	Deposit	Subsoil	Sandy clay colluvium
2045	35	Deposit	Subsoil	Sandy clay colluvium
2046	35	Deposit	Subsoil	Sandy clay colluvium
2047	35	Deposit	Subsoil	Sandy clay colluvium
2048	35	Deposit	Subsoil	Clay colluvium
2049	35	Deposit	Ditch	Silty-clay upper fill of Ditch ***2051***
2050	35	Deposit	Ditch	Sandy-silt lower fill of Ditch ***2051***
2051	35	Cut	Ditch	Cut segment in small U-shaped ditch
2052	35	Deposit	Ditch	Sandy-silt fill of Ditch ***2053***
2053	35	Cut	Ditch	Cut segment in U-shaped ditch
2054	35	Deposit	Ditch	Sandy-clay fill of Ditch ***2055***
2055	35	Cut	Ditch	Cut segment in large U-shaped ditch
2056	52	Deposit	Topsoil	Topsoil
2057	52	Deposit	Subsoil	Silty sand colluvium
2058	52	Deposit	Subsoil	Sandy clay colluvium
2059	52	Deposit	Subsoil	Sandy clay colluvium
2060	52	Deposit	Subsoil	Sand colluvium
2061	52	Deposit	Natural deposit	Magnesian limestone bedrock
2062	51	Deposit	Ditch	Sandy-silt upper fill of Ditch ***2063***
2063	51	Cut	Ditch	Cut segment in U-shaped ditch
2064	51	Deposit	Topsoil	Topsoil
2065	51	Deposit	Ditch	Sandy-silt lower fill of Ditch ***2063***
2066	51	Deposit	Ditch	Sandy-silt upper fill of Ditch ***2067***
2067	51	Cut	Ditch	Cut segment in U-shaped ditch
2068	50	Deposit	Ditch	Silty-sand fill of Ditch ***2069***
2069	50	Cut	Ditch	Cut segment in small V-shaped ditch
2070	50	Deposit	Ditch	Silty-sand fill of Ditch ***2071***
2071	50	Cut	Ditch	Cut segment in shallow square-profiled ditch

Context	Trench	Context Type	Interpretation	Description
2072	50	Deposit	Topsoil	Topsoil
2073	50	Deposit	Subsoil	Subsoil
2074	50	Deposit	Natural deposit	Magnesian limestone bedrock
2075	51	Deposit	Ditch	Sandy-silt lower fill of Ditch ***2067***
2076	50	Deposit	Ditch	Sandy-clay fill of Ditch ***2077***
2077	50	Cut	Ditch	Cut segment in V-shaped ditch
2078	51	Deposit	Natural deposit	Magnesian limestone bedrock
2079	50	Deposit	Posthole	Sandy-silt fill of Posthole ***2080***
2080	50	Cut	Posthole	Cut segment in shallow sub-circular posthole
2081	50	Deposit	Posthole	Silty-sand fill of Posthole ***2082***
2082	50	Cut	Posthole	Cut segment in shallow sub-circular posthole
2083	50	Deposit	Posthole	Silty-sand fill of Posthole ***2084***
2084	50	Cut	Posthole	Cut segment in shallow sub-circular posthole
2085	50	Deposit	Ditch	Silty-sand fill of Ditch ***2086***
2086	50	Cut	Ditch	Cut segment in V-shaped ditch
2087	71	Deposit	Topsoil	Topsoil
2088	71	Deposit	Subsoil	Subsoil
2089	71	Deposit	Ditch	Sandy-clay fill of Ditch ***2090***
2090	71	Cut	Ditch	Cut segment in V-shaped ditch
2091	71	Deposit	Natural deposit	Boulder clay
2092	72	Deposit	Topsoil	Topsoil
2093	72	Deposit	Subsoil	Subsoil
2094	72	Deposit	Natural deposit	Sandy-clay alluvium
2095	72	Deposit	Ditch	Clayey-sand fill of Ditch ***2096***
2096	72	Cut	Ditch	Cut segment in small U-shaped ditch
2097	72	Deposit	Ditch	Sandy-silt fill of Ditch ***2098***
2098	72	Cut	Ditch	Cut segment in small U-shaped ditch
2099	73	Cut	Ditch	Cut segment in U-shaped ditch
2100	73	Deposit	Natural deposit	Boulder clay
2101	66b	Deposit	Ditch	Sandy-silt fill of Ditch ***2102***
2102	66b	Cut	Ditch	Cut segment in large U-shaped ditch
2103	66b	Deposit	Topsoil	Topsoil
2104	66b	Deposit	Subsoil	Subsoil
2105	66b	Deposit	Natural deposit	Silty-sand alluvium
2106	73	Deposit	Topsoil	Topsoil
2107	73	Deposit	Subsoil	Subsoil
2108	73	Deposit	Ditch	Silty-sand fill of Ditch ***2099***
2109	40	Deposit	Ditch	Clayey-silt fill of Ditch ***2110***
2110	40	Cut	Ditch	Cut segment in wide shallow U-shaped ditch
2111	40	Deposit	Topsoil	Topsoil
2112	40	Deposit	Subsoil	Subsoil
2113	40	Deposit	Natural deposit	Magnesian limestone bedrock
2114	41	Deposit	Topsoil	Topsoil
2115	41	Deposit	Ditch	Silt fill of Ditch ***2116***
2116	41	Cut	Ditch	Cut segment in U-shaped ditch
2117	41	Deposit	Natural deposit	Magnesian limestone bedrock
2118	40	Deposit	Ditch	Clayey-sand fill of Ditch ***2119***
2119	40	Cut	Ditch	Cut segment in shallow square-profiled ditch
2120	40	Deposit	Ditch	Sandy-silt fill of Ditch ***2121***
2121	40	Cut	Ditch	Cut segment in U-shaped ditch

Context	Trench	Context Type	Interpretation	Description
2122	39	Deposit	Ditch	Sandy silt fill of Ditch ***2123***
2123	39	Cut	Ditch	Cut segment in small flat-based ditch
2124	39	Deposit	Topsoil	Topsoil
2125	39	Deposit	Natural deposit	Magnesian limestone bedrock
2126	40	Deposit	Ditch	Silty-sand fill of Ditch ***2127***
2127	40	Cut	Ditch	Cut segment in small flat-based ditch
2128	40	Deposit	Ditch	Clayey-silt fill of Ditch ***2129***
2129	40	Cut	Ditch	Cut segment in small flat-based ditch
2130	38	Deposit	Topsoil	Topsoil
2131	38	Deposit	Subsoil	Subsoil
2132	38	Deposit	Ditch	Sandy-silt fill of Ditch ***2133***
2133	38	Cut	Ditch	Cut segment in ditch
2134	38	Deposit	Natural deposit	Magnesian limestone bedrock
2135	23	Deposit	Pit	Sandy-clay fill of Pit ***2136***
2136	23	Cut	Pit	Cut segment in small sub-circular pit
2137	23	Deposit	Topsoil	Topsoil
2138	23	Deposit	Subsoil	Subsoil
2139	23	Deposit	Natural deposit	Silty-clay alluvium
2140	23	Deposit	Pit	Silty-clay fill of Pit ***2141***
2141	23	Cut	Pit	Cut segment in sub-circular pit
2142	23	Deposit	Ditch	Silty-clay fill of Ditch ***2143***
2143	23	Cut	Ditch	Cut segment in large V-shaped ditch
2144	24	Deposit	Topsoil	Topsoil
2145	24	Deposit	Subsoil	Subsoil
2146	24	Deposit	Natural deposit	Clay alluvium
2147	24	Deposit	Ditch	Sandy-clay upper fill of Ditch ***2148***
2148	24	Cut	Ditch	Cut segment in V-shaped ditch
2149	24	Deposit	Subsoil	Subsoil
2150	24	Deposit	Ditch	Sandy-clay lower fill of Ditch ***2148***
2151	14	Deposit	Topsoil	Topsoil
2152	14	Deposit	Natural deposit	Clay alluvium
2153	14	Deposit	Ditch	Clay fill of Ditch ***2154***
2154	14	Cut	Ditch	Cut segment in small curvilinear ditch terminus
2155	13	Deposit	Topsoil	Topsoil
2156	13	Deposit	Natural deposit	Clay alluvium
2157	14	Deposit	Ditch	Clay fill of Ditch ***2158***
2158	14	Cut	Ditch	Cut segment in small U-shaped ditch terminus
2159	14	Deposit	Ditch	Silty-clay upper fill of Ditch ***2161***
2160	14	Deposit	Ditch	Clayey-silt lower fill of Ditch ***2161***
2161	14	Cut	Ditch	Cut segment in U-shaped ditch
2162	14	Deposit	Ditch	Silty-clay fill of Ditch ***2163***
2163	14	Cut	Ditch	Cut segment in shallow U-shaped curvilinear ditch
2164	14	Deposit	Ditch	Clay fill of Ditch ***2165***
2165	14	Cut	Ditch	Cut segment in U-shaped ditch
2166	14	Deposit	Ditch	Silty-clay fill of Ditch ***2167***
2167	14	Cut	Ditch	Cut segment in shallow flat-based ditch
2168	14	Deposit	Natural deposit	Clayey-sand alluvium
2169	66a	Deposit	Topsoil	Topsoil
2170	66a	Deposit	Subsoil	Subsoil

Context	Trench	Context Type	Interpretation	Description
2171	66a	Deposit	Natural deposit	Magnesian limestone bedrock
2172	63	Deposit	Topsoil	Topsoil
2173	63	Deposit	Subsoil	Subsoil
2174	63	Deposit	Natural deposit	Magnesian limestone bedrock
2175	65	Deposit	Ditch	Sandy-clay upper fill of Ditch ***2178***
2176	65	Deposit	Ditch	Clayey-sand secondary fill of Ditch ***2178***
2177	65	Deposit	Ditch	Silty-clay lower fill of Ditch ***2178***
2178	65	Cut	Ditch	Cut segment in U-shaped ditch
2179	65	Deposit	Ditch	Clayey-silt upper fill of Ditch ***2181***
2180	65	Deposit	Ditch	Clay lower fill of Ditch ***2181***
2181	65	Cut	Ditch	Cut segment in wide U-shaped ditch
2182	64	Deposit	Topsoil	Topsoil
2183	64	Deposit	Subsoil	Subsoil
2184	64	Deposit	Natural deposit	Natural deposit Magnesian limestone bedrock
2185	64	Deposit	Ditch	Clayey-sand fill of Ditch ***2186***
2186	64	Cut	Ditch	Cut segment in irregular U-shaped ditch
2187	65	Deposit	Ditch	Sandy-silt fill of Ditch ***2188***
2188	65	Cut	Ditch	Cut segment in irregular flat-based ditch
2189	64	Deposit	Ditch	Silty-sand fill of Ditch ***2191*** and Ditch ***2193***
2190	64	Deposit	Ditch	Silty-sand fill of Ditch ***2191***
2191	64	Cut	Ditch	Cut segment in flat-based ditch
2192	64	Deposit	Ditch	Silty-sand fill of Ditch ***2193***
2193	64	Cut	Ditch	Cut segment in small U-shaped ditch
2194	62c	Deposit	Topsoil	Topsoil
2195	62c	Deposit	Subsoil	Subsoil
2196	62c	Deposit	Natural deposit	Magnesian limestone bedrock
2197	62b	Deposit	Ditch	Sandy-silt fill of Ditch ***2198***
2198	62b	Cut	Ditch	Cut segment in small U-shaped ditch
2199	62b	Deposit	Topsoil	Topsoil
2200	62b	Deposit	Subsoil	Subsoil
2201	62b	Deposit	Natural deposit	Magnesian limestone bedrock
2202	62b	Deposit	Ditch	Clayey-sand fill of Ditch ***2203***
2203	62b	Cut	Ditch	Cut segment in small V-shaped ditch
2204	62b	Deposit	Ditch	Silty-sand upper fill of Ditch ***2206***
2205	62b	Deposit	Ditch	Silty-sand lower fill of Ditch ***2206***
2206	62b	Cut	Ditch	Cut segment in wide shallow ditch
2207	15	Deposit	Ditch	Clay fill of Ditch ***2208***
2208	15	Cut	Ditch	Cut segment in small U-shaped ditch
2209	15	Deposit	Topsoil	Topsoil
2210	15	Deposit	Subsoil	Silty clay colluvium
2211	15	Deposit	Subsoil	Silty sand colluvium
2212	15	Deposit	Subsoil	Silty sand colluvium
2213	19c	Deposit	Topsoil	Topsoil
2214	19c	Deposit	Natural deposit	Magnesian limestone bedrock
2215	19c	Deposit	Ditch	Silty-sand upper fill of Ditch ***2216***
2216	19c	Cut	Ditch	Cut segment in large U-shaped ditch
2217	19b	Deposit	Topsoil	Topsoil
2218	19b	Deposit	Natural deposit	Magnesian limestone bedrock
2219	18	Group	Natural feature	Solution holes
2220	18	Deposit	Topsoil	Topsoil

Context	Trench	Context Type	Interpretation	Description
2221	18	Deposit	Natural deposit	Magnesian limestone bedrock
2222	19a	Deposit	Ditch	Clayey-silt fill of Ditch ***2223***
2223	19a	Cut	Ditch	Cut segment in wide V-shaped ditch
2224	19a	Deposit	Ditch	Silty-sand fill of Ditch ***2225***
2225	19a	Cut	Ditch	Cut segment in wide V-shaped ditch
2226	19a	Deposit	Topsoil	Topsoil
2227	19a	Deposit	Subsoil	Subsoil
2228	19a	Deposit	Natural deposit	Magnesian limestone bedrock
2229	19c	Deposit	Ditch	Sandy-silt secondary fill of Ditch ***2216***
2230	19c	Deposit	Ditch	Sandy-silt lower fill of Ditch ***2216***
2231	76	Deposit	Topsoil	Topsoil
2232	76	Deposit	Subsoil	Subsoil
2233	76	Deposit	Natural deposit	Silty-sand alluvium
2234	77	Deposit	Topsoil	Topsoil
2235	77	Deposit	Subsoil	Subsoil
2236	77	Deposit	Natural deposit	Magnesian limestone bedrock
2237	77	Deposit	Ditch	Silty-sand fill of Ditch ***2238***
2238	77	Cut	Ditch	Cut segment in small U-shaped ditch
2239	76	Deposit	Ditch	Silty-sand fill of Ditch ***2240***
2240	76	Cut	Ditch	Cut segment in U-shaped ditch
2241	76	Deposit	Pit	Sandy-silt fill of Pit ***2242***
2242	76	Cut	Pit	Cut segment in shallow circular pit
2243	62a	Deposit	Topsoil	Topsoil
2244	62a	Deposit	Subsoil	Subsoil
2245	62a	Deposit	Natural deposit	Magnesian limestone bedrock
2246	61	Deposit	Topsoil	Topsoil
2247	61	Deposit	Ditch	Silty-sand lower fill of Ditch ***2248***
2248	61	Cut	Ditch	Cut segment in large V-shaped ditch
2249	61	Deposit	Ditch	Sandy-silt fill of Ditch ***2250***
2250	61	Cut	Ditch	Cut segment in U-shaped ditch
2251	61	Deposit	Natural deposit	Magnesian limestone bedrock
2252	59	Deposit	Topsoil	Topsoil
2253	59	Deposit	Subsoil	Subsoil
2254	59	Deposit	Natural deposit	Magnesian limestone bedrock
2255	62a	Deposit	Ditch	Silt fill of Ditch ***2256***
2256	62a	Cut	Ditch	Cut segment in wide U-shaped ditch
2257	60	Deposit	Topsoil	Topsoil
2258	60	Deposit	Ditch	Silt fill of Ditch ***2259***
2259	60	Cut	Ditch	Cut segment in U-shaped ditch
2260	60	Deposit	Ditch	Silty-sand fill of Ditch ***2261***
2261	60	Cut	Ditch	Cut segment in shallow V-shaped ditch
2262	60	Deposit	Natural deposit	Magnesian limestone bedrock
2263	61	Deposit	Ditch	Gravelly-sand upper fill of Ditch ***2248***
2264	32	Deposit	Topsoil	Topsoil
2265	32	Deposit	Natural deposit	Magnesian limestone bedrock
2266	32	Deposit	Ditch	Clay lower fill of Ditch ***2267***
2267	32	Cut	Ditch	Cut segment in large U-shaped ditch
2268	32	Deposit	Ditch	Sandy-clay upper fill of Ditch ***2267***
2269	32	Cut	Natural feature	Cut segment in natural feature
2270	65	Deposit	Topsoil	Topsoil

Context	Trench	Context Type	Interpretation	Description
2271	65	Deposit	Subsoil	Subsoil
2272	65	Deposit	Natural Deposit	Magnesian limestone Bedrock

APPENDIX 3: FINDS CATALOGUE

Context	Object Record (OR) number	Trench	Material	Category	Description	Date
1002	10032	2	Ceramic	Vessel	Soft abraded fabric, one possible base sherd	Iron Age?
1002	10060	2	Bone			
1002	10054	2	Bone			
1012	10036	3	Ceramic	Vessel	Undiagnostic body sherds. Soft sandy reduced fabric, grey with brownish surfaces.	Iron Age?
1012	10066	3	Bone	Burnt		
1015	10052	3	Bone			
1015	10031	3	Ceramic	Vessel	Body sherds. Small abraded and probably burnt.	Not closely dateable
1016	10063	3	Bone			
1016	10007	3	Ceramic	Vessel	Very sandy, hard-fired fabric, out-turned rim	Iron Age?
1019	10034	79	Ceramic	Vessel	Body sherd. Black-glazed redware. Very hard-fired.	Seventeenth to eighteenth century
1024	10033	79	Ceramic	Vessel	One undiagnostic body sherd black-glazed redware, two small chips.	Nineteenth century onwards
1137	10025	11	Ceramic	Vessel	Body sherd. Undiagnostic sandy greyware.	Romano-British, second to third century AD
1140	10023	12	Iron	Object	Unidentifiable	Not closely dateable
1140	10019	82	Ceramic	Vessel	Rim sherd. Huntcliff-type jar.	Romano-British, fourth century AD
1140	10013	12	Ceramic	Vessel	Body sherd. Self-glazed redware with white internal slip.	Nineteenth century
1140	10010	12	Ceramic	Vessel	Undiagnosed body sherds. Dark grey ?shell-tempered fabric.	Iron Age?
1140	10058	12	Bone			
1142	10045	12	Ceramic	Building material	Very small fragment brick?	Not closely dateable
1142	10002	12	Ceramic	Vessel	One base sherd, beaker? In orange fabric; seven greyware, including very small rim fragment; five Dales-type fabric, including rim; eleven small Huntcliff-type, including small rim fragment. Remainder undiagnostic small and abraded.	Romano-British, third century AD or later
1142	10061	12	Bone			
1142	10056	12	Bone	Burnt		
1142	10001	12	Ceramic	Vessel	All large joining fragments. Sixteen fragments Dales-type ware, including rims; three fragments Huntcliff-type, rim and base; one base fragment sandy greyware; one Nene Valley colour-coated sherd reused as spindle whorl/	Romano-British, late third to fourth century AD
1142	10068	12	Ceramic	Vessel	Two rim fragments, one	Romano-British,

Context	Object Record (OR) number	Trench	Material	Category	Description	Date
					body. Huntcliff-type jar and flange-rimmed bowl, calcite gritted wares. Body sherd undiagnostic.	fourth century AD
1142	10008	12	Ceramic	Vessel	All large joining fragments. Sixteen rim and body sherds Dales type fabric; two Huntcliff type, including rim, one plain greyware bowl, one greyware jug rim/lip sherd.	
1142	10704	12	Ceramic	Vessel	Small fragment greyware.	Romano-British
1142	10696	12	Bone			
1142	10069	12	Iron	Object	Unidentifiable	Not closely dateable
1143	10022	12	Ceramic	Vessel	Rim sherd. Jar. Pale grey hard-fired fabric.	Romano-British, second century AD?
1149	10040	11	Ceramic	Building material	Probably amphora but most likely to be imbrex.	Romano-British
1149	10004	11	Ceramic	Building material	Very small abraded fragments.	Not closely dateable
1149	10004	11	Ceramic	Vessel	Rim sherd, sandy greyware.	Romano-British, m-late second century to early third century AD
1152	10053	12	Bone			
1152	10005	12	Ceramic	Vessel	Undiagnostic greyware body sherds. One calcite gritted chip and small body sherd. Base sherd in hard grey fabric with numerous very large voids,	Romano-British
1153	10046	12	Ceramic	Building material	Very small fragments daub.	Not closely dateable
1155	10024	12	Ceramic	Vessel	Body sherds. Two greyware (one with pink core), three calcite gritted.	Romano-British, third to fourth century AD
1163	10029	11	Ceramic	Vessel	One oxidised chip, one undiagnostic body sherd shell-tempered fabric?	Romano-British, third to fourth century AD
1165	10015	11	Ceramic	Vessel	Body sherds. Small Undiagnostic greyware.	Romano-British
1165	10026	11	Ceramic	Vessel	Joining rim fragments flanged dish. Greyware.	Romano-British, mid to late fourth century AD
1165	10698	11	Bone			
1167	10065	11	Bone			
1167	10064	11	Bone			
1167	10047	11	Ceramic	Building material	Very small fragments daub.	Not closely dateable
1169	10697	11	Bone			
1169	10041	11	Ceramic	Building material	Very small fragments daub.	Not closely dateable
1169	10701	11	Ceramic	Vessel	Small and abraded.	Romano-British?
1169	10707	11	Bone			
1178	10067	12	Bone			
1178	10028	12	Ceramic	Vessel	Three undiagnostic body sherds Huntcliff-type fabric; four undiagnostic greywares - Crambeck?	Romano-British, third to fourth century AD
1178	10028	12	Ceramic	Building material	Small abraded fragments.	Not closely dateable

Context	Object Record (OR) number	Trench	Material	Category	Description	Date
1178	10059	12	Bone			
1180	10044	12	Ceramic	Building material	Small abraded fragment of brick.	Romano-British?
1180	10043	12	Iron	Object	Unidentifiable	Not closely dateable
1183	10709	53	Ceramic	Vessel	Black-glazed redware bowl, base.	Nineteenth century onwards
1191	10020	8	Ceramic	Vessel	Body sherds. Undiagnostic sandy greyware.	Romano-British second to third century AD
1191	10703	8	Ceramic	Building material	Small and abraded fragments.	Not closely dateable
1191	10042	8	Ceramic	Building material	Abraded fragments daub or brick.	Not closely dateable
1191	10030	8	Ceramic	Vessel	One abraded fragment ?samian base; one pale grey sandy flanged dish rim and small body sherd; two greyware jar shoulder sherds, one sandy grey dish rim fragment.;	Romano-British second to third century AD?
1191	10030	8	Ceramic	Building material	One small abraded fragment	Not closely dateable
1193	10706	8	Ceramic	Building material	Small and abraded fragments	Not closely dateable
1195	10700	8	Glass	Vessel	Body sherd, dark olive green wine bottle.	Eighteenth to nineteenth century
1200	10710	8	Stone	Natural		
1200	10708	8	Bone	Burnt		
1201	10690	8	Flint	Unworked	chip.	Not closely dateable
1201	10699	8	Ceramic	Vessel	Small spalls white-glazed earthenware.	Nineteenth century onwards
1207	10695	8	Iron	Spike	Spike	Not closely dateable
1207	10705	8	Ceramic	Tobacco pipe	Stem only	Post-medieval
1207	10702	8	Ceramic	Vessel	Small. One unglazed white fabric, one black-glazed redware with white internal slip; one oxidised and abraded/	Mixed
1214	10048	45	Slag		Probably not slag but other burnt debris.	Not closely dateable
1234	10014	26	Ceramic	Vessel	Clubbed rim sherd, hard-fired cream fabric with red inclusions. Cooking pot.	Mid twelfth century to mid fourteenth century
1260	10683	30	Flint	Flake		Late Neolithic - early Bronze Age
2024	10050	22	Bone			
2054	10055	35	Bone			
2062	10037	51	Ceramic	Vessel	Samian, plain form.	Romano-British, second to mid third century AD
2062	10039	51	Iron	Object	Padlock key?	Romano-British?
2073	10035	50	Ceramic	Vessel	Small body sherds. Black-glazed redware and self-glazed redware, possibly with magnesium speckle.	Eighteenth to nineteenth century
2076	10681	50	Stone			
2076	10680	50	Stone	Quern stone	Half a rotary quern stone, perforated with a conical hole	Iron Age/Romano-British
2076	10009	50	Ceramic	Vessel	Joining fragments greyware jar	Romano-British, early second century AD

Context	Object Record (OR) number	Trench	Material	Category	Description	Date
2115	10057	41	Bone			
2115	10011	41	Ceramic	Vessel	Undiagnostic greyware body sherds, probably two fabrics.	Romano-British
2120	10012	40	Ceramic	Vessel	Rim sherd. BB1 jar.	Romano-British, third century AD
2126	10027	40	Ceramic	Vessel	Small body sherd green-glazed reduced fine fabric.	Fourtenth to sixteenth century
2128	10051	40	Bone	Burnt		
2128	10003	40	Ceramic	Vessel	Four body sherds shell-gritted fabric; two body sherds very gritty fabric; thirteen BB fabric including one rim, lattice decorated jars; remainder very small, similar fabrics.	Romano-British, second to third century AD
2128	10062	40	Bone			
2128	10682	40	Flint	Arrowhead	Ripple-flaked oblique arrowhead	late Neolithic
2147	10006	24	Ceramic	Vessel	Abraded and soft orange fabric, mortarium, mixed grits	Romano-British, later second century AD
2173	10021	63	Ceramic	Vessel	Undiagnostic body sherd. Black-glazed redware.	Nineteenth century
2215	10688	19	Bone			
2222	10685	19	Bone			
2222	10687	19	Ceramic	Vessel	All undiagnostic body fragments shell-tempered fabric.	Romano-British, late third century AD onwards
2222	10691	19	Ceramic	Vessel	Small body fragment ?burnt BB1	Romano-British, second century AD onwards
2222	10693	19	Copper alloy		Crumbs only	
2222	10686	19	Bone			
2224	10692	19	Ceramic	Vessel	Rim fragment Nene valley colour-coated flagon, abraded; rim fragment greyware jar and small body fragment.	Romano-British, second to third century AD
2224	10689	19	Bone			
2241	10694	76	Ceramic	Vessel	two small body fragments BB-type fabric, one spall white-glazed earthenware.	Romano-British, second century AD onwards
2249	10049	61	Stone	Quern stone	Worn fragment	Not closely dateable
2268	10684	32	Flint	Flake		Late Neolithic - early Bronze Age

APPENDIX 4: PALAEOENVIRONMENTAL CATALOGUE

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
1	***1002***	Ditch ***1003***	40	10	350	Charcoal (4) >2mm (3) >4mm (2), <2mm (3), modern roots (2), calcined bone (2), pre-Quaternary spore	CPR (1) *Triticum,Carex* lenticular, tubers WPR (2) *Sambucus nigra, Juncus*		Low	Includes diffuse porous wood	Yes (seeds)
2	***1004***	Ditch ***1003***	40	10	10	Charcoal >2mm (2), <2mm (2), modern roots (3)	WPR (4) *Rubus fructicosus, Sambucus nigra, Urtica dioica, Juncus, Fumaria*	Appears waterlogged, WPR mainly *Juncus*	Low	Includes diffuse porous wood.	Possible if more processed
3	***1005***	Ditch ***1003***	40	10	200	Charcoal (4) >2mm (3), fungal sclerotia (4), quartz grains (4), earthworm egg cases, leaf fragments, mortar frag. (4)	CPR (1) *Cerealia* indet/Large Poacea WPR (3) *Juncus, Sambucus nigra, Rubus fructicosus,* wood frag.	Appears waterlogged. Very limited assemblage	Low	Charcoal slightly mineralised. Lots of *Quercus,* includes some roundwood and diffuse porous wood	Yes (seeds)
4	***1016***	Ditch ***1018***	40	10	10	Charcoal >2mm (1), <2mm 3, modern roots (3), calcined bone (2), mortar frag. (3)	WPR (2) *Sambucus nigra, Rubus fructicosus (1), Chenopodium, Juncus*	Appears waterlogged.	Low	Mainly *Quercus* and indeterminate glassy frag.	Possible if more processed (looks a good one to date)
5	***1017***	Ditch ***1018***	40	10	10	Modern roots (3)	WPR (2) *Juncus*		Low		None
6	***1031***	Ditch ***1023***		10	25	Charcoal (4) >2mm (2), modern roots and seeds (3), coal (1)	WPR (1) unknown		None	Includes diffuse porous wood	Possible if more processed
7	***1045***	Ditch ***1046***	40	10	200	Charcoal (2) >2mm (2), modern roots (4)			None	Little charcoal	None
8	***1052***	Ditch ***1051***	20	10	10	Charcoal (4) >2mm (1), coal (1), shells(1)	WPR (4) *Juncus, Stellaria media, Polgonum aviculare*	Mainly *Juncus*	Low	Little identifiable material	Possible if more processed

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
9	***1052***	Ditch ***1078***	40	10	50	Modern roots (4), snail shells (2), earthworm egg cases (1), coal (2), clinker (3)	WPR (2) *Chenopodium album, Persicaria maculosa,* Apiaceae		Low		None
10	***1083***	Ditch ***1083***	40	10	100	Modern roots (4), earthworm egg cases (2), snails (2)	WPR (2) *Chenopodium album, Stellaria media*		Low		None
11	***1086***	Ditch ***1087***	40	10	75	Modern roots (4), earthworm egg cases (2), insect remains (2)	WPR (2) *Chenopodium album*		Low		None
12	***1093***	Ditch ***1094***	40	10	75	Modern roots (2), snail shells (3)	WPR (2) *Betula, Brassica, Chenopodium album*		Low		None
13	***1113***	Ditch ***1111***	30	10	75	Modern roots (3), charcoal <2mm (3) >2mm (1), snails (1)			None		None
14	***1115***	Ditch ***1116***	30	10	30	Modern roots (4), charcoal <2mm (3)	WPR (1) *Chenopodium album*		None		None
15	***1021***	Ditch ***1120***	30	10	20	Modern roots (3), coal (2), clinker (2), charcoal (3) >2mm (2), insect remains (2), snail shells (1)	CPR (1) tuber frag. WPR (1) *Chenopodium album*		None	Little charcoal	None
16	***1108***	Ditch ***1109***	30	10	75	Modern roots (2), charcoal (3) >2mm (1), coal (1), snail shells (2)	WPR (2) Rachis frag, *Sambucus nigra,Polygonum* sp., *Chenopodium album*		Low	Little charcoal	None
17	***1131***	Ditch ***1130***	40	10	60	Coal (4), charcoal (3), modern roots (3), insect remains (2), earthworm egg cases	CPR (2) Tuber frag. WPR (2) *Sambucus nigra, Fumaria, Chenopodium album*		Low		Yes (tuber frag)
18	***1149***	Pit ***1150***	40	10	20	Modern roots (3), charcoal >2mm (3),clinker (1)	CPR (1/2) *Triticum, Rumex acetosella, Bromus*		Low	Includes roundwood	Yes (cereals)
19	***1146***	Ditch ***1147***	40	10	20	Modern roots (2)	WPR (1) *Chenopodium album*		None		None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
20	***1157***	Pit ***1158***	40	10	40	Charcoal >2mm (4), coal (1), calcined mammal bone (1)	CPR (3) *Triticum*, glumes WPR (1) C*henopodium album*		High	Charcoal not well preserved	Yes (cereals)
21	***1174***	Pit ***1175***	20	10	60	Modern roots (3), coal (3), clinker (2), charcoal (4) >2mm (1), insect egg cases	WPR (1) *Chenopodium album*		None	*Quercus*	None
22	***1172***	Ditch ***1173***	40	10	5	Modern roots (3), clinker (2), coal (1), charcoal (4) >2mm (2), cbm (1)	WPR (2) *Rumex acetosella*, Apiaceae, *Chenopodium album*		Low	Includes roundwood	Possible if more processed
23	***1142***	Ditch ***1151***	40	10	50	Charcoal (4) >2mm (2), modern roots,	CPR (4) *Cerealia* indet, *Triticum, culm nodes, glume bases, awn frag, stem frag*, large Poaceae/*Bromus* WPR (2) *Chenopodium album, Juncus*		High		Yes (cereals)
24	***1163***	Ditch ***1164***	40	10	25	Modern roots (3), charcoal <2mm (3) >2mm (2)			None		None
26	***1191***	Ditch ***1192***	40	10	50	Charcoal >2mm (4), modern roots (3), burnt mammal bone (1)	CPR (2) *Cerealia* indet, Apiaceae, *Brassica*		Low	Charcoal well preserved. Includes diffuse porous wood and *Calluna*	Yes (seeds/*Calluna*)
27	***1193***	Ditch ***1194***	40	10	150	Modern roots (3), Charcoal >2mm (4), >10mm (2)	CPR (1) *Triticum*, glume bases, *Rumex acetosella*, Poaceae, stem frag		Low	Charcoal-rich sample-well preserved. Includes *Quercus and* diffuse porous wood	Yes (seeds/stem frag)
29	***1209***	Ditch ***1210***		10	50	Modern roots (3), charcoal (3) >2mm (2), coal (2), snail shells (4), small mammal bone (1), insect remains	CPR (1) Fabacaeae, *Plantago*, tubers WPR (1) *Fumaria*		Low	Mainly *Quercus*	Possible if more processed (seeds and tubers)

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
30	***1214***	Ditch ***1215***	40	10	80	Modern roots (4), coal (3), clinker (3)			None		None
31	***1229***	Ditch ***1235***	40	10	25	Modern roots (3), modern cereal remains (3), coal (3), clinker (2), snail shells	CPR (1) *Cerealia* indet, tuber frag.		None	No charcoal	None
32	***1234***	Ditch ***1234***	40	10	150	Charcoal (3), modern roots (4), coal (2), clinker (2), modern cereal remains (1)	CPR (1) tubers WPR (1) *Chenopodium album*		None	Little charcoal	None
33	***1246***	Ditch ***1247***	40	10	210	Modern roots(4), coal (2), clinker (2)	CPR (1) tuber frag.		None	No charcoal	None
34	***1251***	Ditch ***1252***	40	10	20	Modern roots (3), charcoal (4) >2mm (1), snail shells (2)			None	Includes diffuse porous wood	Possible if more processed
35	***1258***	Pit ***1257***	2	2	400	Modern roots (2), charcoal >2mm (4)			None	Charcoal-rich sample-well preserved. Includes diffuse porous wood (*prunus*/Maloideae, *Alnus/Corylus*)	Yes
36	***1259***	Pit ***1257***	5	5	50	Charcoal >2mm (4), modern cereal (2)	CPR (1) stem frag		None	Charcoal-rich sample-well preserved. Includes *Quercus and* diffuse porous wood	Yes
38	***1263***	Ditch ***1264***	40	10	25	Modern roots (4), charcoal (2) >2mm (1), coal (4), clinker (4)			None	Little charcoal	None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
39	***1266***	Ditch ***1267***	40	10	290	Modern roots (2), charcoal (2) >2mm (1), coal (4), clinker (4), earthworm egg cases (1), snail shells (1)	CPR (1) *Galium, stem frag* WPR (1) *Chenopodium album*		None	Mostly *Quercus*	Possible if more processed
40	***1260***	Ditch ***2223***	40	10	10	Charcoal >2mm 1, modern roots, snail shells			None		None
42	***1275***	Ditch ***1277***	40	10	20	Charcoal (4), snail shells (4)			None	Charcoal very fragmented	None
100	***2029***	Ditch ***2025***		10	50	Modern roots/cereals (3), charcoal (4) >2mm (2), quartz grains (5)	CPR (1) Fabaceae >4mm, stems, tuber frag WPR (2) *Chenopodium album*		Low		Yes (seeds, stems and tubers)
101	***2054***	Ditch ***2055***	40	10	5	Coal (4), clinker (2), charcoal (3), modern cereal remains (2)			None	Charcoal very fragmented and poorly preserved (glassy)	None
102	***2050***	Ditch ***2051***	20	10	50	Quartz grains (4), Charcoal >2mm (2), modern roots (2), insect egg cases (1)			None		None
103	***2062***	Ditch ***2063***	30	20	100	Fungal sclerota (2), Modern roots/cereal chaff (4), charcoal <2mm (3), coal (4), clinker (4), earthworm egg cases (2), snails (3) clay pipe frag.	WPR (4) *Papaver, Apiaceae, Persicaria maculosa, Agrostemma, Euphorbia* (probably modern)		Low		None
104	***2065***	Ditch ***2063***	30	20	60	Modern roots/ cereal chaff (4), charcoal (3) >2mm (3), Coal (2), clinker (2), insect remains (3), snails(3)	WPR (3) C*henopodium album, Apiaceae, Agrostemma (probably modern)*		Low		None
105	***2066***	Ditch ***2067***	40	10	160	Modern roots (4), charcoal (2), coal (2), clinker (2), earthworm egg cases	CPR (1) *Avena, Anthemis cotula* WPR (1) *Chenopodium album*		None	Little charcoal	None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
106	***2068***	Ditch ***2069***	40	10	100	Modern roots (4), charcoal (4) >2mm (2), coal (2), earthworm egg cases, snail shells (2)	CPR (1) stems and tuber frag WPR (1) *Chenopodium album, Polygonum aviculare*		None	Includes diffuse porous wood	Possible if more processed
107	***2070***	Ditch ***2071***	40	20	100	Modern roots (3), charcoal (2) >2mm (2), coal (2), clinker (2), snail shells (2)	CPR (1) Cerealia indet, tuber frag WPR (2) *Chenopodium album*		None	Little charcoal	None
108	***2076***	Ditch ***2077***	40	10	120	Charcoal (3) >2mm (2), modern roots/cereal grains (4), coal (3), clinker (3), snail shells (3),	CPR (1) stem frag WPR (2) *Persicaria maculosa, Chenopodium album, Sonchus asper*	Appears waterlogged, WPR mainly *Chenopodium*	Low	Mostly *Quercus*	Possible if more processed
109	***2085***	Ditch ***2086***	40	10	100	Modern roots (4), modern cereals (1), earthworm egg cases (1), charcoal (2), coal (2), clinker (2), snail shells (1), insect remains (1)	WPR (3) *Chenopodium album, Stellaria media, Apiaceae, Polygonum aviculare*	Possibly waterlogged, WPR mainly *Chenopodium*	Low	Little charcoal	None
110	***2089***	Ditch ***2085***	40	10	25	Charcoal (4) >2mm (3), modern roots/straw (4),coal (2)	WPR (1) *Chenopodium album, Stellaria media*		None	Includes diffuse porous wood	Yes
111	***2098***	Ditch ***2099***	40	10	75	Modern roots (2), charcoal (3) >2mm (3), coal (2), quartz grains,	CPR (1) *Plantago*, Fabaceae, stem frag, tubers WPR (2) *Chenopodium album, brassica, Polygonum aviculare*		Low		Yes (seeds, stem frag and tubers)
112	***2095***	Ditch ***2096***	40	10	75	Modern roots/straw (3), earthworm egg cases (2), insects (1), charcoal (2), coal (1), quartz grains (4)	CPR (2) Rachis frag, tubers, indeterminate WPR (2) *Chenopodium album, raphanus pod (includes modern material)*		Low		None (very contaminated sample)
113	***2097***	Ditch ***2098***	40	10	75	Modern roots (3), charcoal (4) >2mm (3), coal (2), clinker (2)	CPR (1) *Fumaria*, Fabaceae, tuber frag WPR (2) *Chenopodium album, Apiaceae, Carex* trigonous		Low		Possible if more processed

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
114	***2115***	Ditch ***2116***	40	10	125	Modern roots (4), charcoal >2mm (2), earthworm egg cases (2), coal (3), clinker (3), snail shells (2),quartz grains (5)	CPR (1) *Cerealia* indet WPR (3) *Fumaria, Solanum,* Apiaceae (not obviously waterlogged)		Low		None
115	***2120***	Ditch ***2121***	40	10	40	Modern roots (3), Charcoal >2mm (2), coal (2), earthworm egg cases (1), snail shells (2)			None		None
116	***2118***	Ditch ***2118***	40	10	120	Modern roots (4), charcoal (2), coal (2), earthworm egg cases (1), snail shells (3), insect egg cases (1)	WPR (2) *Fumaria, Chenopodium album, Solanum*		None		None
117	***2122***	Ditch ***2123***	40	10	150	Modern roots (4), charcoal (1), coal (2), earthworm egg cases(2), fungal sclerotia (2), coal (2), insect egg cases (3), snail shells (3)	CPR (1) tubers WPR (2) *Chenopodium album, Fumaria, Persicaria maculosa*		Low	Little charcoal	None
118	***2126***	Ditch ***2127***	30	10	50	Modern roots (4), coal (2), clinker (2), mammal bone (1), earthworm egg cases (1), snail shells (3)	WPR (1) *Fumaria, Rumex acetosa*		None		None
119	***2128***	Ditch ***2129***	30	10	50	Charcoal (3) >2mm (2), modern roots (4), calcined mammal bone (1), coal (3), snail shells (3)	CPR (1) *Triticum, Cerealia* indet, Cyperaceae WPR (2) *Chenopodium album, Fumaria, Polygonum aviculare*		Low		Possible if more processed
120	***2140***	Ditch ***2141***	40	10	100	Charcoal (3) >2mm (2), modern roots (2), coal (1), snail shells (2)	CPR (1) stem frag WPR (1) *Euphorbia*		None		Possible if more processed
121	***2142***	Ditch ***2148***	40	10	50	Charcoal >2mm (2), modern cereal chaff (2), modern roots (2), snail shells (2)			None		None
122	***2147***	Ditch ***2148***	40	10	200	Charcoal >2mm (2), modern cereal chaff (1), clinker (2)	WPR (1) *Apiaceae*		None		None
123	***2150***	Ditch ***2148***	20	10	50	Charcoal >2mm (1), modern roots (3), coal (1), snail shells (1)			None		None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
124	***2159***	Ditch ***2161***	40	10	5	Charcoal >2mm (1), modern roots (3)			None		None
125	***2153***	Ditch ***2154***	40	10	5	Modern roots (3), charcoal (3)	WPR (1) *Chenopodium album*		None		None
126	***2162***	Ditch ***2163***	40	10	5	Charcoal <2mm (3), modern roots (3)	WPR (1) *Chenopodium album*		None		None
127	***2164***	Ditch ***2165***	40	10	10	Charcoal >2mm (2), modern roots (2)	WPR (1) *Chenopodium album*		None		None
128	***2176***	Ditch ***2178***	40	10	30	Modern roots (2), charcoal (1), clinker (1), snail shells (2)			None		None
129	***2177***	Ditch ***2178***	40	10	50	Charcoal >2mm (2), modern roots (3), clinker (1), snail shells (2), modern cereals (1),			None		None
130	***2179***	Ditch ***2181***	40	10	40	Charcoal >2mm (1), modern roots (3), modern cereal grains (2), coal (2), clinker (1)			None		None
131	***2180***	Ditch ***2181***	40	10	15	Charcoal<2mm (1), modern roots (3), modern cereal grain (2)			None		None
132	***2185***	Ditch ***2185***	40	10	50	Charcoal (2), modern roots (3), coal (1), modern cereal grain (1), snail shells (2)	WPR (1) *Chenopodium album*		None		None
133	***2187***	Ditch ***2185***	40	10	50	Charcoal >2mm (2), modern cereals (2), modern roots (3), coal (2), snail shells (2)	WPR (1) *Chenopodium album*		None		None
134	***2190***	Ditch ***2191***	20	10	40	Charcoal (4) >2mm (2), coal (1), modern roots (3), modern cereal remains (3)			None	Mainly *Quercus* but includes small roundwood and diffuse porous wood	Possible if more processed
135	***2192***	Ditch ***2193***	10	10	50	Modern roots (3), coal (2), modern cereals (2),snail shells (1)	CPR (1) tuber frag WPR (1) *Chenopodium album*		None	No charcoal	None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
136	***2204***	Ditch ***2206***	40	10	100	Charcoal >2mm (2), modern roots (3), modern cereals (1)	WPR (1) *Chenopodium album*		None	Little charcoal	None
137	***2205***	Ditch ***2206***	40	10	50	Charcoal >2mm (2), coal (1), modern roots (3),	CPR (1) *Cerealia* indet WPR (1) *Chenopodium album, Polygonum aviculare*		None	Little charcoal	None
138	***2229***	Ditch ***2216***	40	10	25	Charcoal (3) >2mm (2), modern roots (3), coal (2), clinker (2)	WPR (1) *Galium*		None	Little charcoal	None
139	***2224***	Ditch ***2225***	40	10	10	Charcoal (4) >2mm (2), modern roots (3), snail shells (3)			None	Mostly *Quercus*	None
140	***2222***	Ditch ***2223***	40	10	25	Charcoal >2mm (2), modern roots (3), clinker (2), snail shells (3), coal (2)	WPR (1) *Fumaria*		None	Little charcoal	None
141	***2237***	Ditch ***2238***	40	10	100	Charcoal (4) >2mm (3), modern roots (2), modern cereals (1)	CPR (1) Hazelnut shell , stem frag WPR (1) *Chenopodium album, Polygonum aviculare*		None	Includes diffuse porous wood	Yes (hazelnut shell and stem frag)
142	***2239***	Ditch ***2240***	40	10	50	Charcoal (4) >2mm (3), clinker (1), coal (1), modern roots (2)	CPR (1) Hazelnut shell, tuber frag		None	Charcoal not well preserved but includes some diffuse porous wood	Yes (hazelnut shell and tubers)
143	***2255***	Ditch ***2256***	40	10	100	Charcoal >2mm (1), <2mm (2), modern roots (3), modern cereal grains (2), coal (1), snail shells (2)			None	Very fragmented unidentifiable charcoal	None
144	***2249***	Ditch ***2250***	40	10	200	Charcoal <2mm (4), modern roots (4), modern cereals (4), coal (1)	WPR (1) *Chenopodium album*		None		None
145	***2260***	Ditch ***2261***	40	10	290	Modern roots (3), modern cereals, coal (2), snail shells, earthworm egg cases	WPR (1) *Chenopodium album*		None		None
146	***2258***	Ditch ***2259***	40	10	125	Modern roots (3), modern cereals (2), snail shells (2), earthworm egg cases (1), coal (1), clinker (1)			None		None

Sample Number	Context Number	Feature type	Sample volume litres	Processed Volume litres	Flot Volume millilitres	Flot description	Plant remains	CPR/WPR Comments	CPR/WPR Potential	Charcoal Comments	Radiocarbon dating Potential
147	***2247***	Ditch ***2248***	40	10	50	Charcoal >2mm (2), modern roots, snail shells (1), earthworm egg cases (1)			None	Little charcoal	None
148	***2268***	Ditch ***2267***	8	10	10	Charcoal (3) >2mm (2), modern roots (3)			None	Little charcoal	None

ILLUSTRATIONS

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Figure 3: Asselby to Pannal pipeline: central section

Figure 4: Asselby to Pannal pipeline: north-west section

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Figure 11: Package C - west portion

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Figure 26: Package E - detail Trenches 29 - 31

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Figure 30: Package F - detail Trench 34

Figure 31: Package F - detail Trench 35

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Figure 51: Package L - detail Trenches 76 - 77

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Figure 53: Package M - detail Trenches 78 - 80

Figure 54: Package M - detail Trenches 81 - 84

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Plate 4: Key from deposit ***2062***, ditch ***2063*** in Trench 51

Plate 5: Oblique flint arrowhead from deposit ***2128***, ditch ***2129*** in Trench 40

Plate 6: Perforated rotary quern stone from deposit ***2076***, ditch ***2077*** in Trench 50

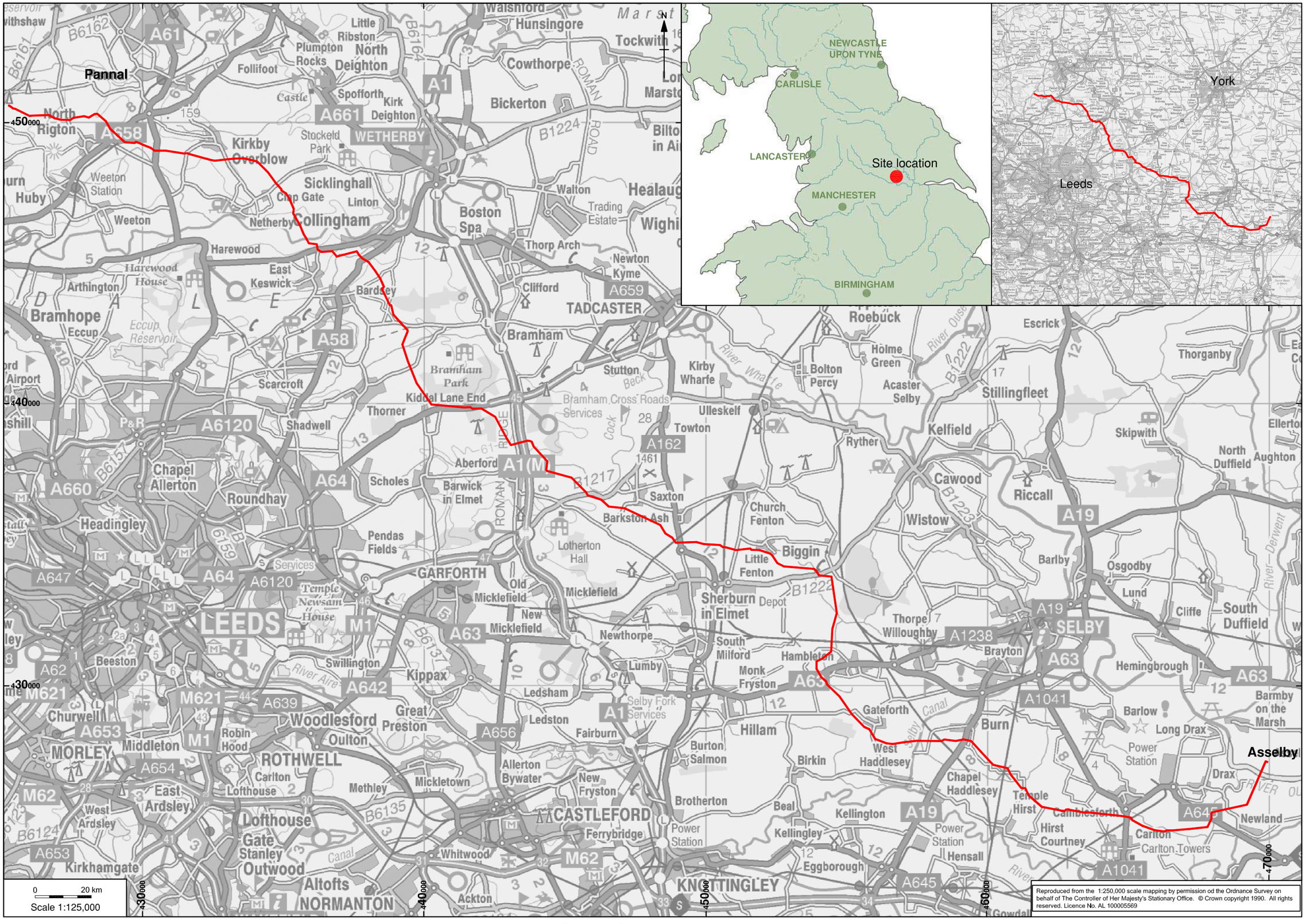

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Figure 1: Site location

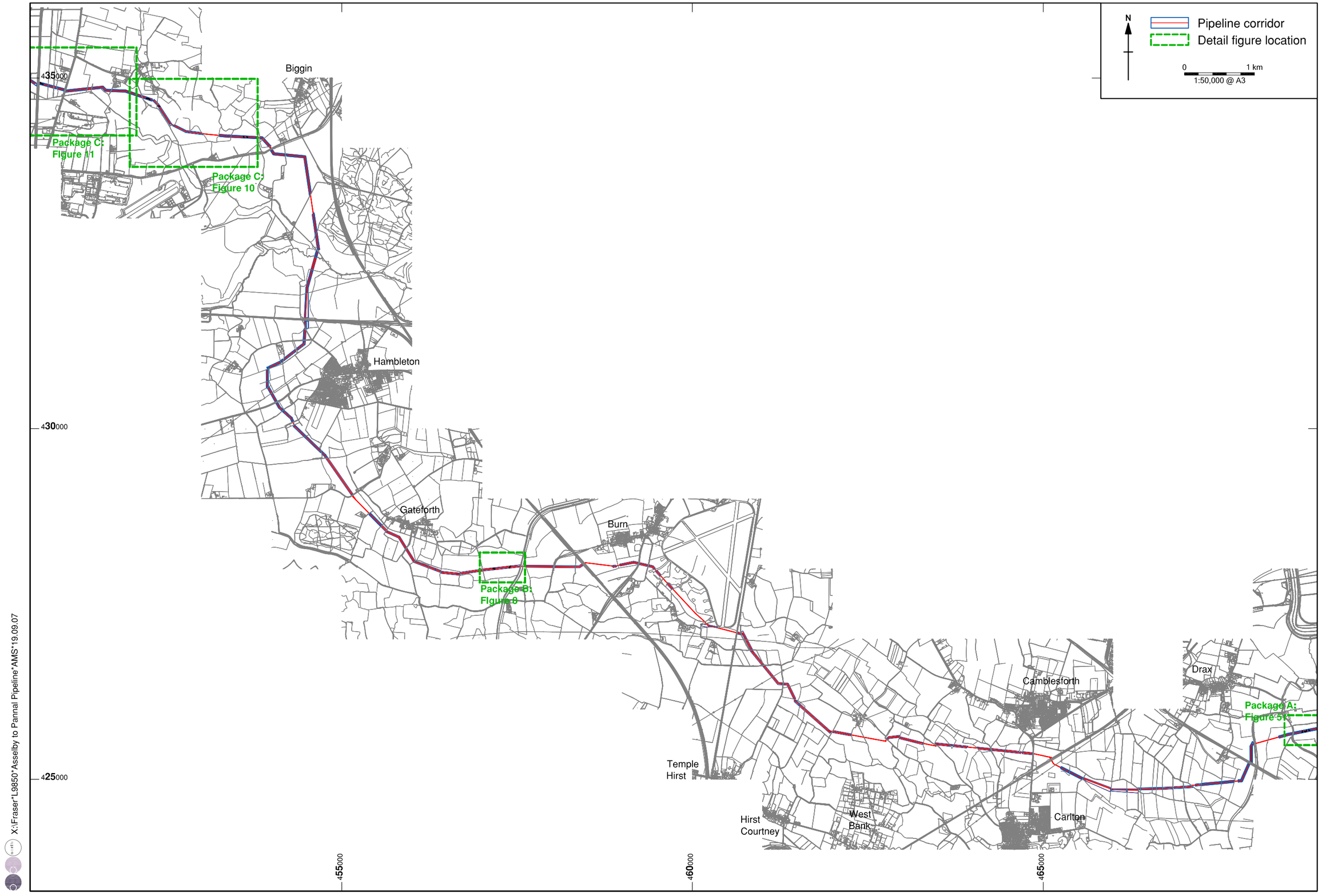
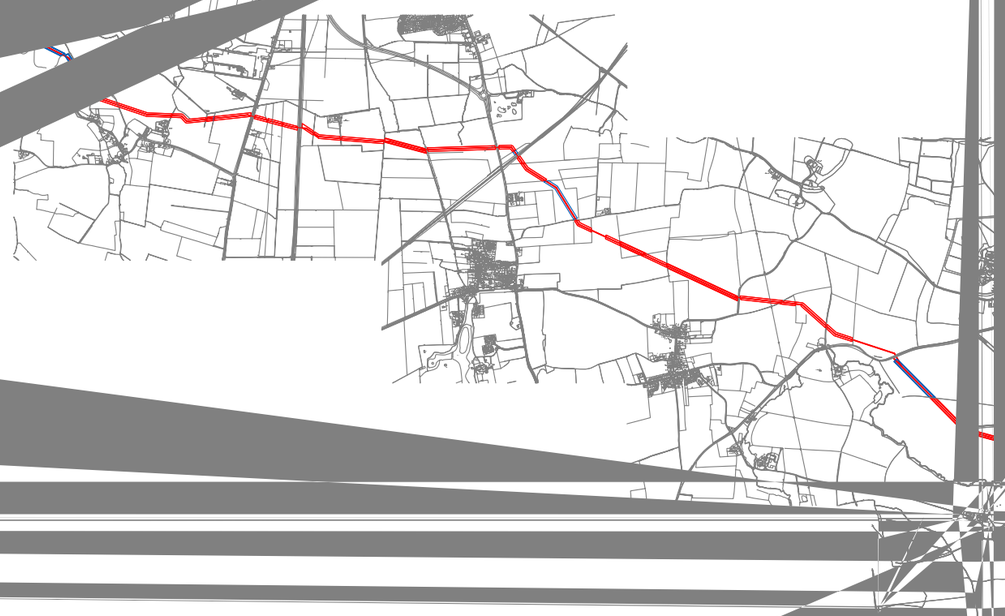


Figure 2: Asselby to Pannal pipeline: south-east section



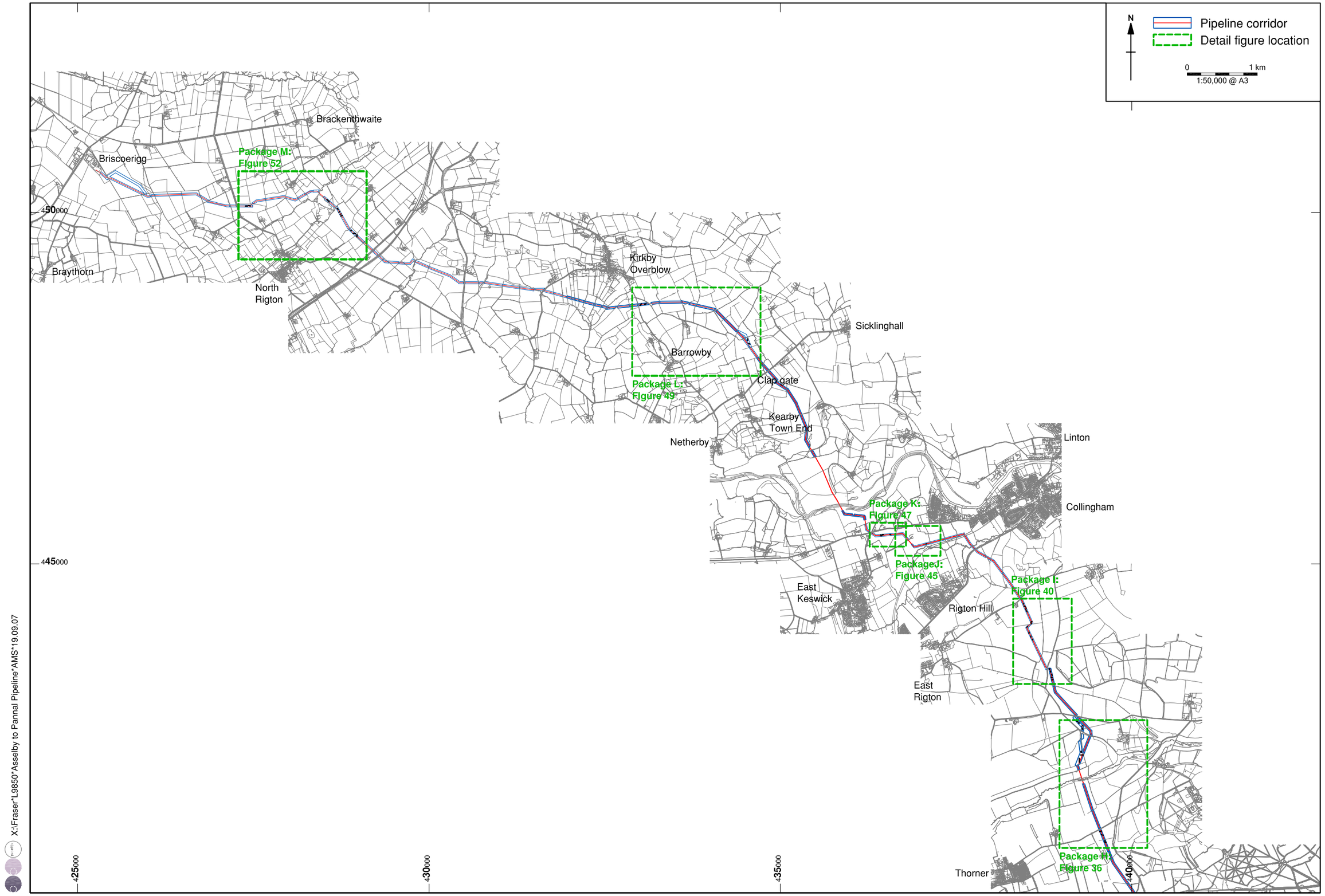


Figure 4: Asselby to Pannal pipeline: north-west section

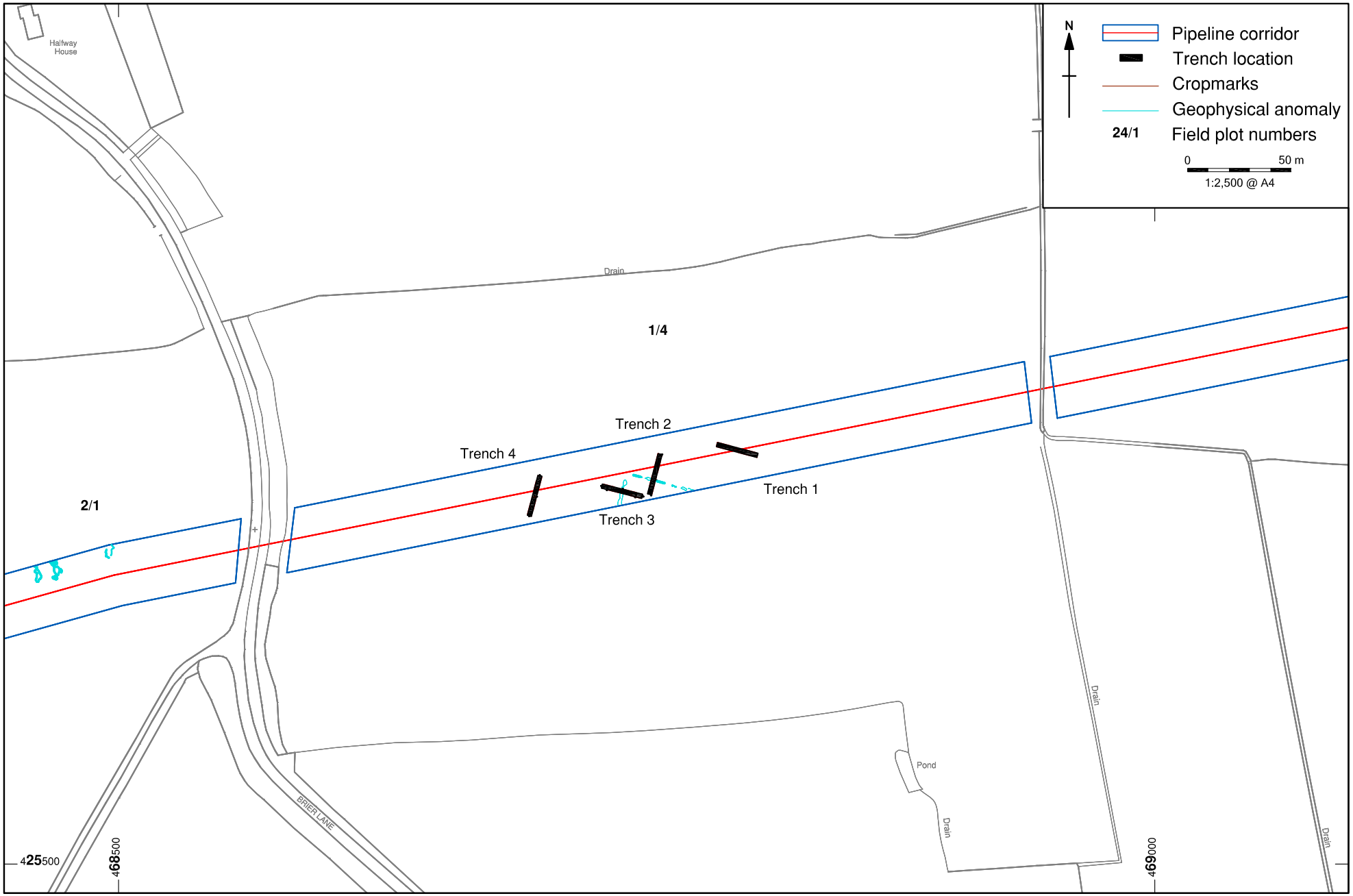


Figure 5: Package A

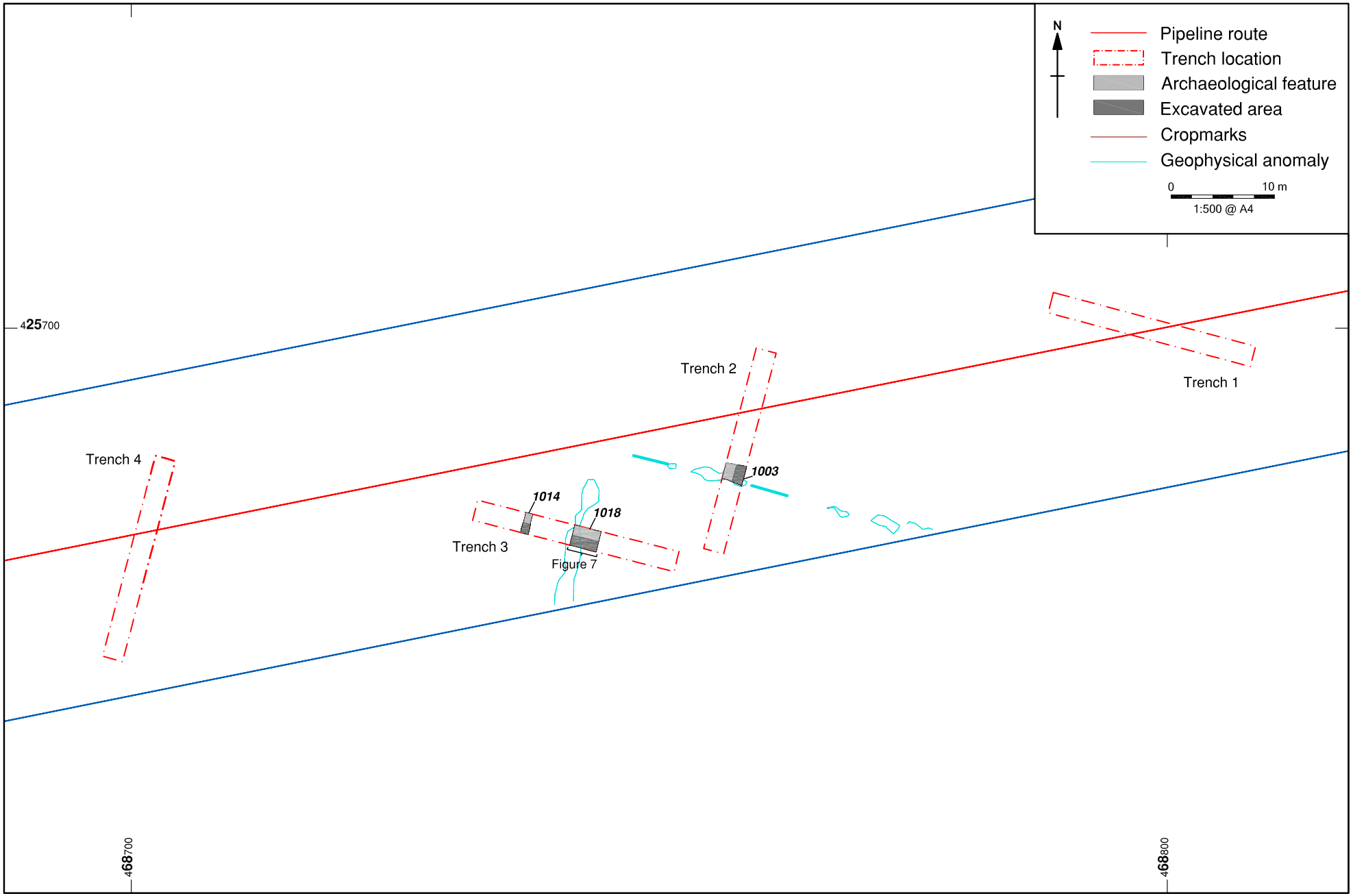


Figure 6: Package A - detail Trenches 1 - 4

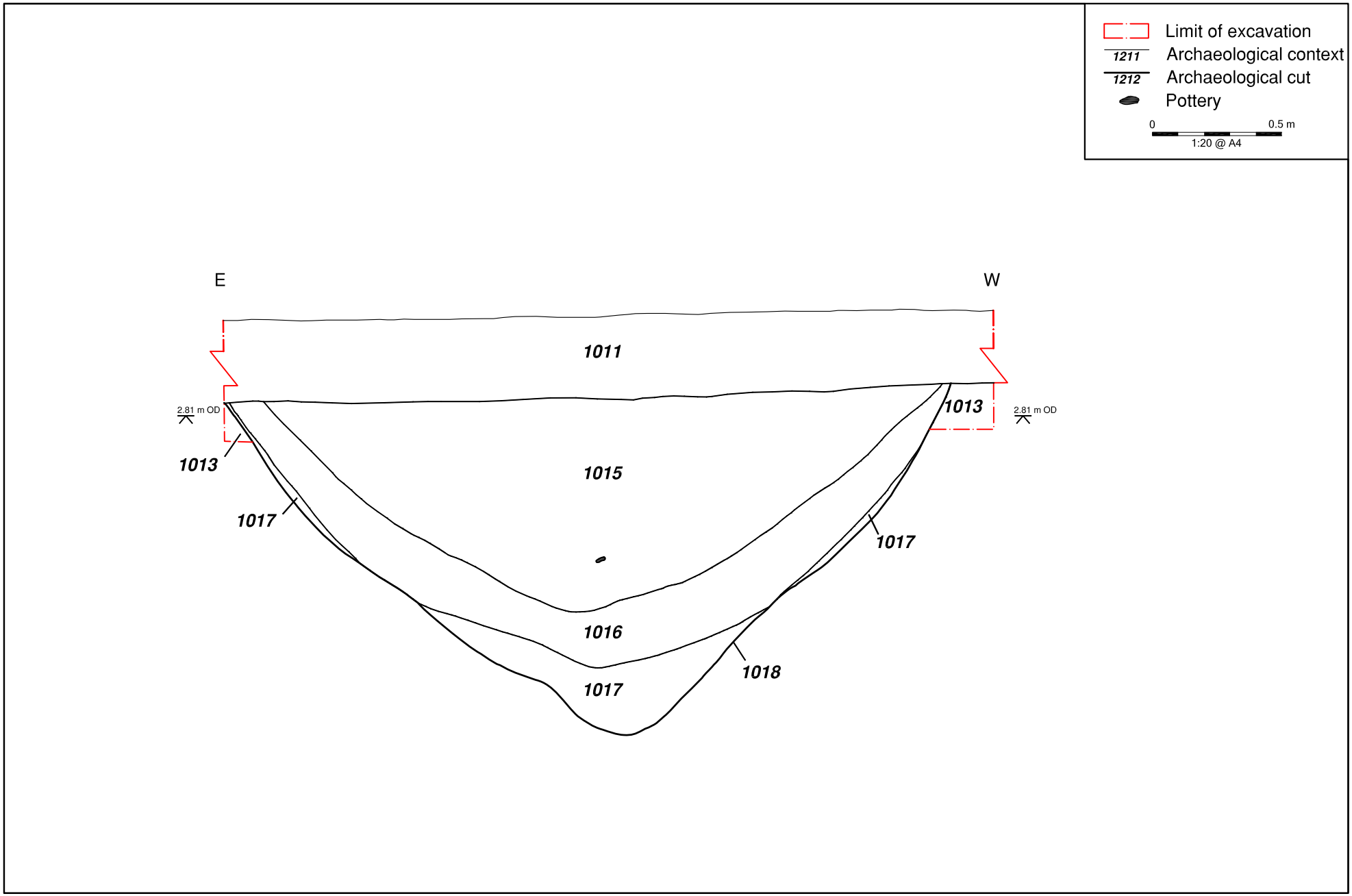


Figure 7: Trench 3, section through ditch ***1018***

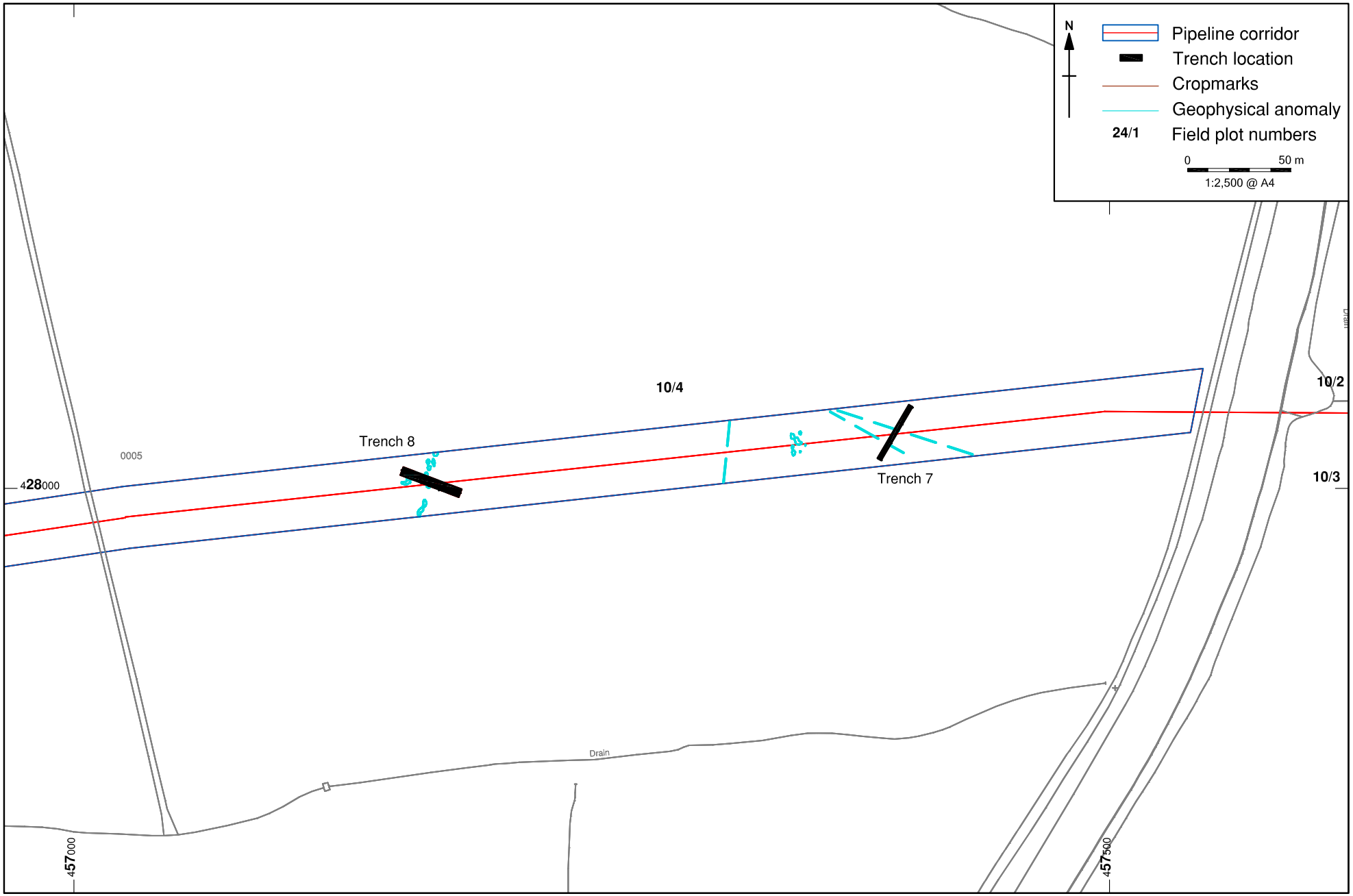


Figure 8: Package B

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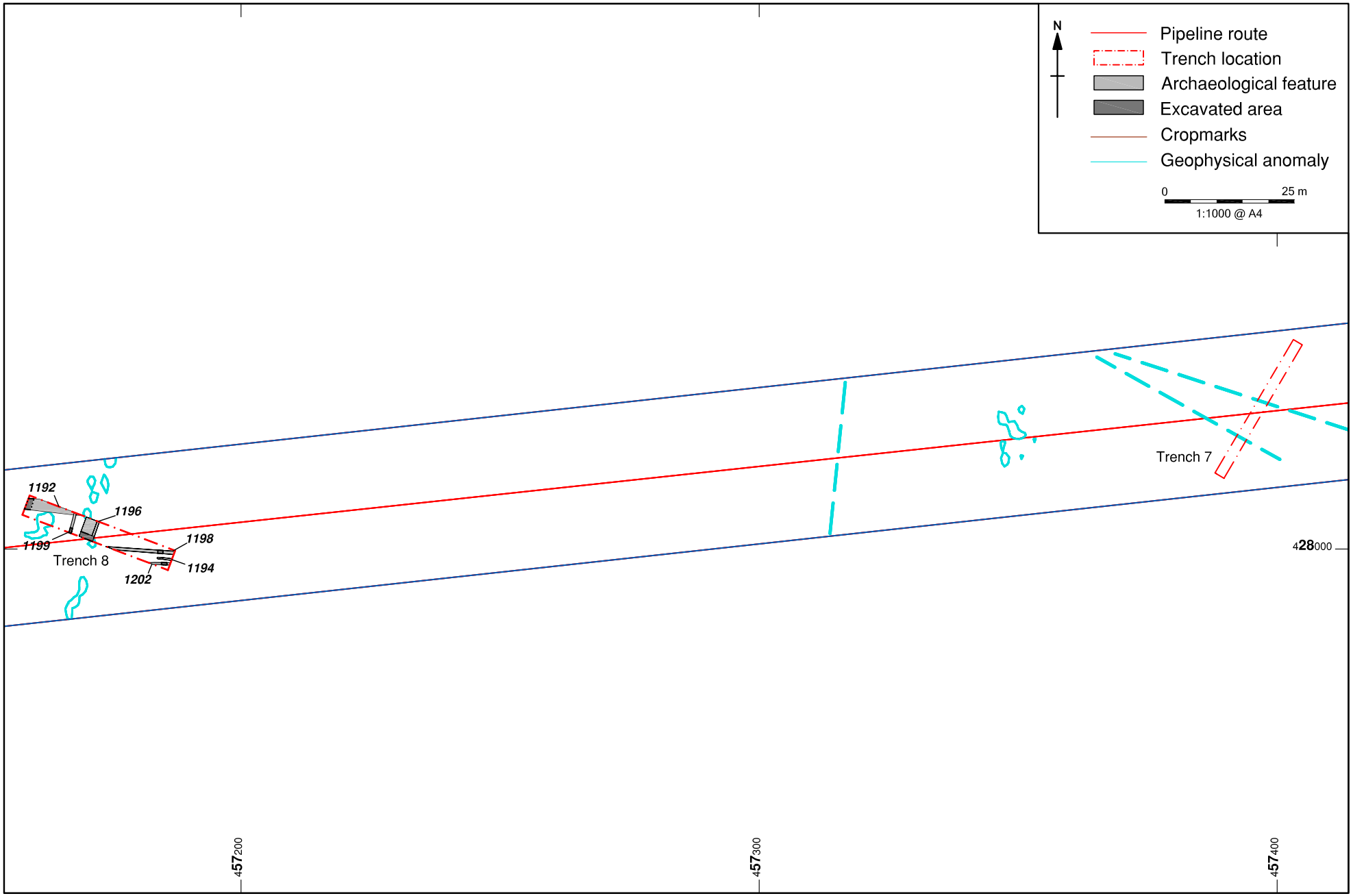

Figure 9: Package B - detail Trenches 7 and 8

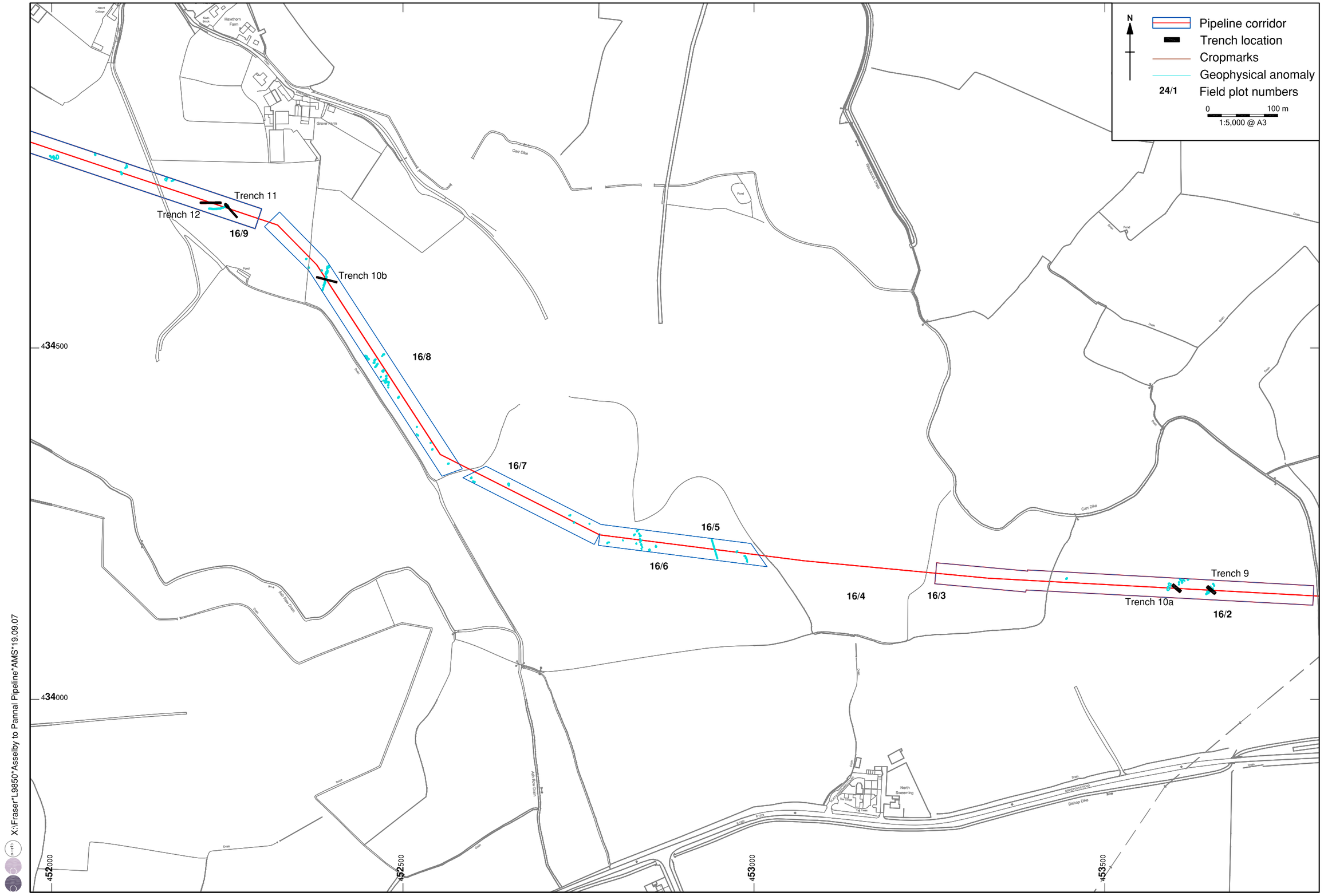

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Figure 10: Package C - east-portion

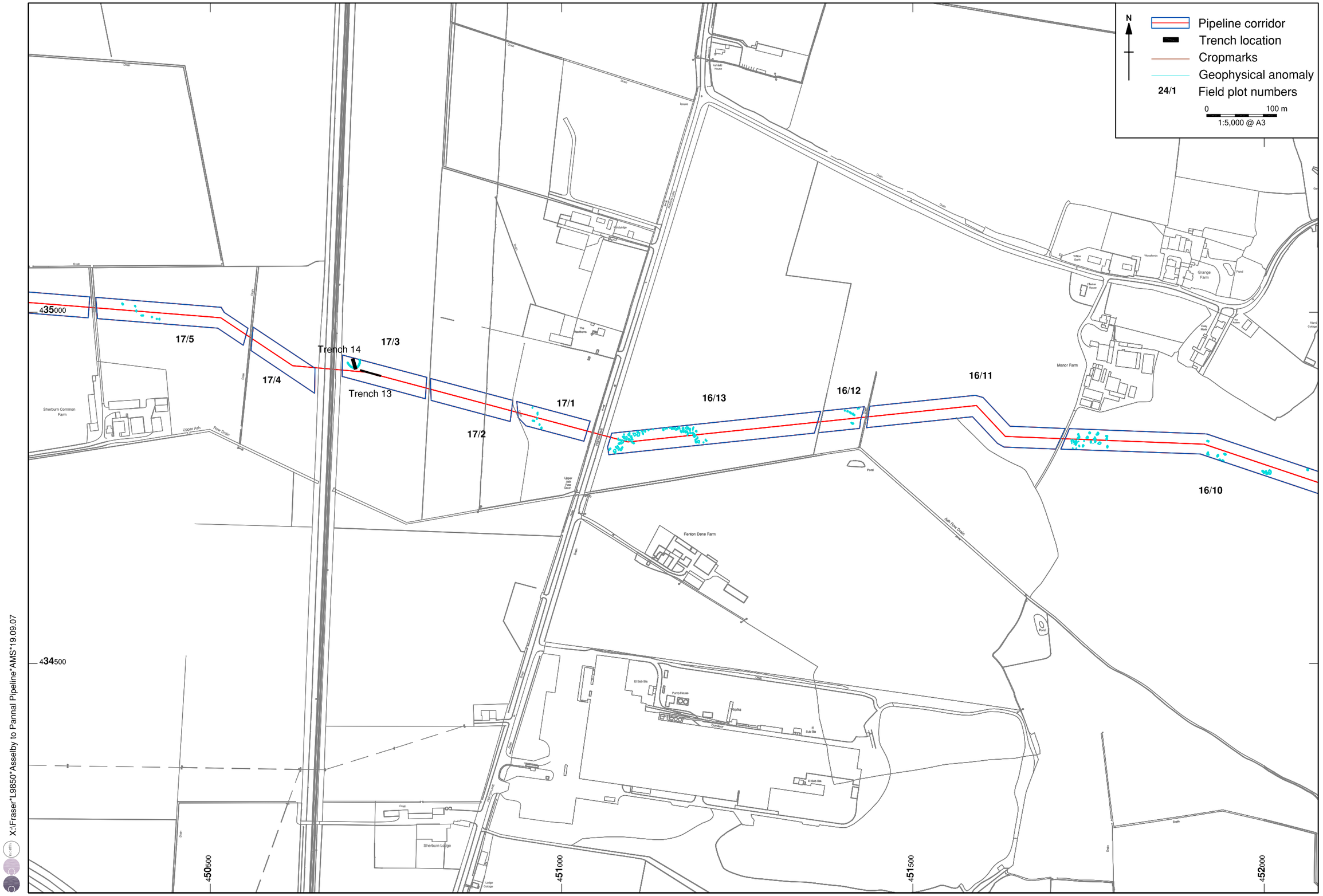

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Figure 11: Package C - west-portion

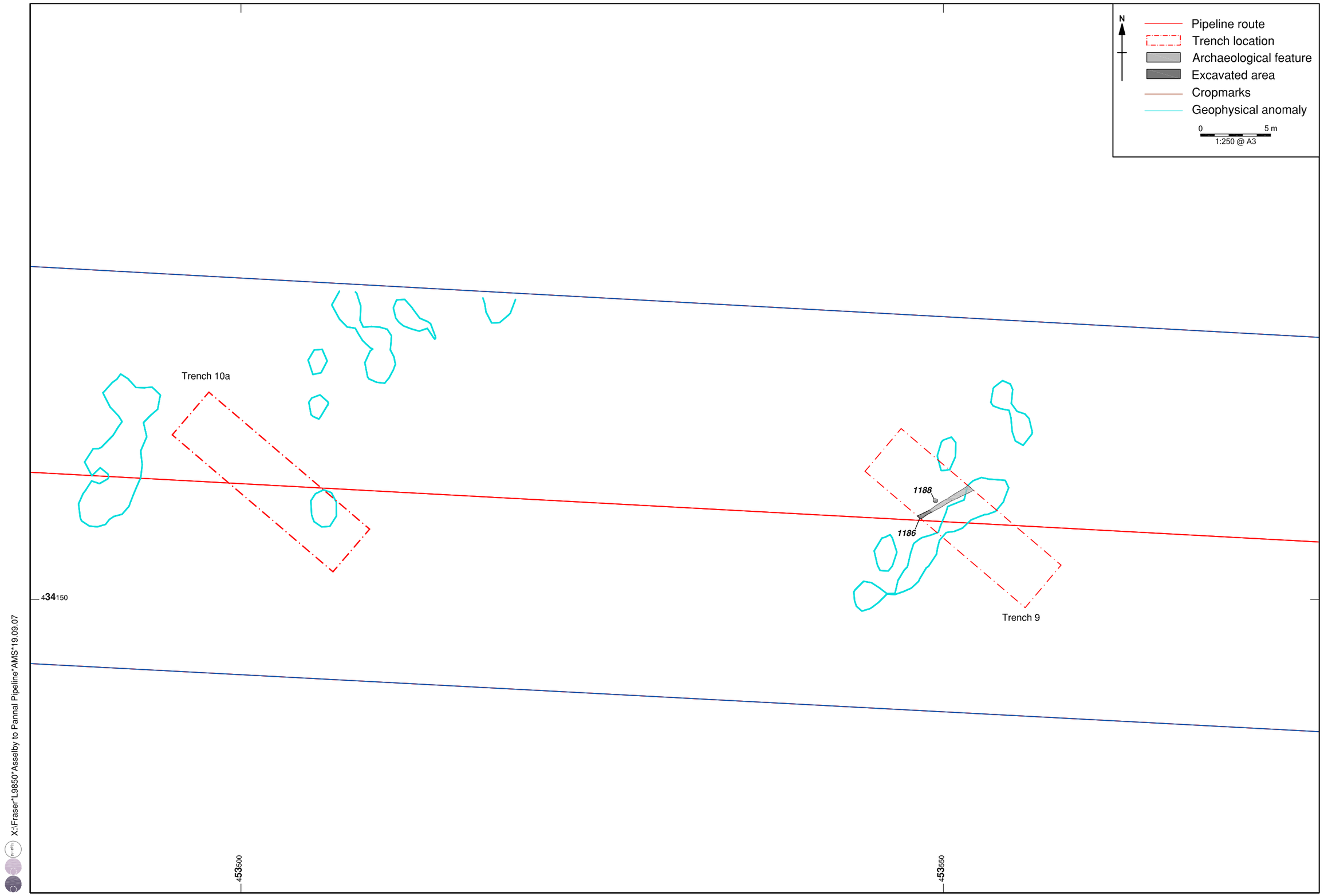

Figure 12: Package C - detail Trenches 9 and 10a

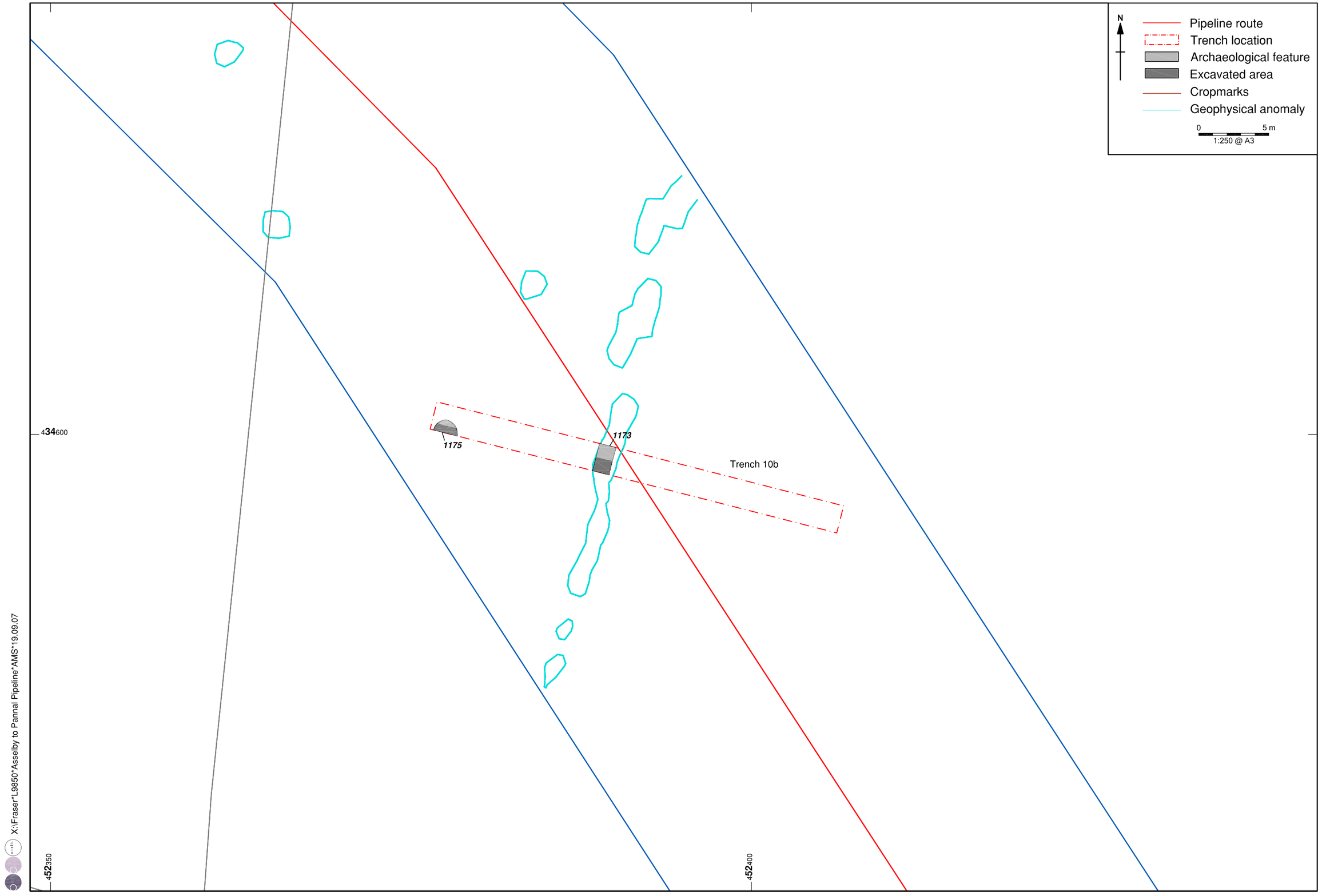

Figure 13: Package C - detail Trench 10b

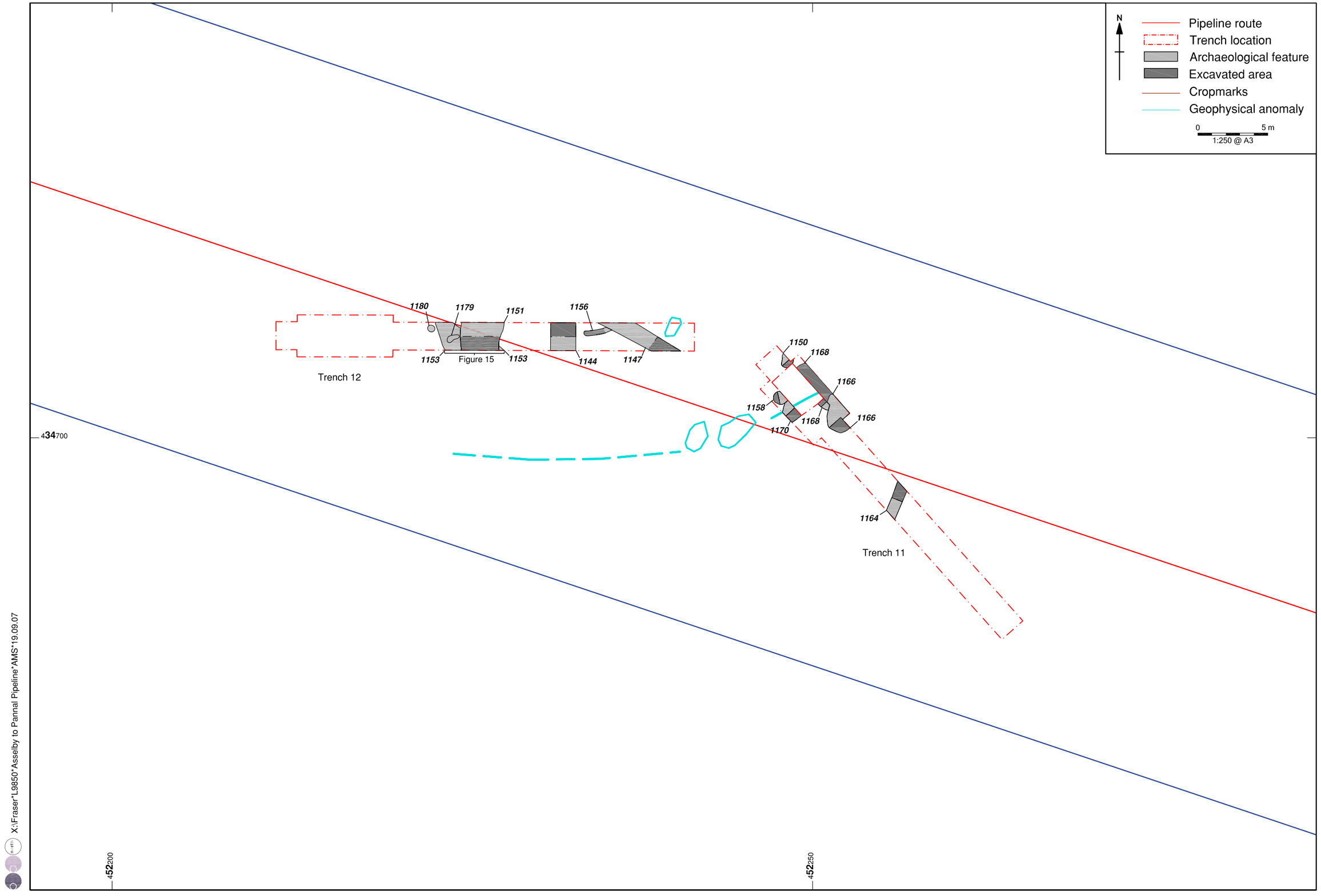

Figure 14: Package C - detail Trenches 11 - 12

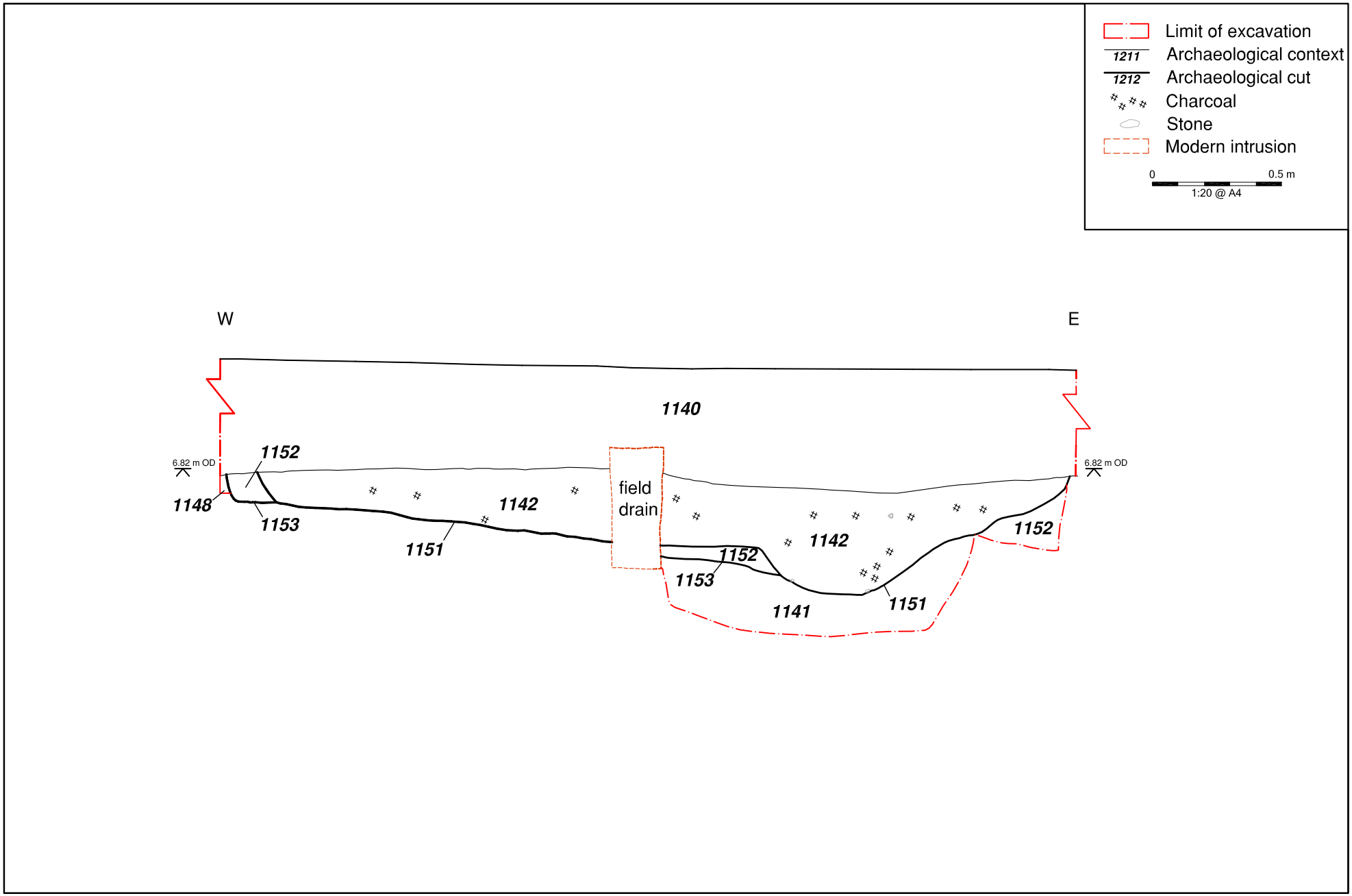

Figure 15: Trench 12, section through ditches ***1151*** and ***1153***

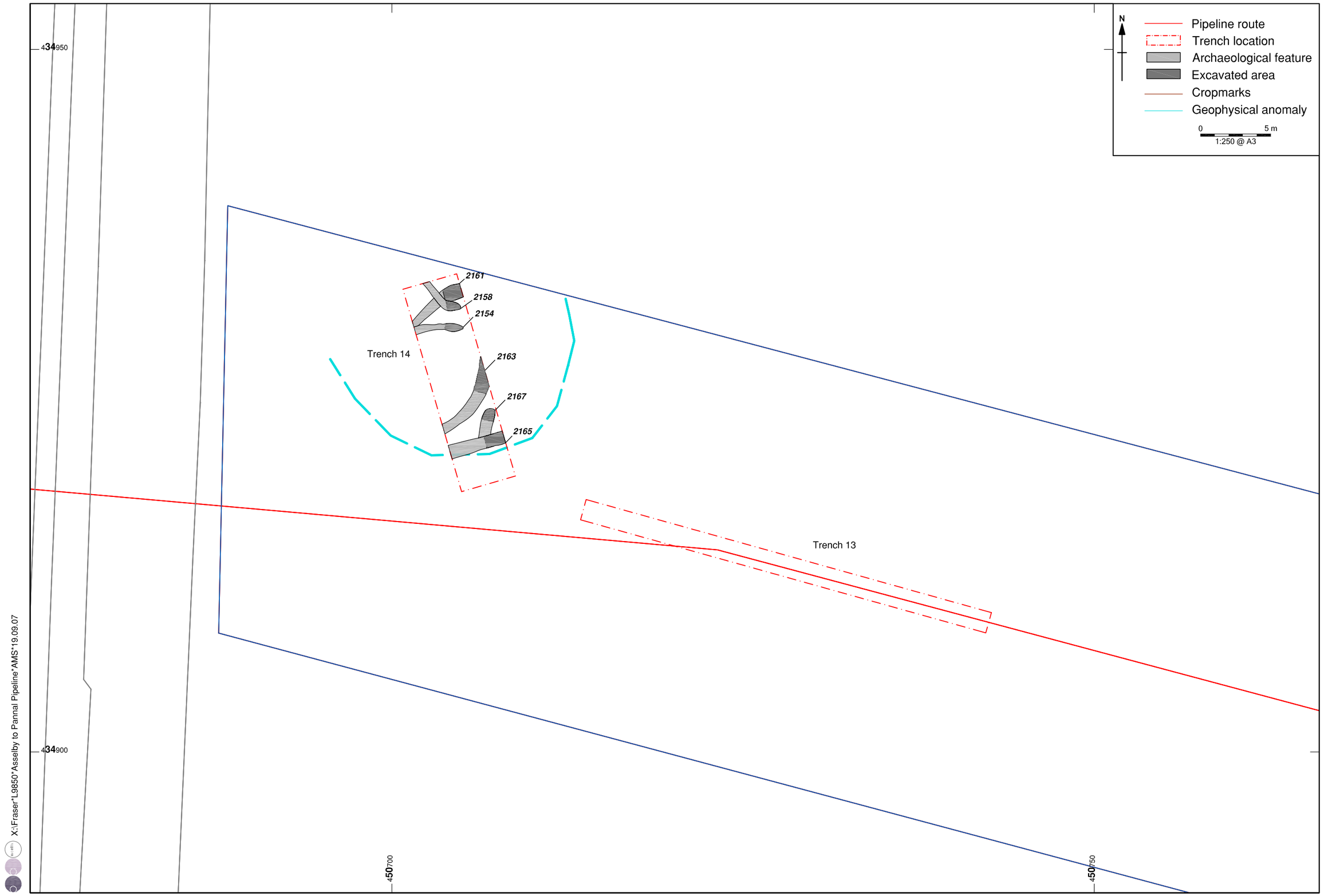

Figure 16: Package C - detail Trenches 13 - 14

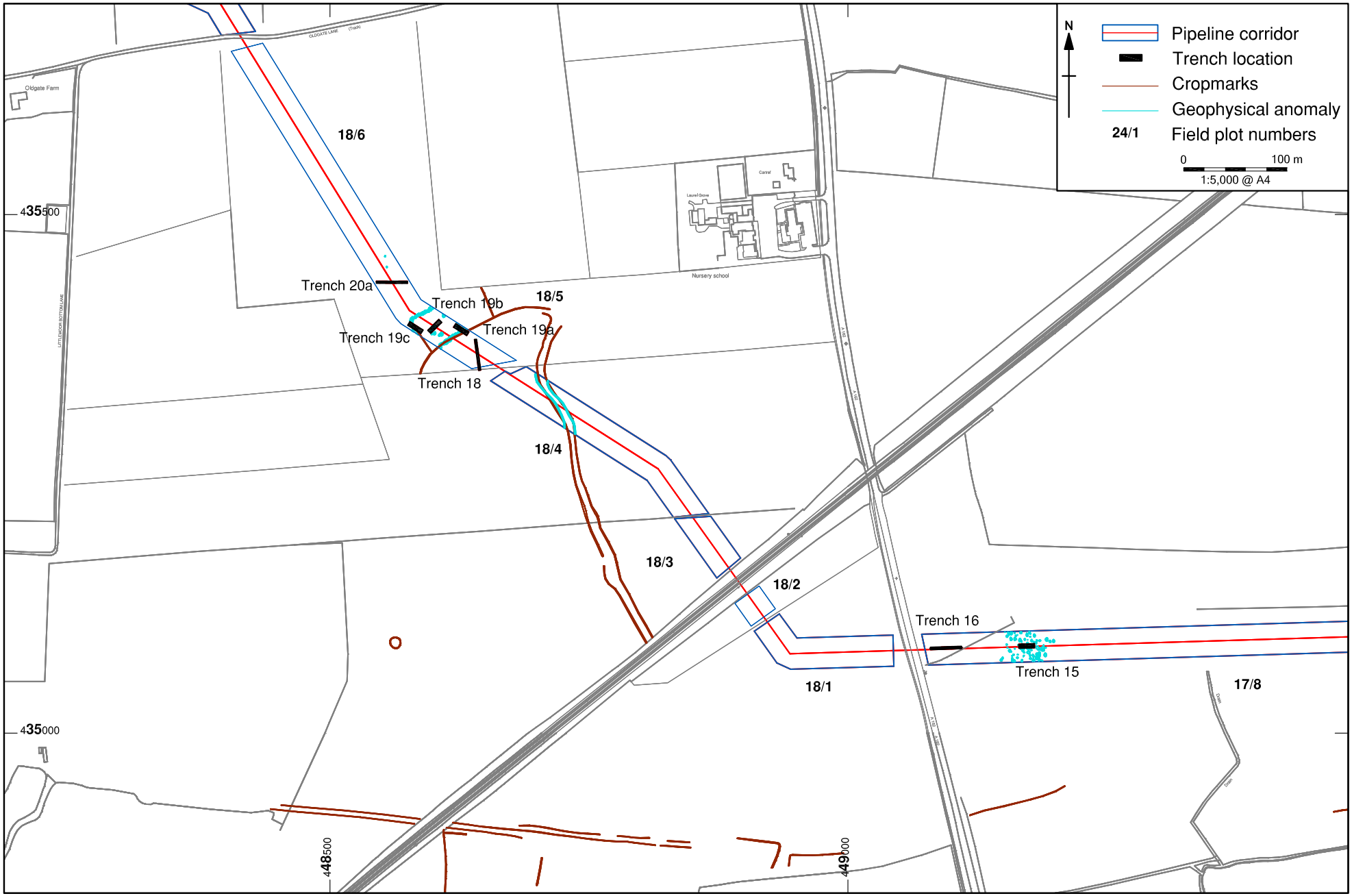

Figure 17: Package D

N

Pipeline route
Trench location
Archaeological feature
Excavated area
Cropmarks
Geophysical anomaly

0 5 m
1:300 @ A3

435100

Trench 16

2012

2208

Trench 15

435050

449100

449150

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Figure 18: Package D - detail Trenches 15 - 16

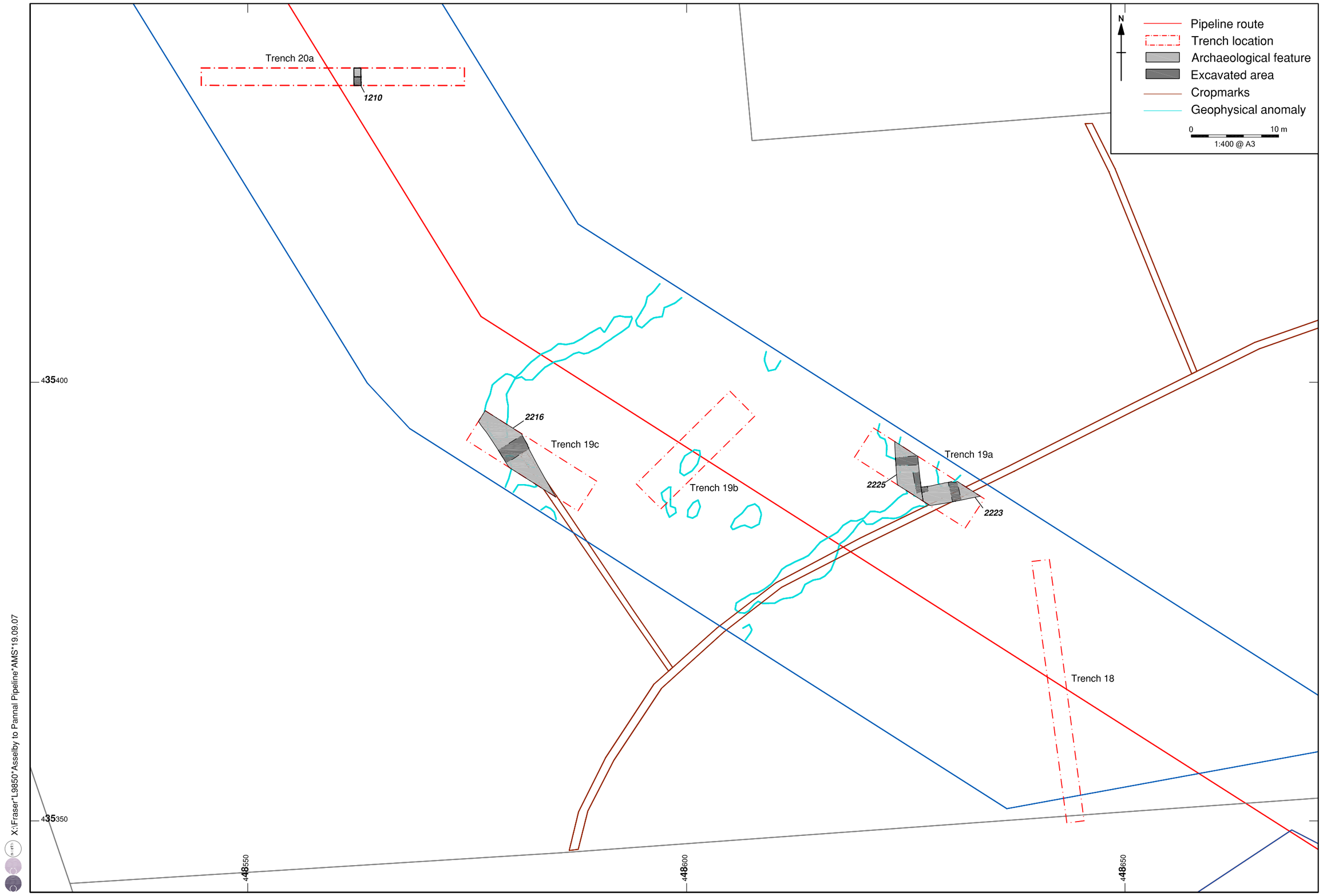

Figure 19: Package D - detail Trenches 18 - 20a

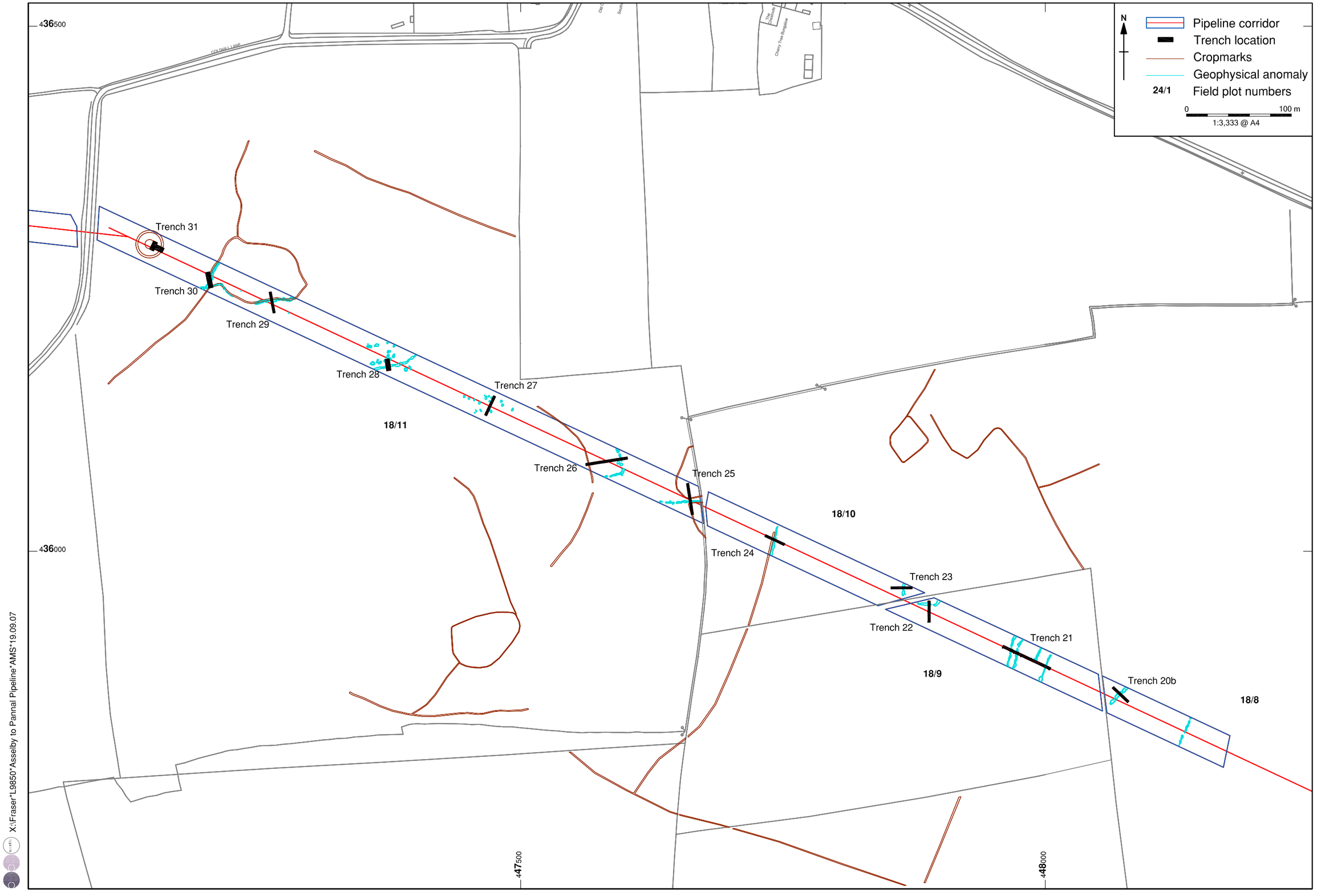

Figure 20: Package E

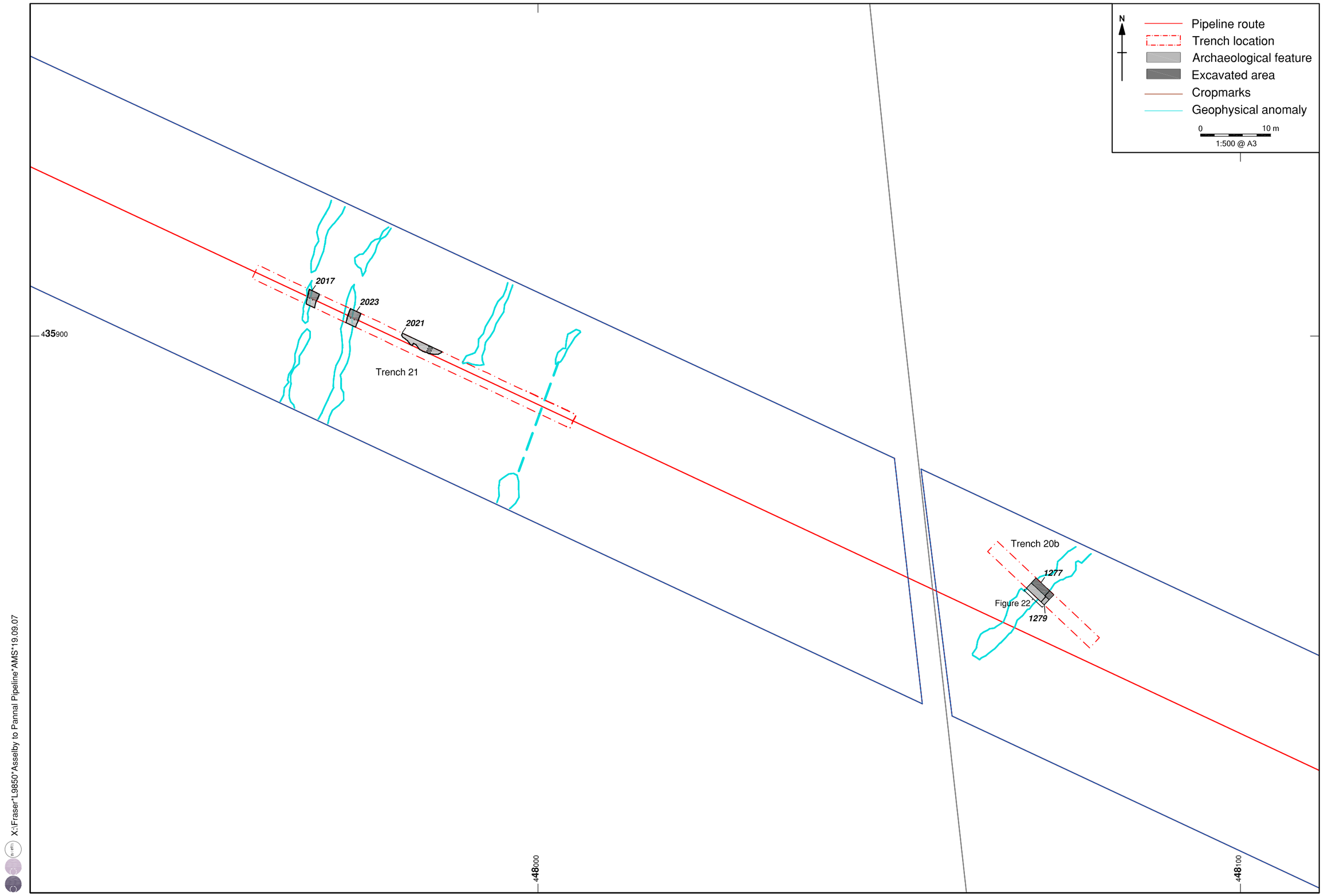

Figure 21: Package E - detail Trenches 20b - 21

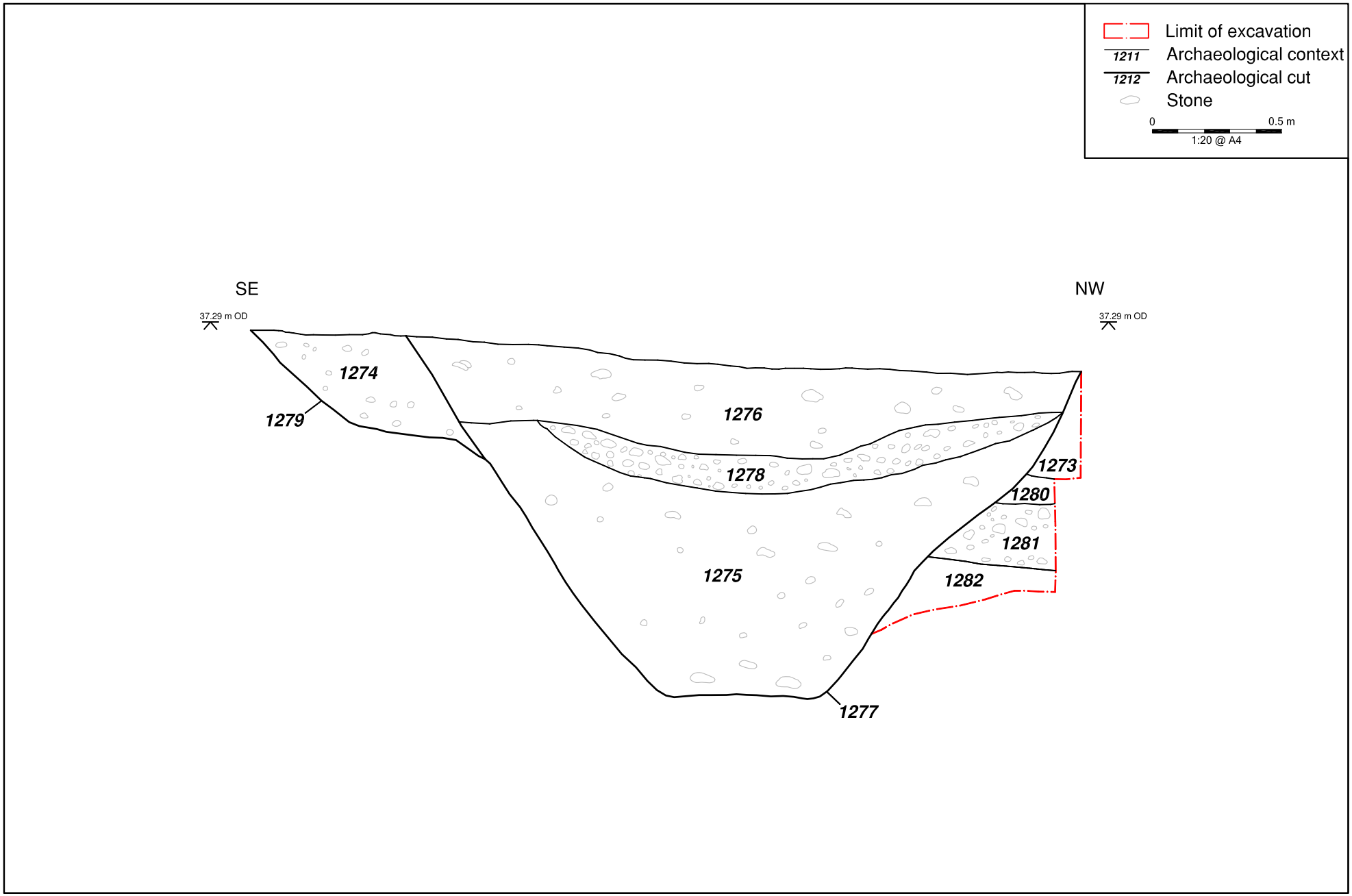

Figure 22: Trench 20b, section through ditches ***1277*** and ***1279***

N

Pipeline route
Trench location
Archaeological feature
Excavated area
Cropmarks
Geophysical anomaly

0 10 m
1:500 @ A3

2148
Trench 24
436000
2136
2141
2143
Trench 23
2025
Trench 22
447800
447900

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Figure 23: Package E - detail Trenches 22 - 24

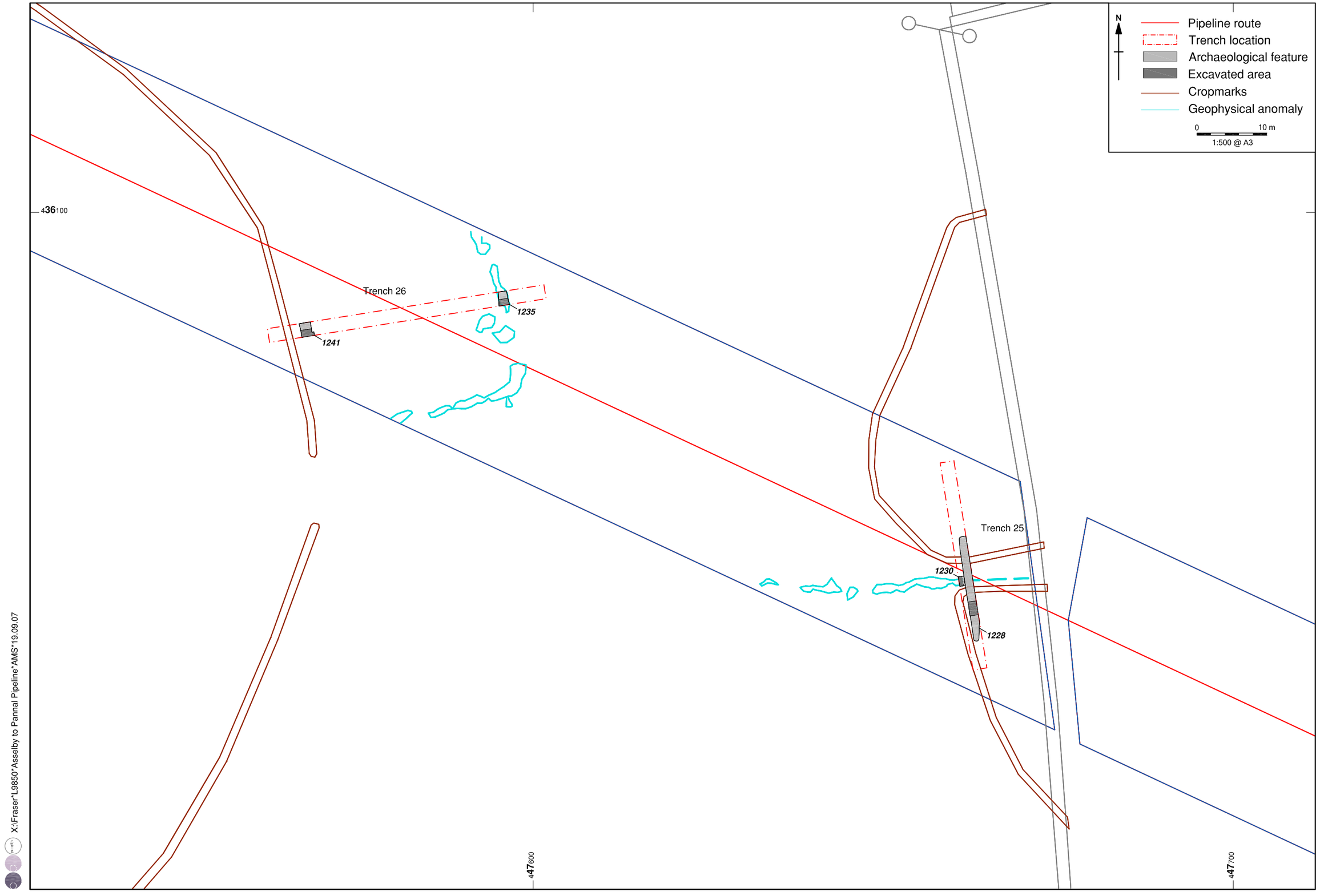

Figure 24: Package E - detail Trenches 25 - 26

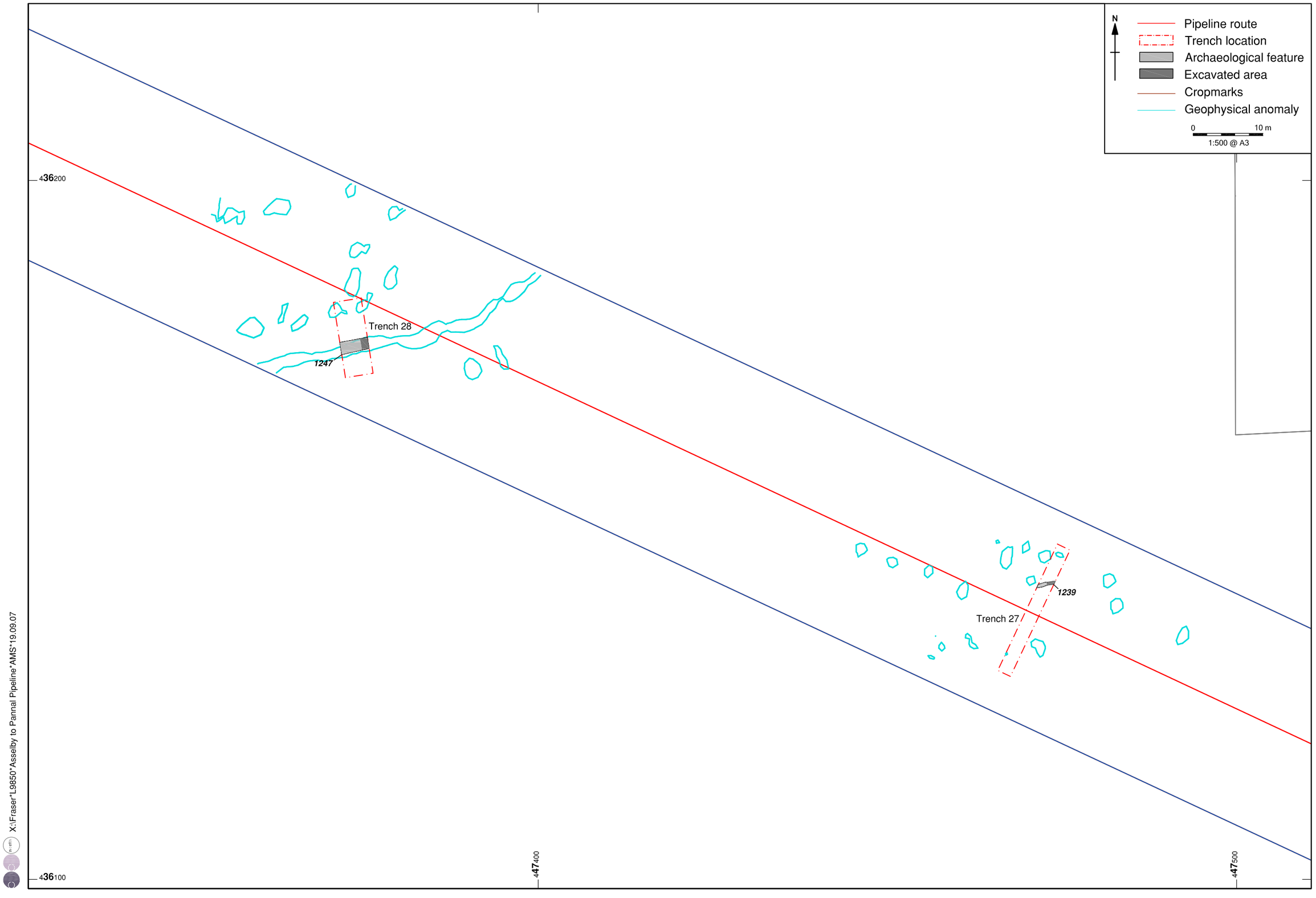

Figure 25: Package E - detail Trenches 27 - 28

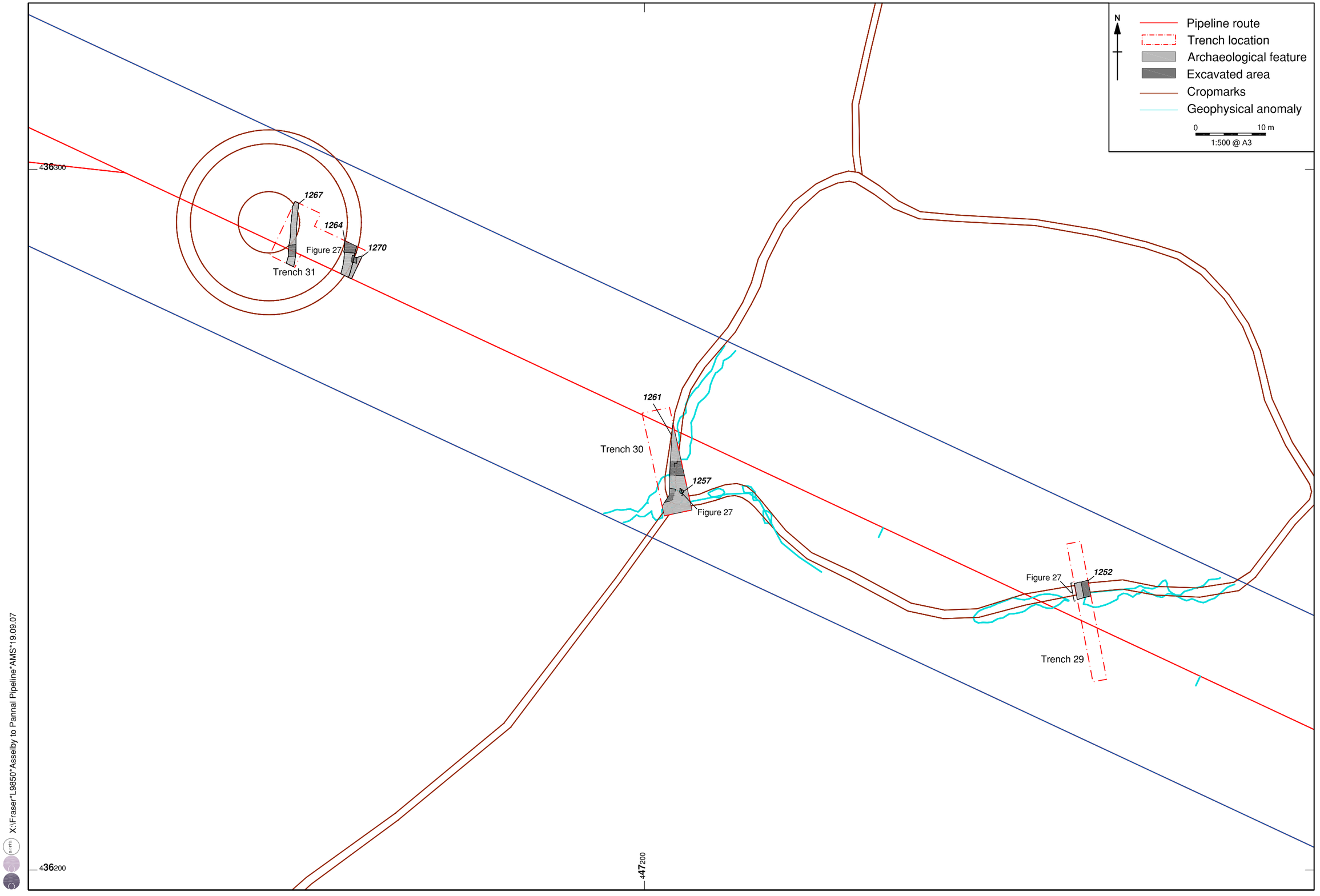

Figure 26: Package E - detail Trenches 29 - 31

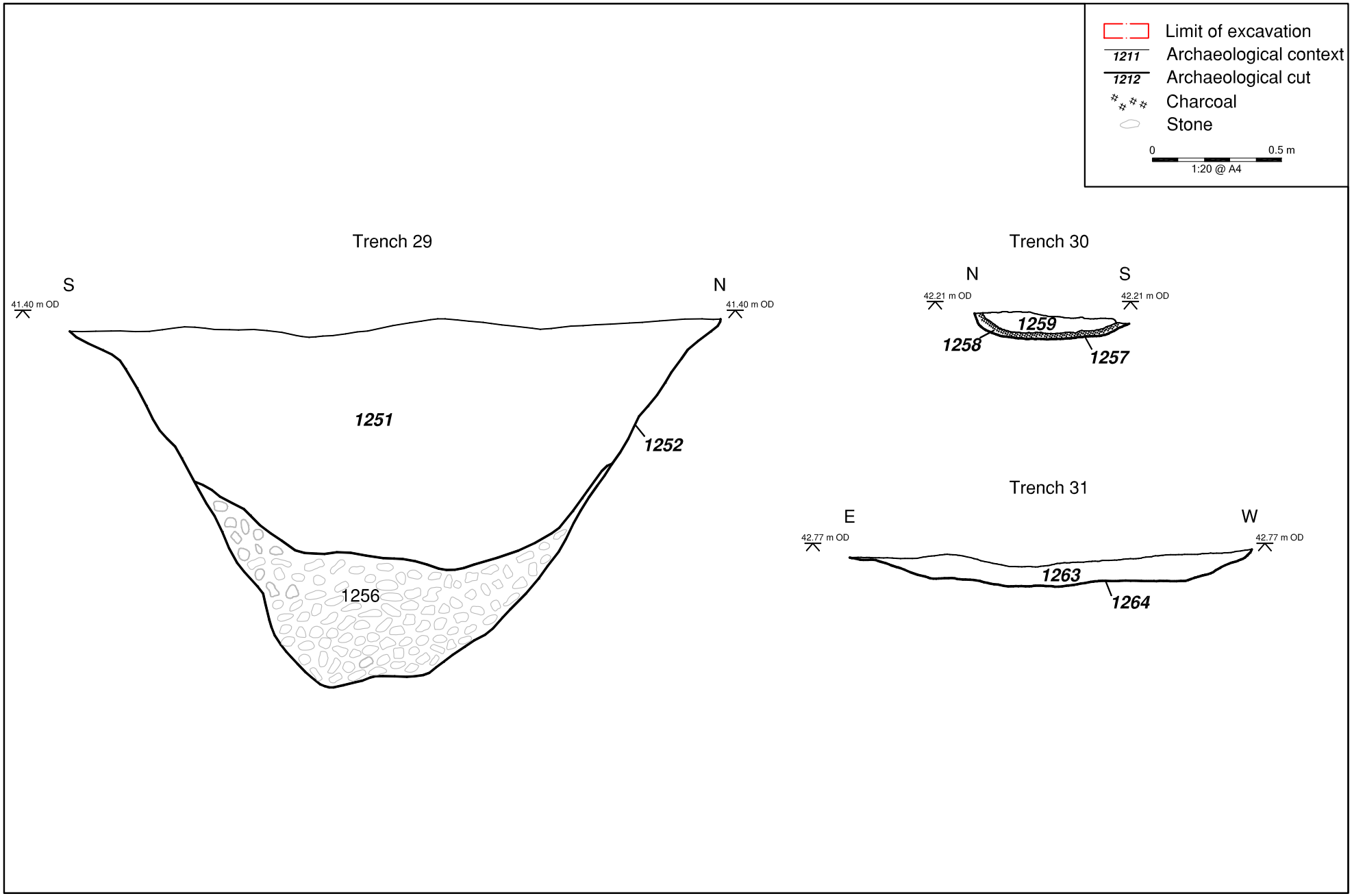

Figure 27: Trenches 29, 30 and 31, sections through ditches ***1252***, ***1257***, and ***1264***

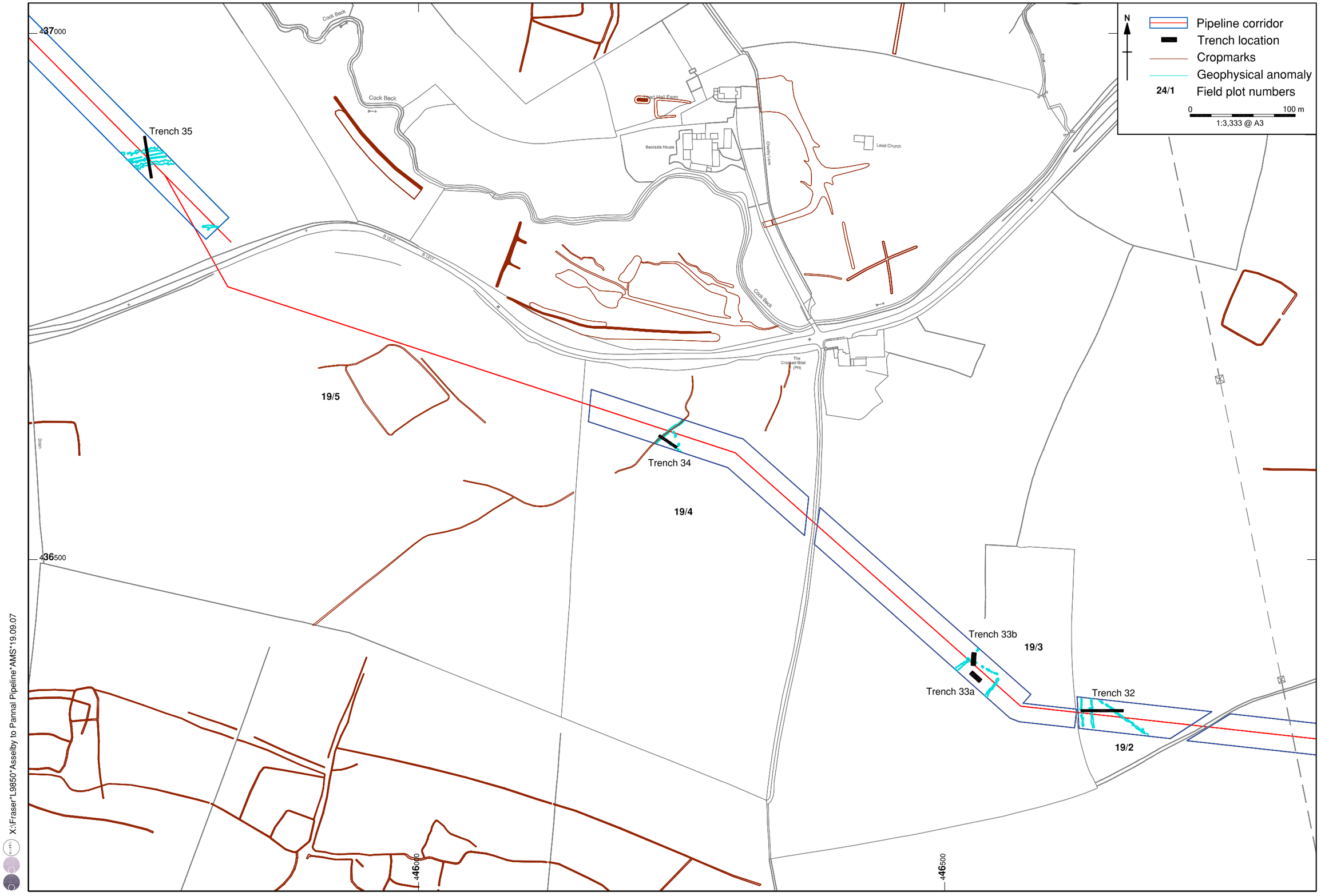

Figure 28: Package F

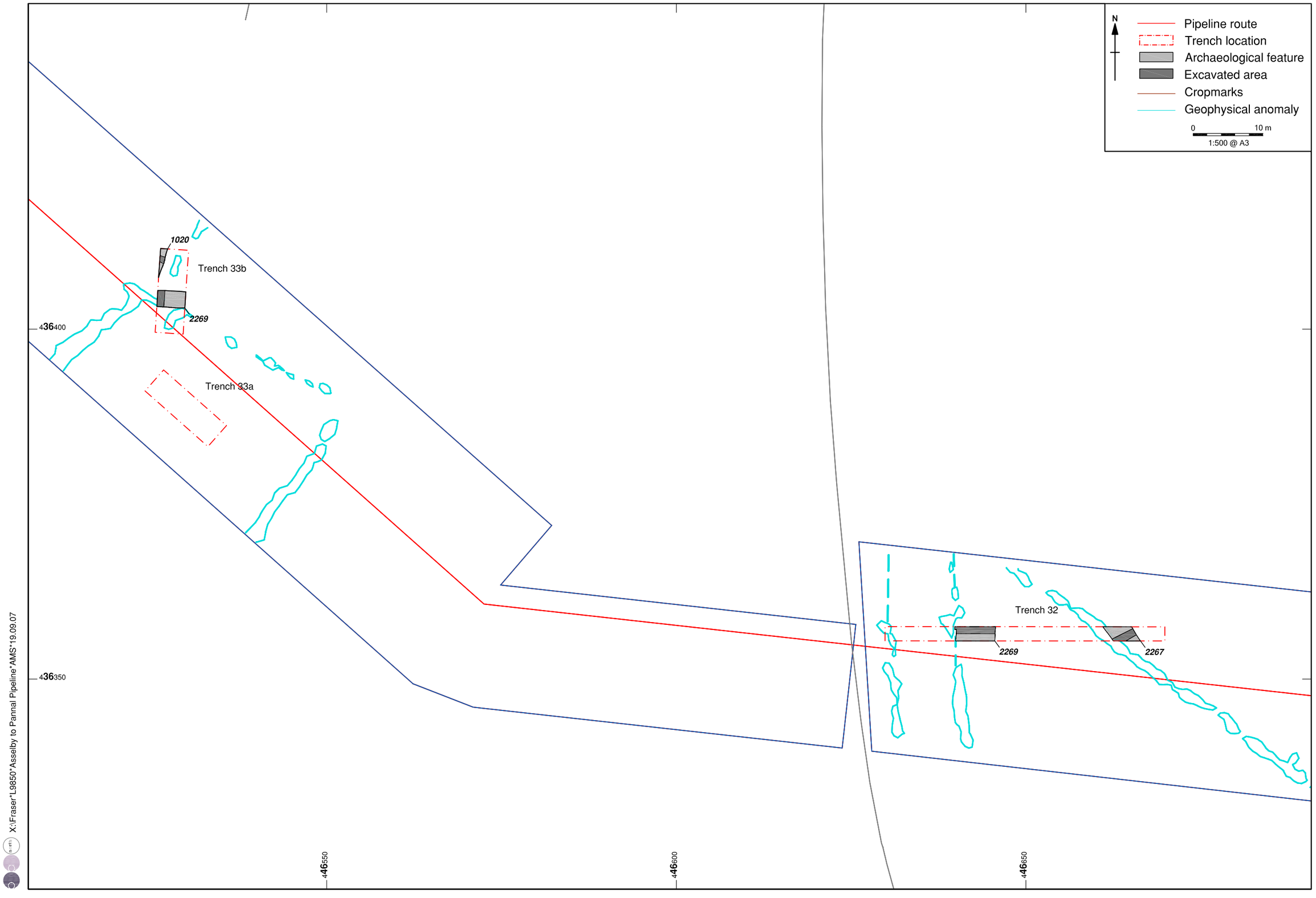

Figure 29: Package F - detail Trenches 32 - 33b

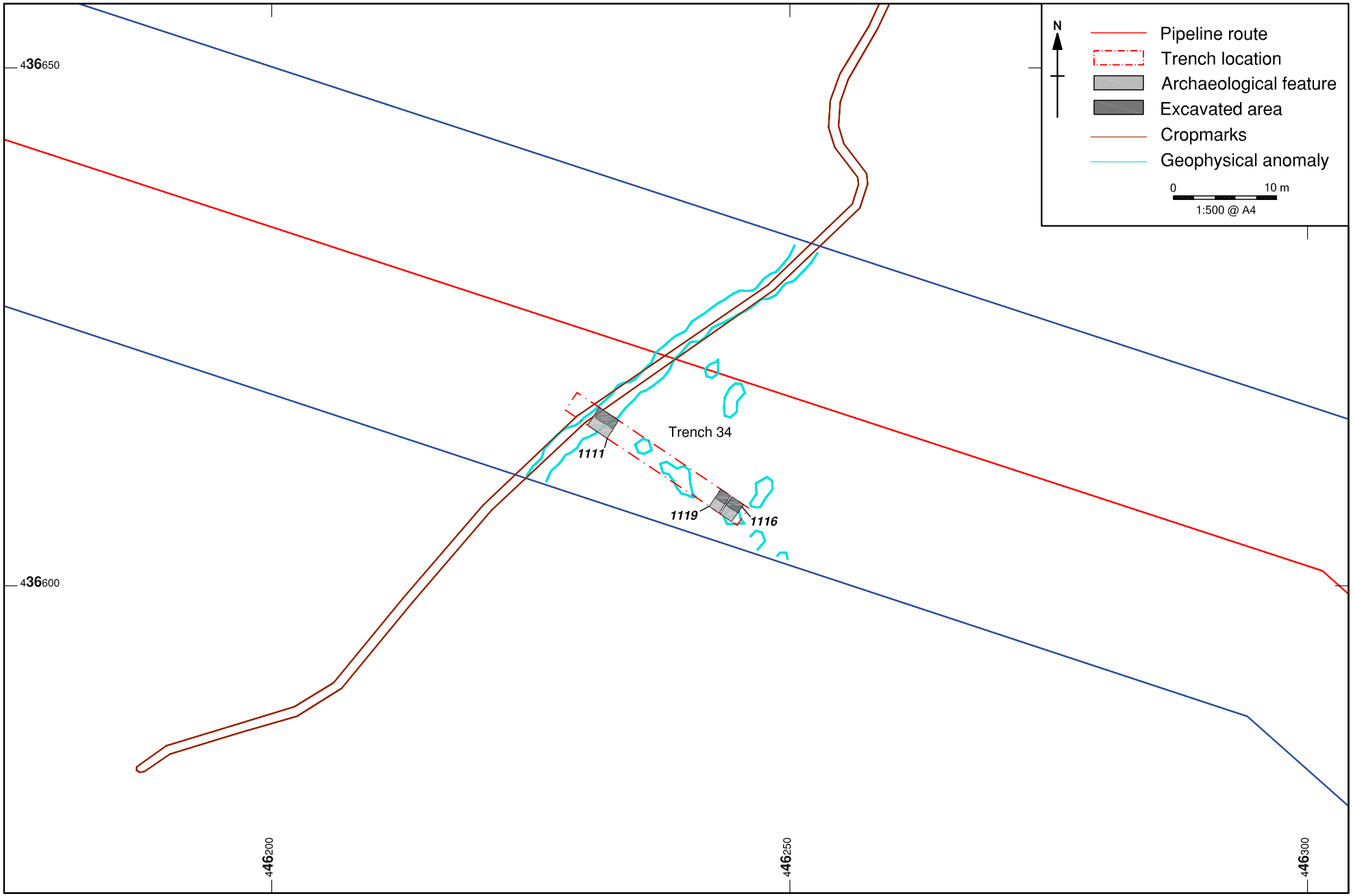

Figure 30: Package F - detail Trench 34

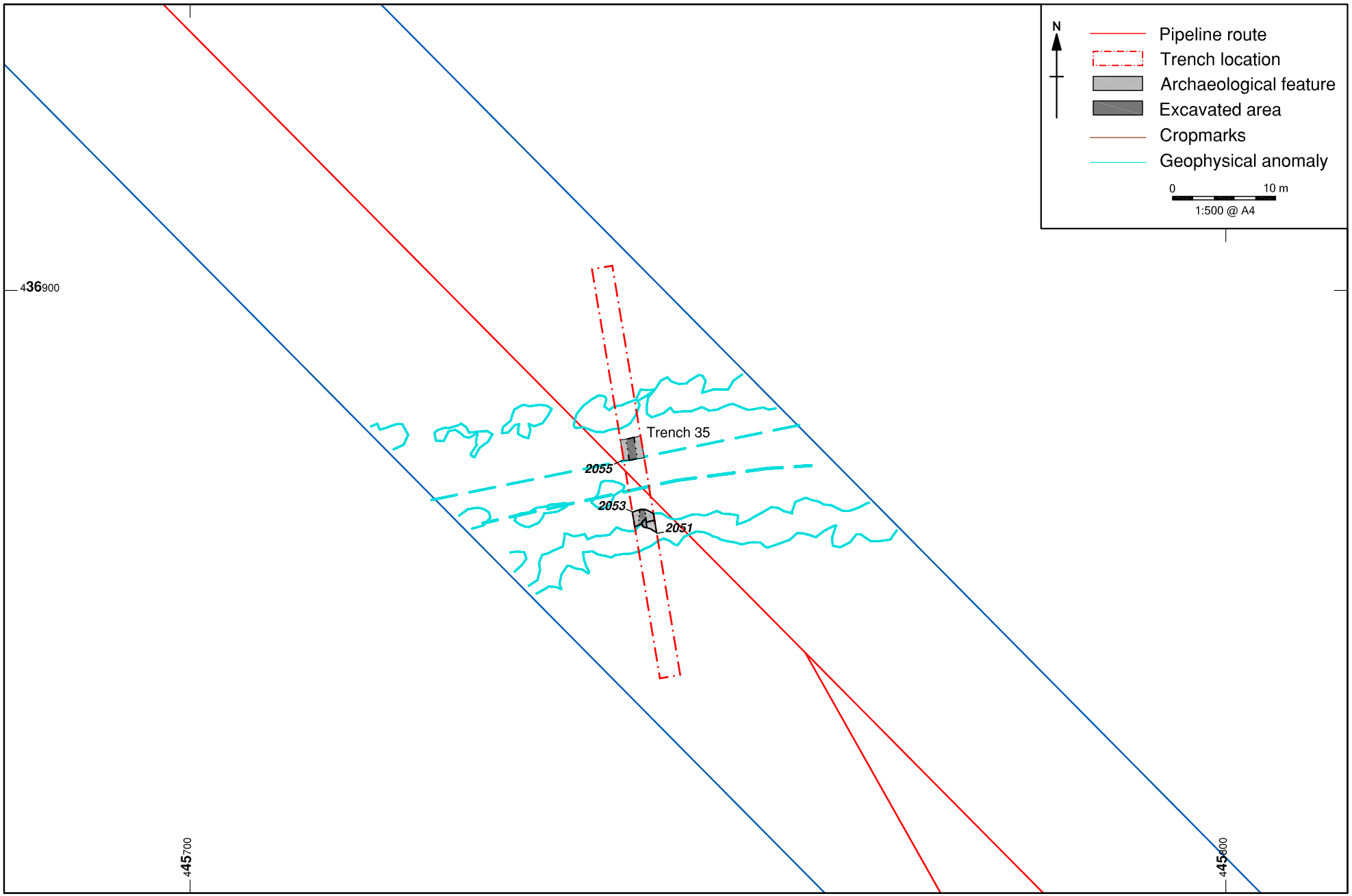

Figure 31: Package F - detail Trench 35

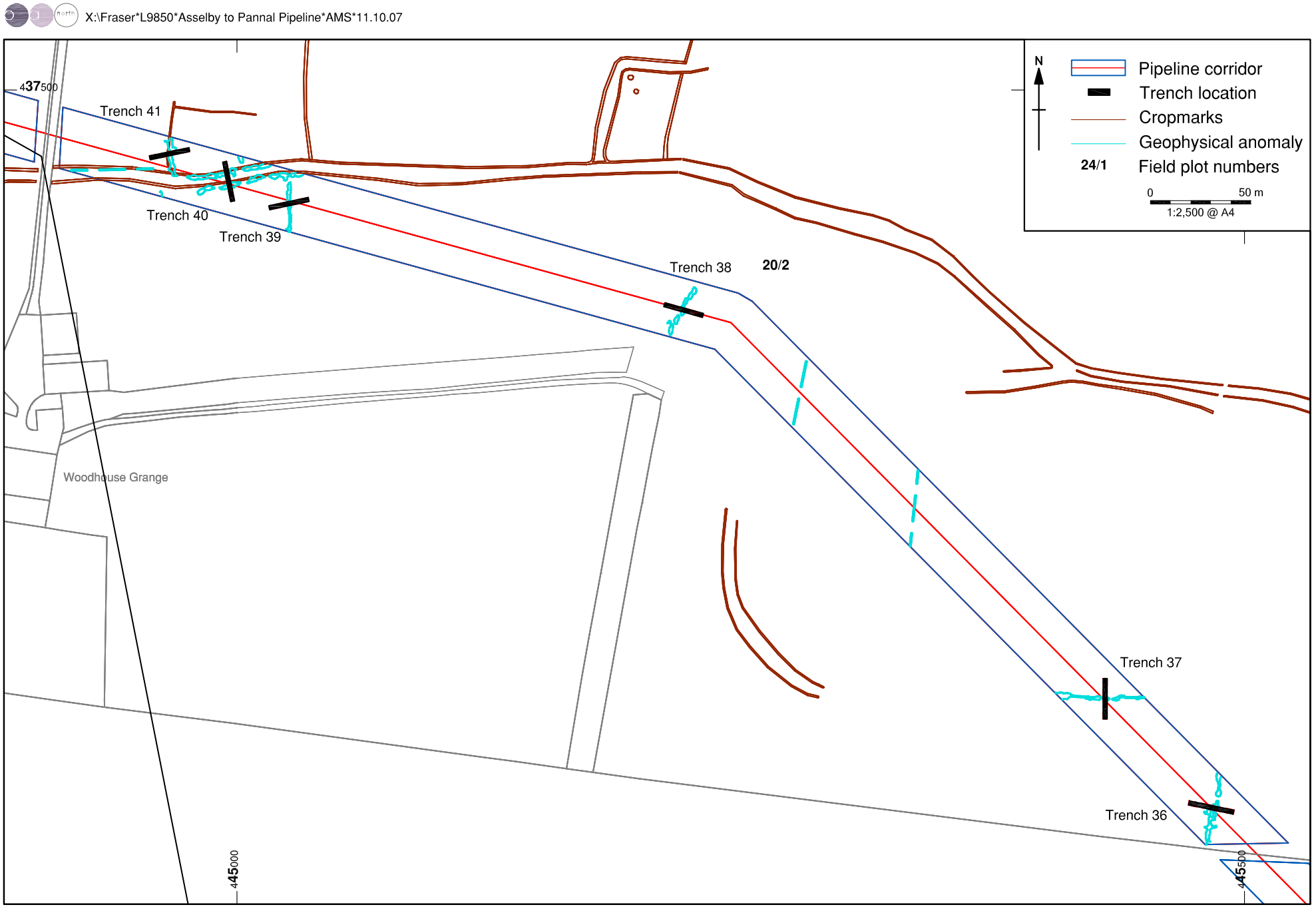

Figure 32: Package G

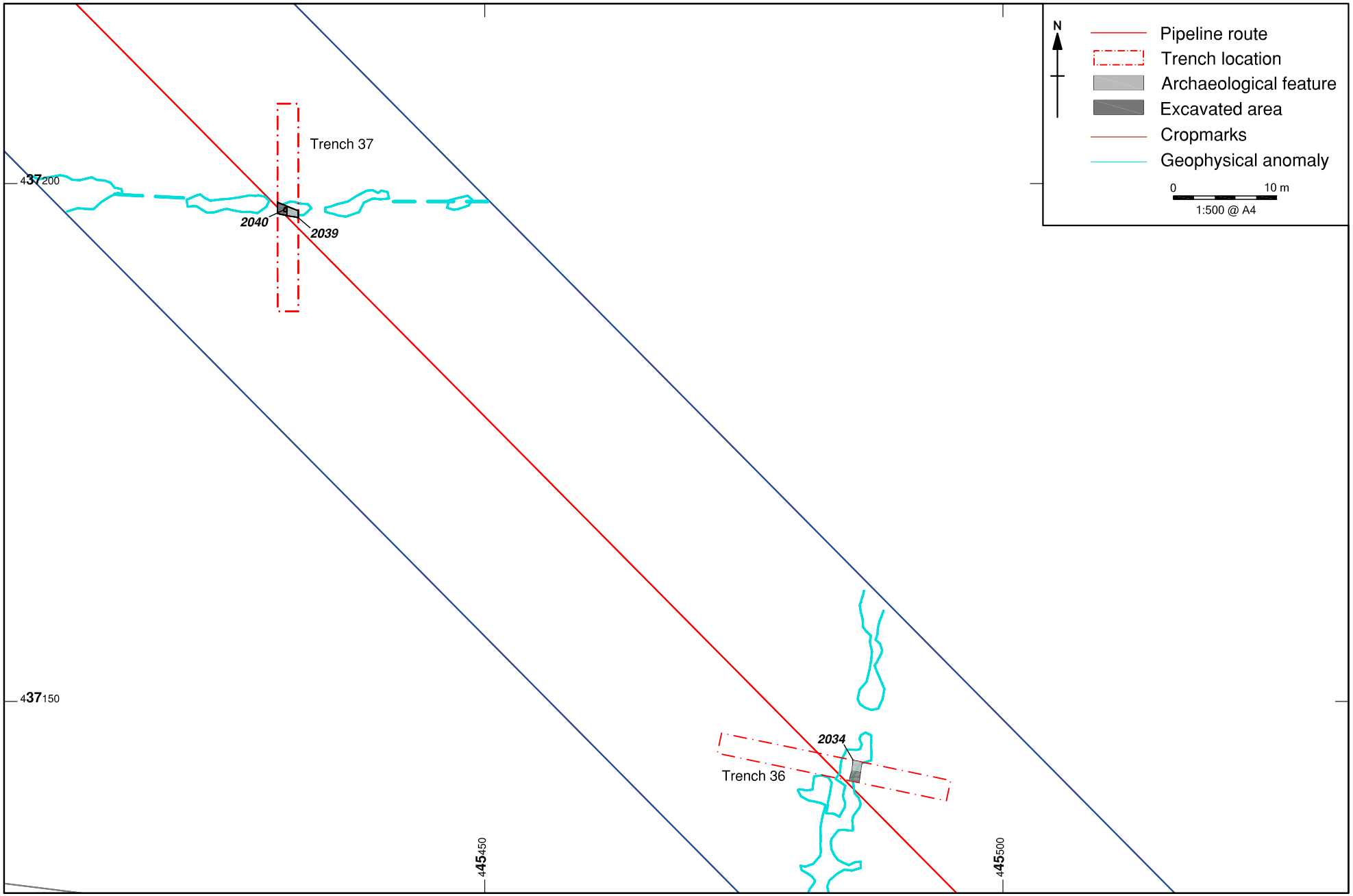

Figure 33: Package G - detail Trenches 36 - 37

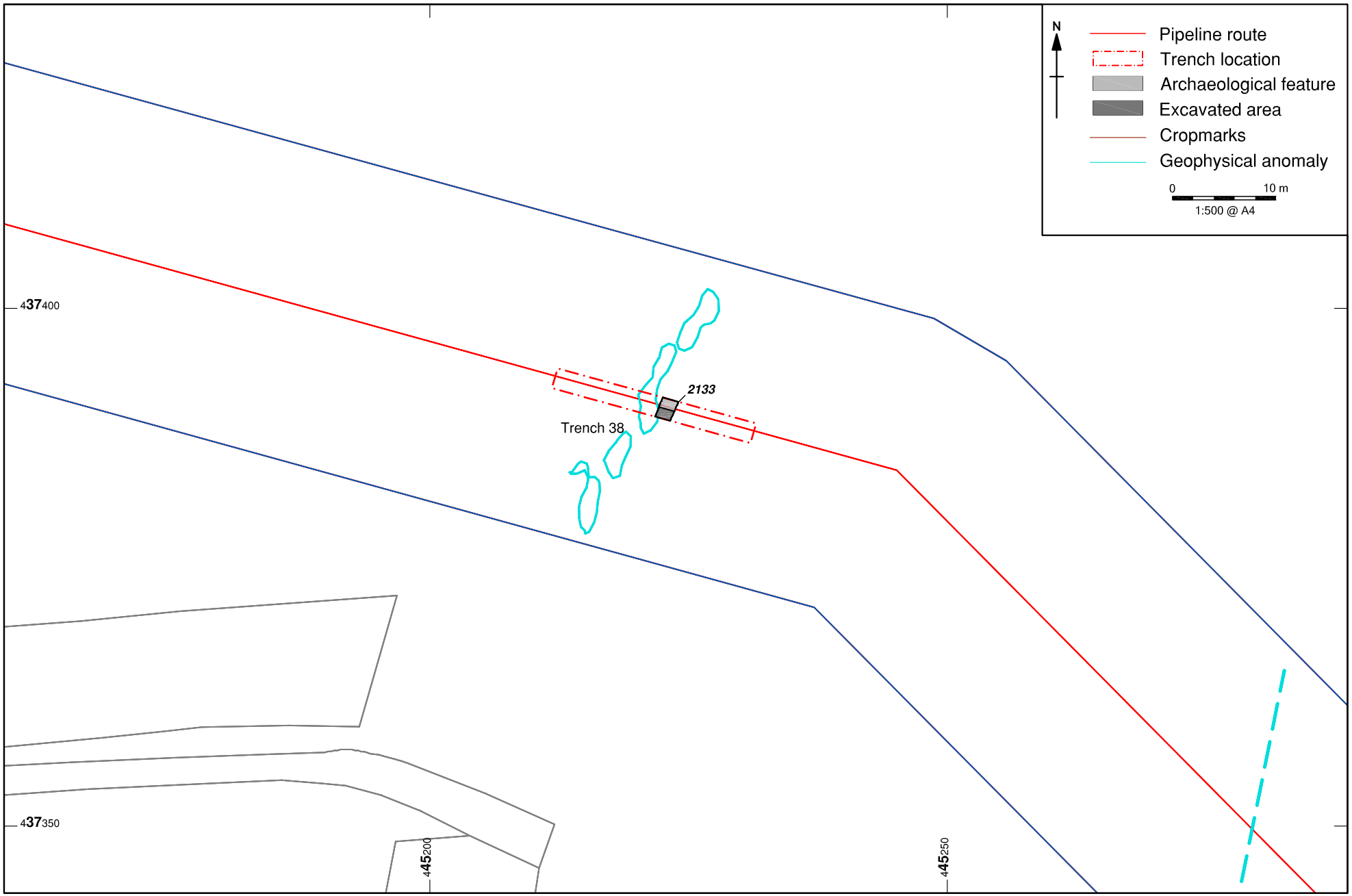

Figure 34: Package G - detail Trench 38

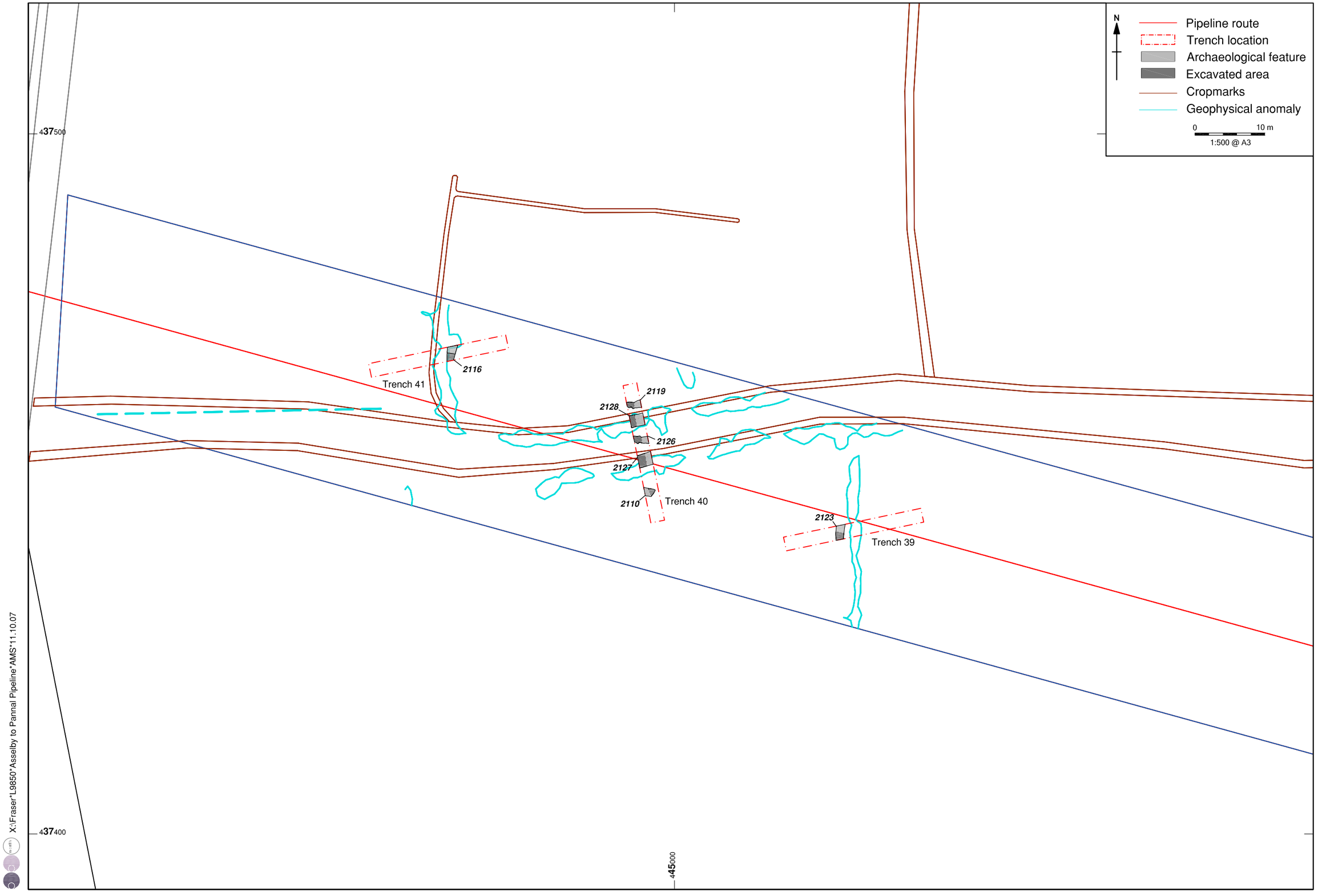

Figure 35: Package G - detail Trenches 39 - 41

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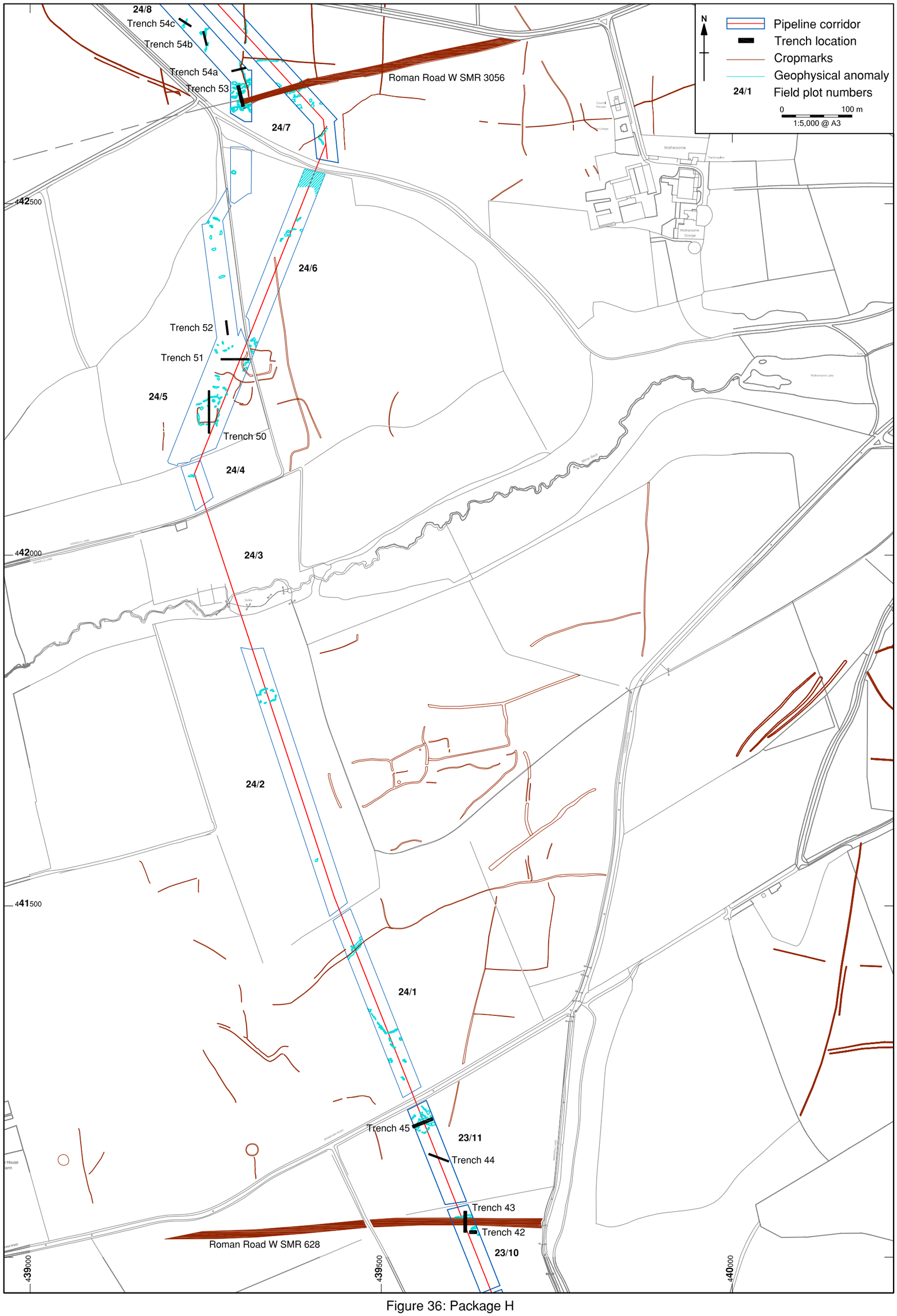

Figure 36: Package H

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

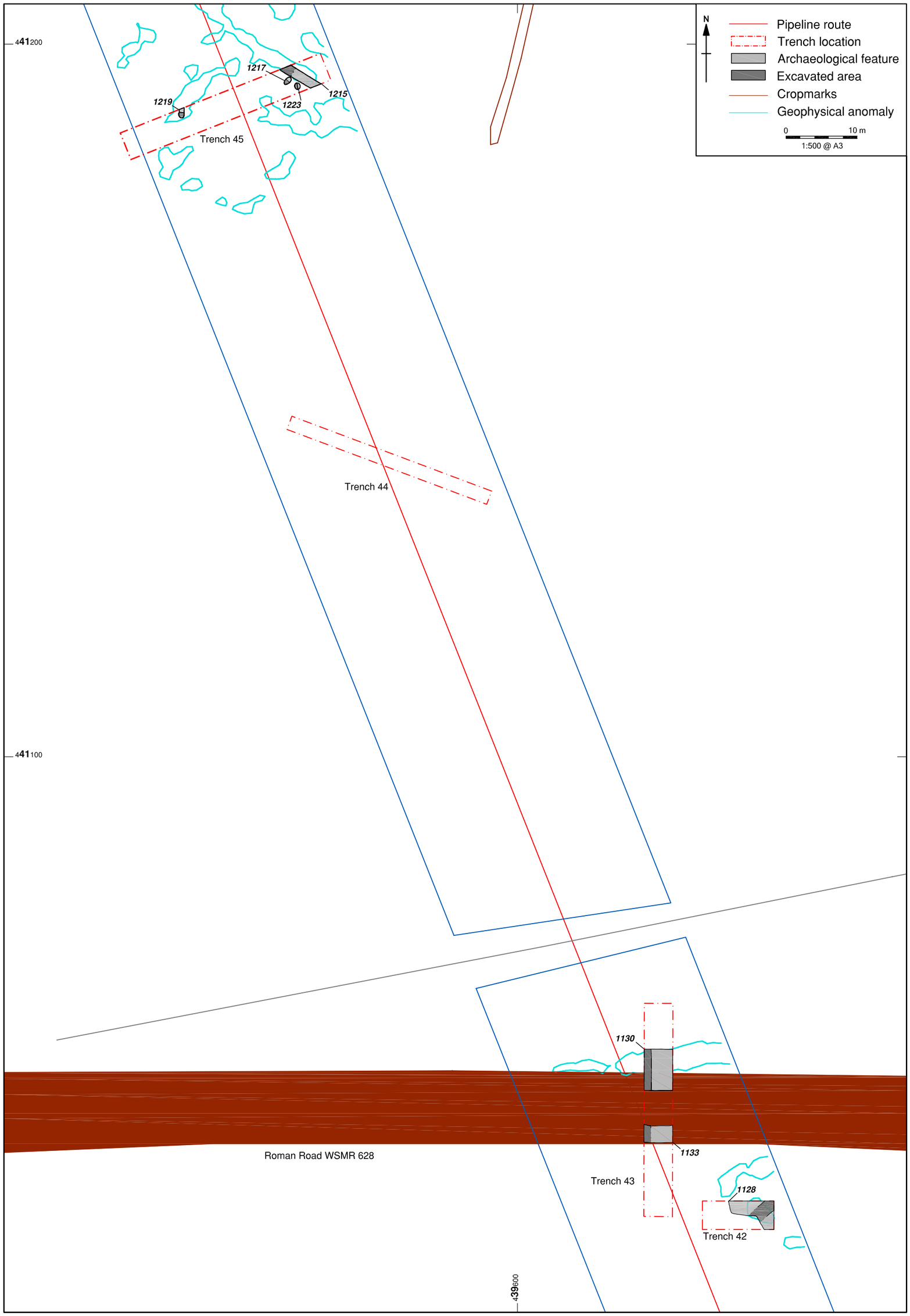

Figure 37: Package H - detail Trenches 42 - 45

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

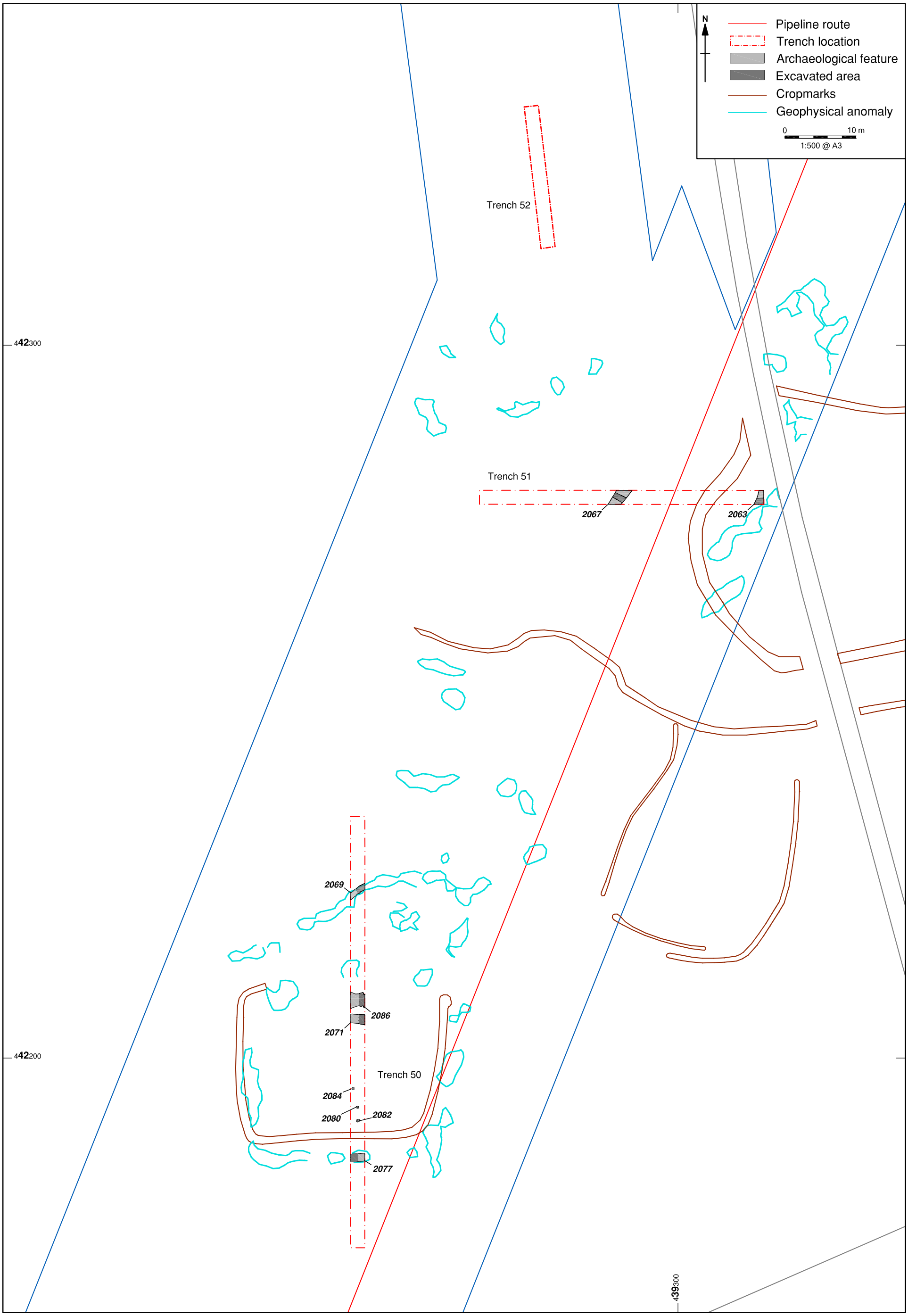

Figure 38: Package H - detail Trenches 50 - 52

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N

Pipeline route
Trench location
Archaeological feature
Excavated area
Cropmarks
Geophysical anomaly

0 10 m
1:500 @ A3

Trench 54c

Trench 54b

Trench 54a

1078

1082

Roman Road
WSMR 3056

Trench 53

442700

439200

439300

Figure 39: Package H - detail Trenches 53 - 54c

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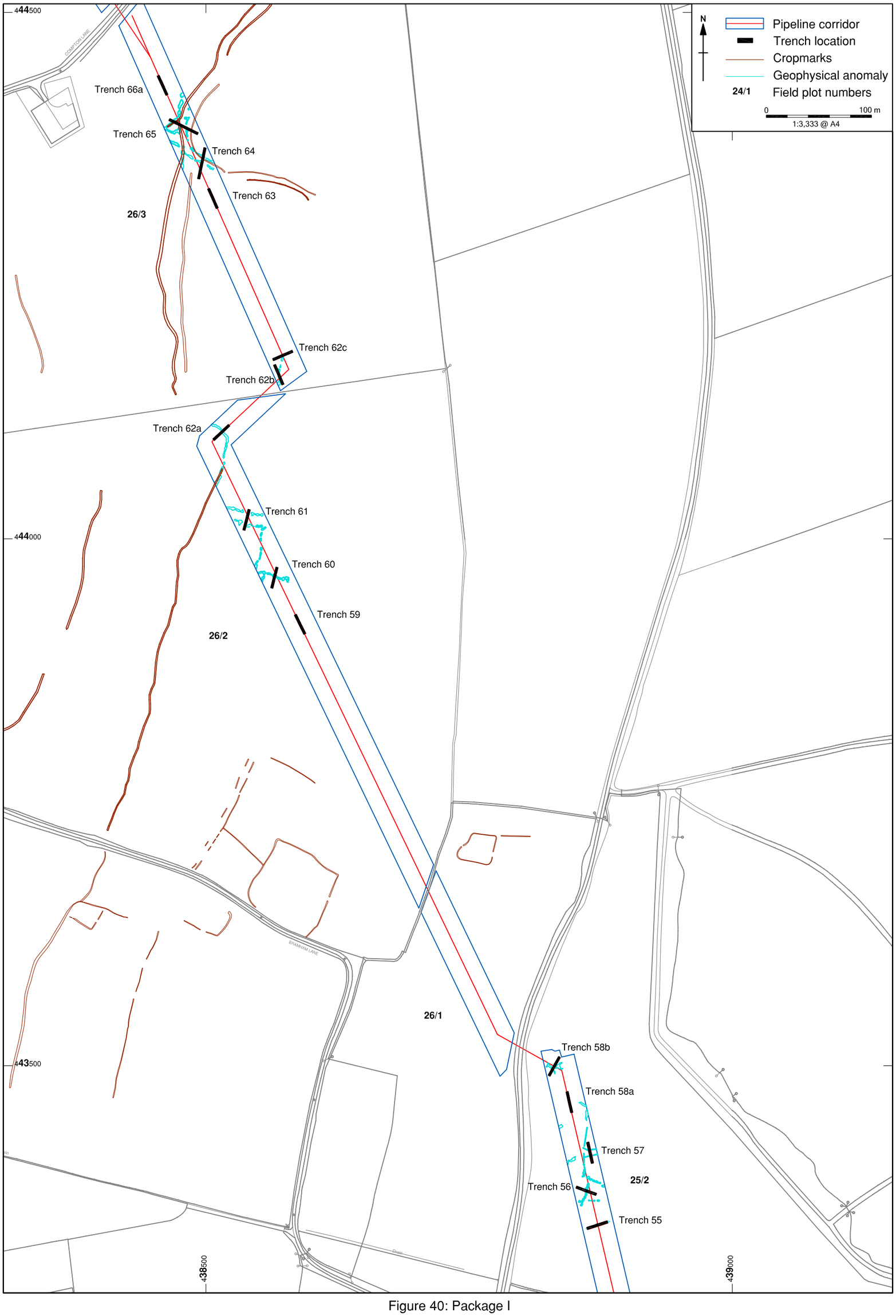

Figure 40: Package I

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

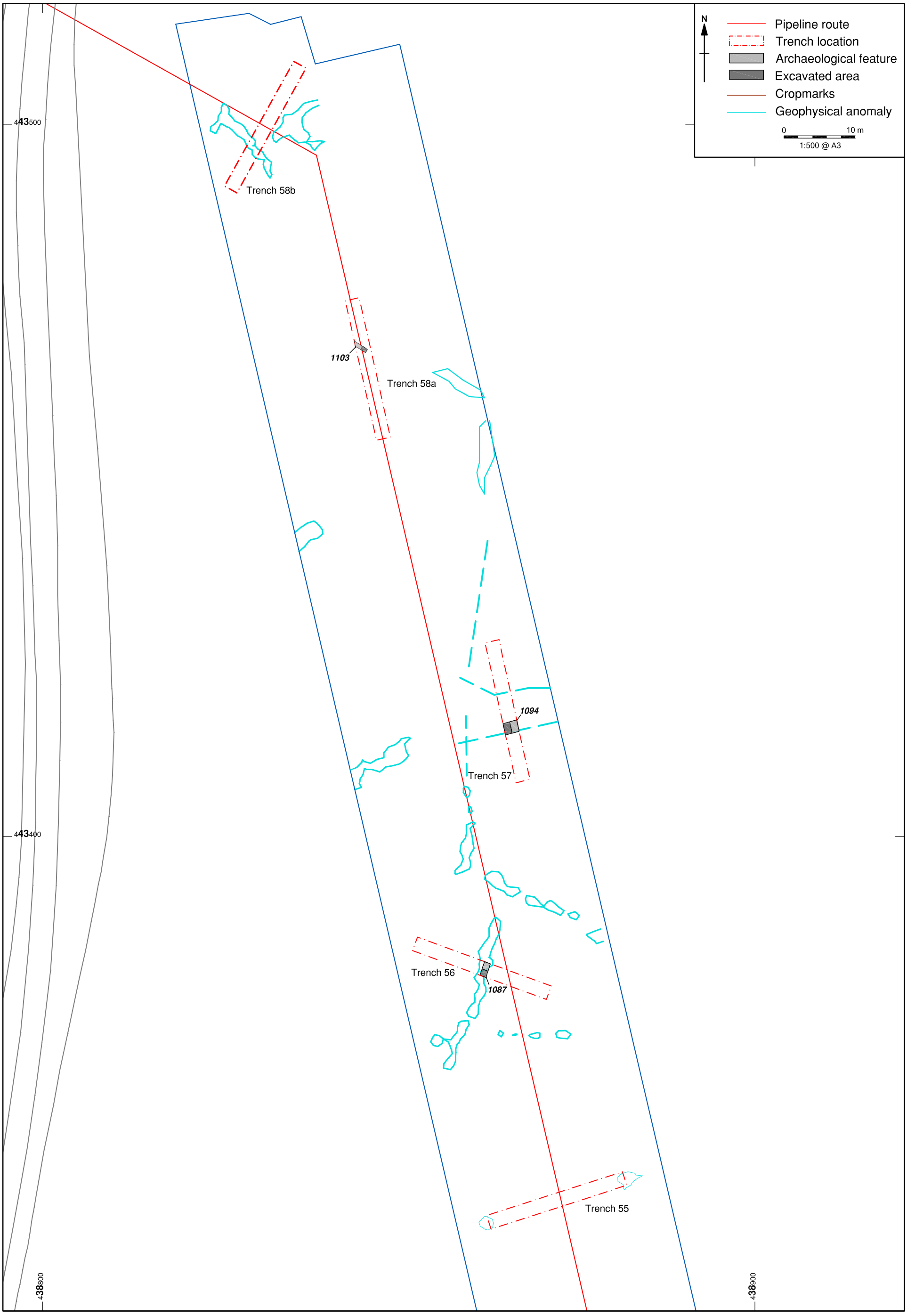

Figure 41: Package I - detail Trenches 55 - 58b

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

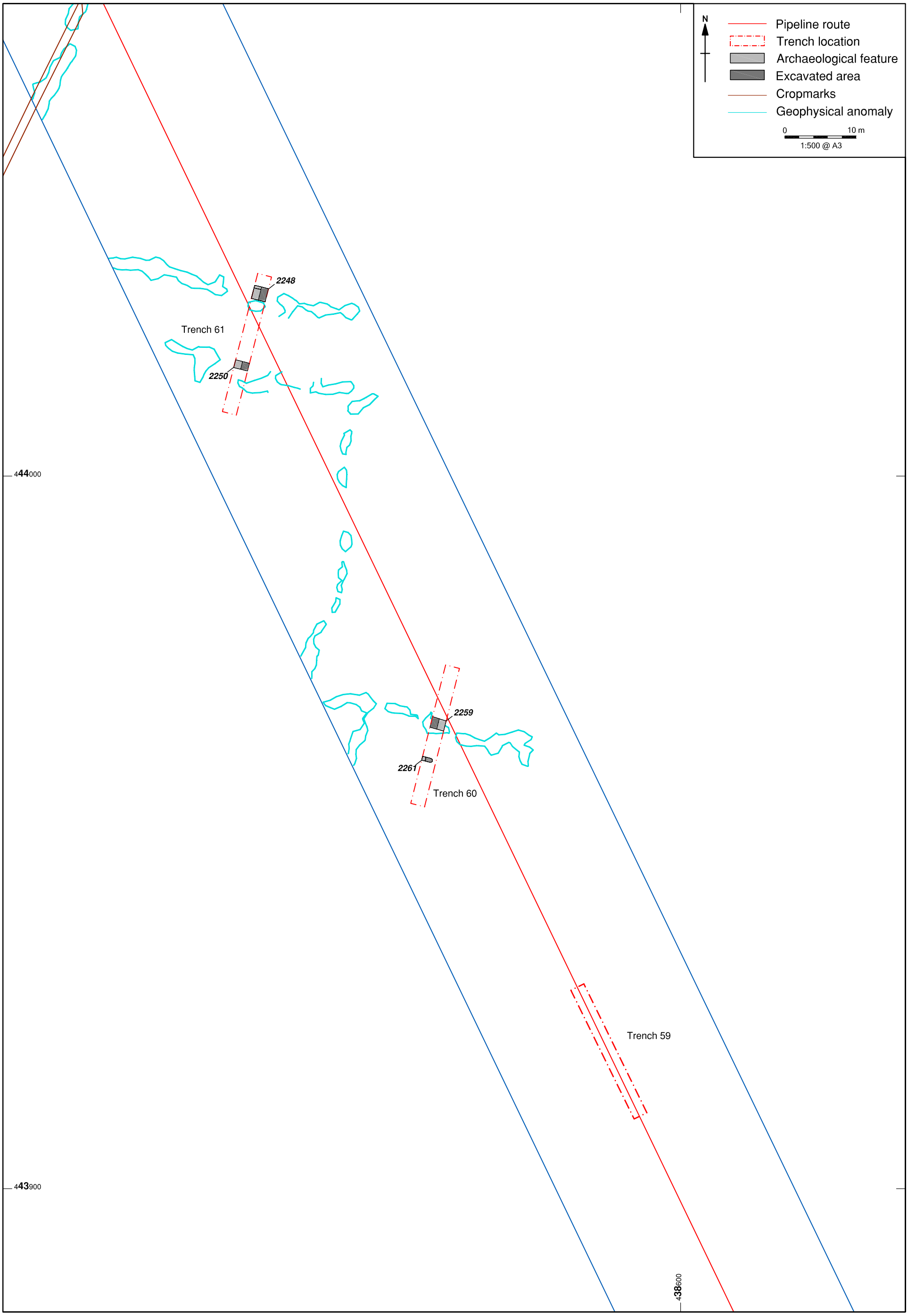

Figure 42: Package I - detail Trenches 59 - 61

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

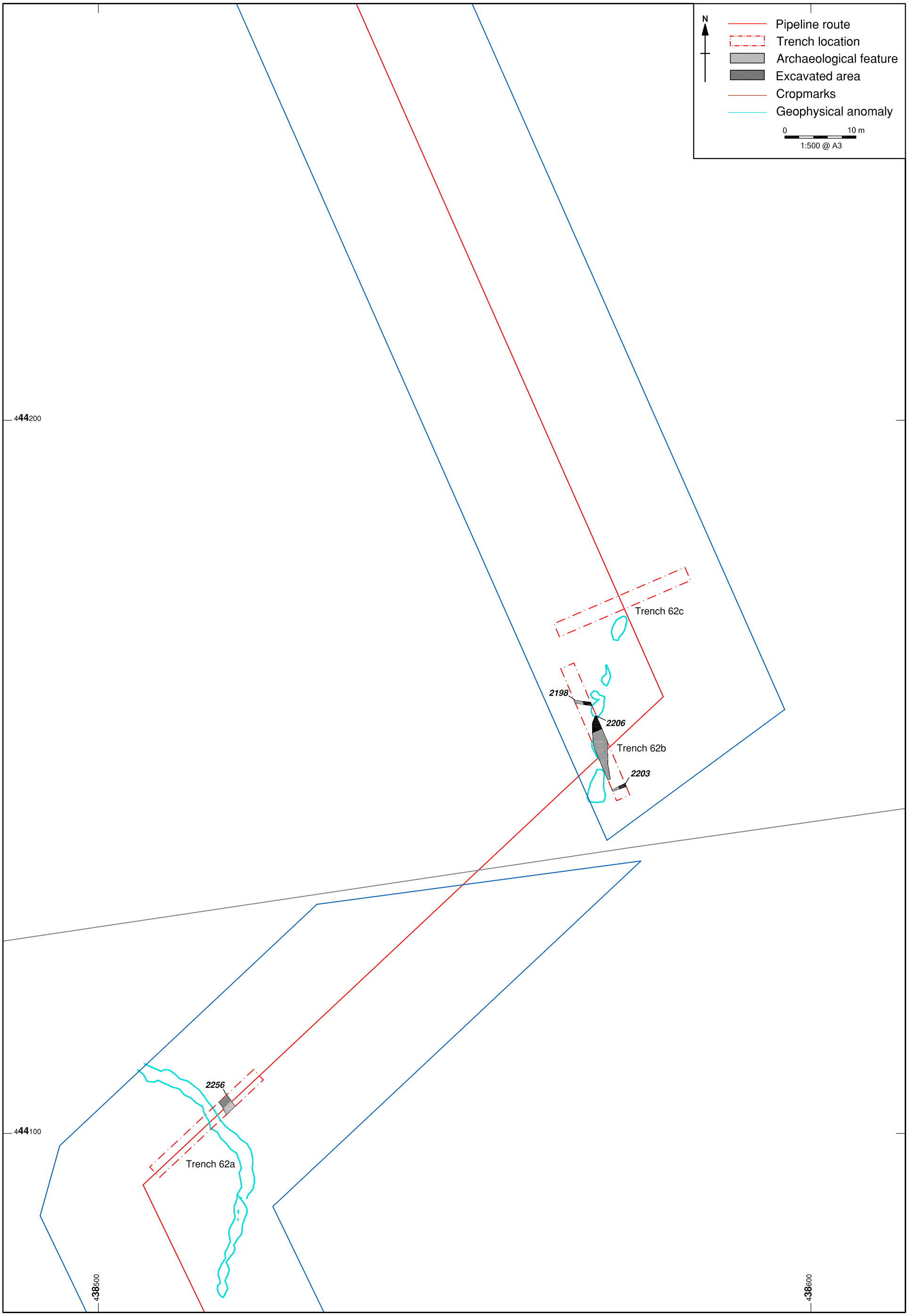

Figure 43: Package I - detail Trenches 62a - 62c

X:\Fraser*L9850*Asselby to Pannal Pipeline*AMS*11.10.07

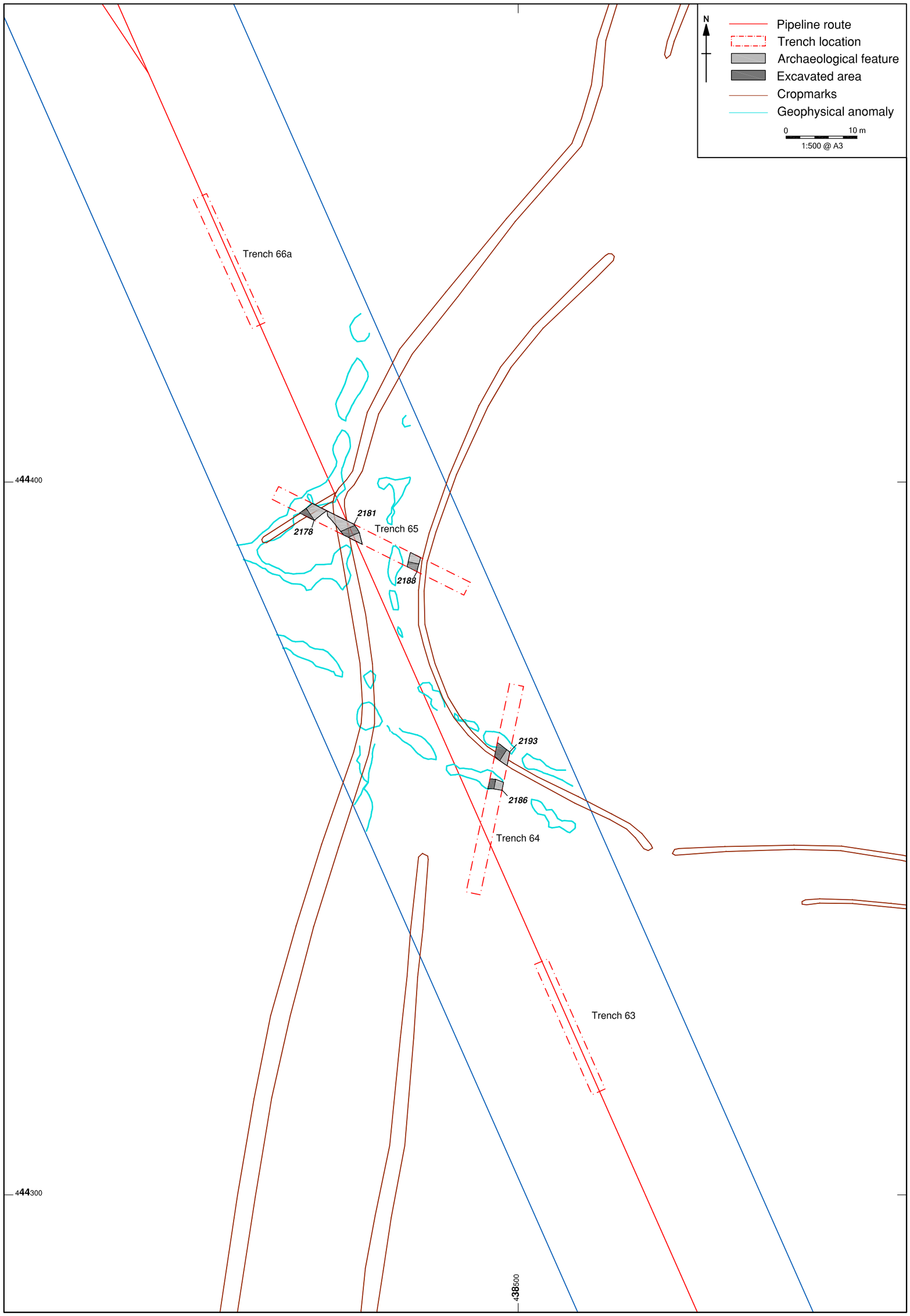

Figure 44: Package I - detail Trenches 63 - 66a

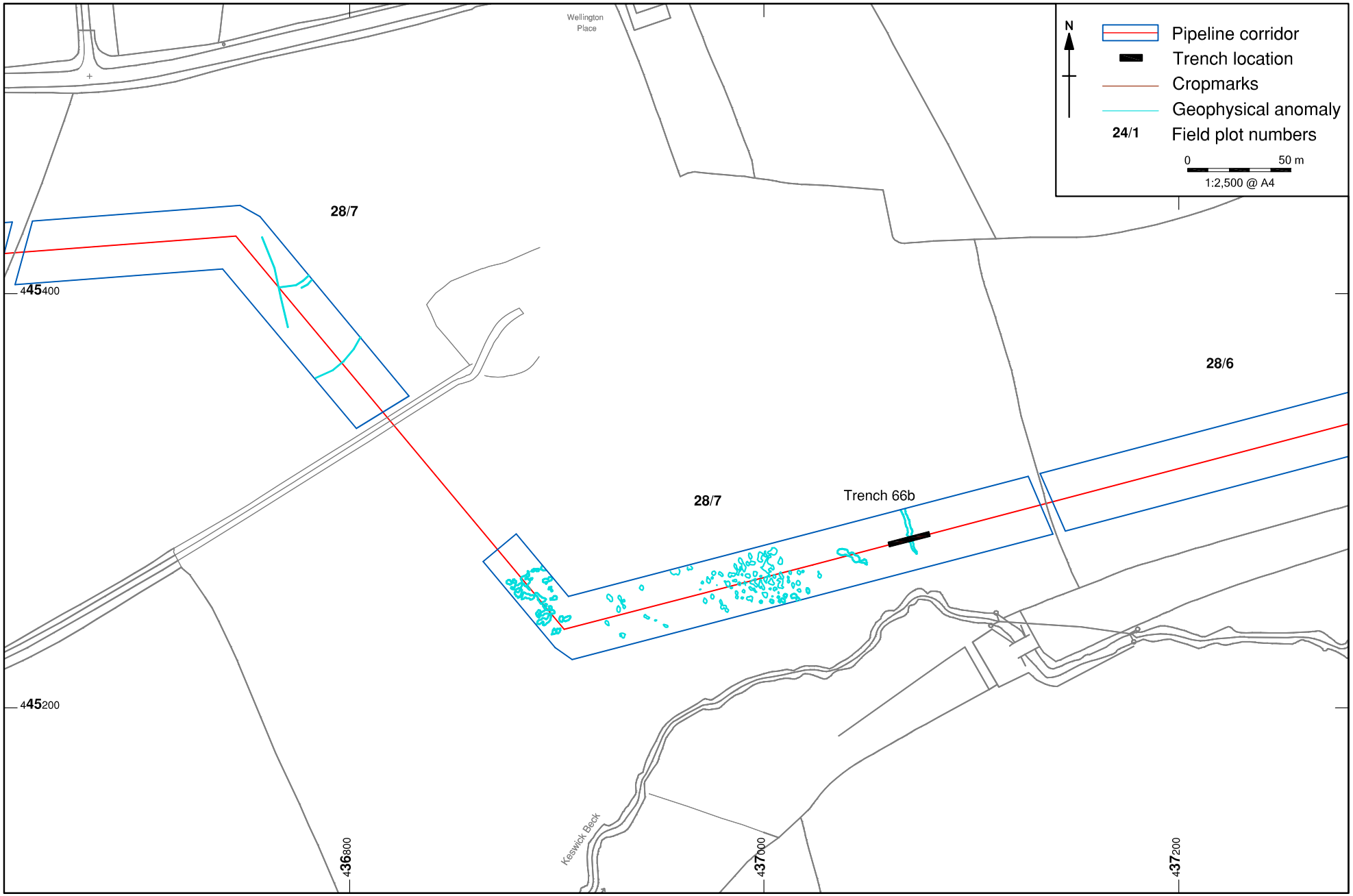

Figure 45: Package J

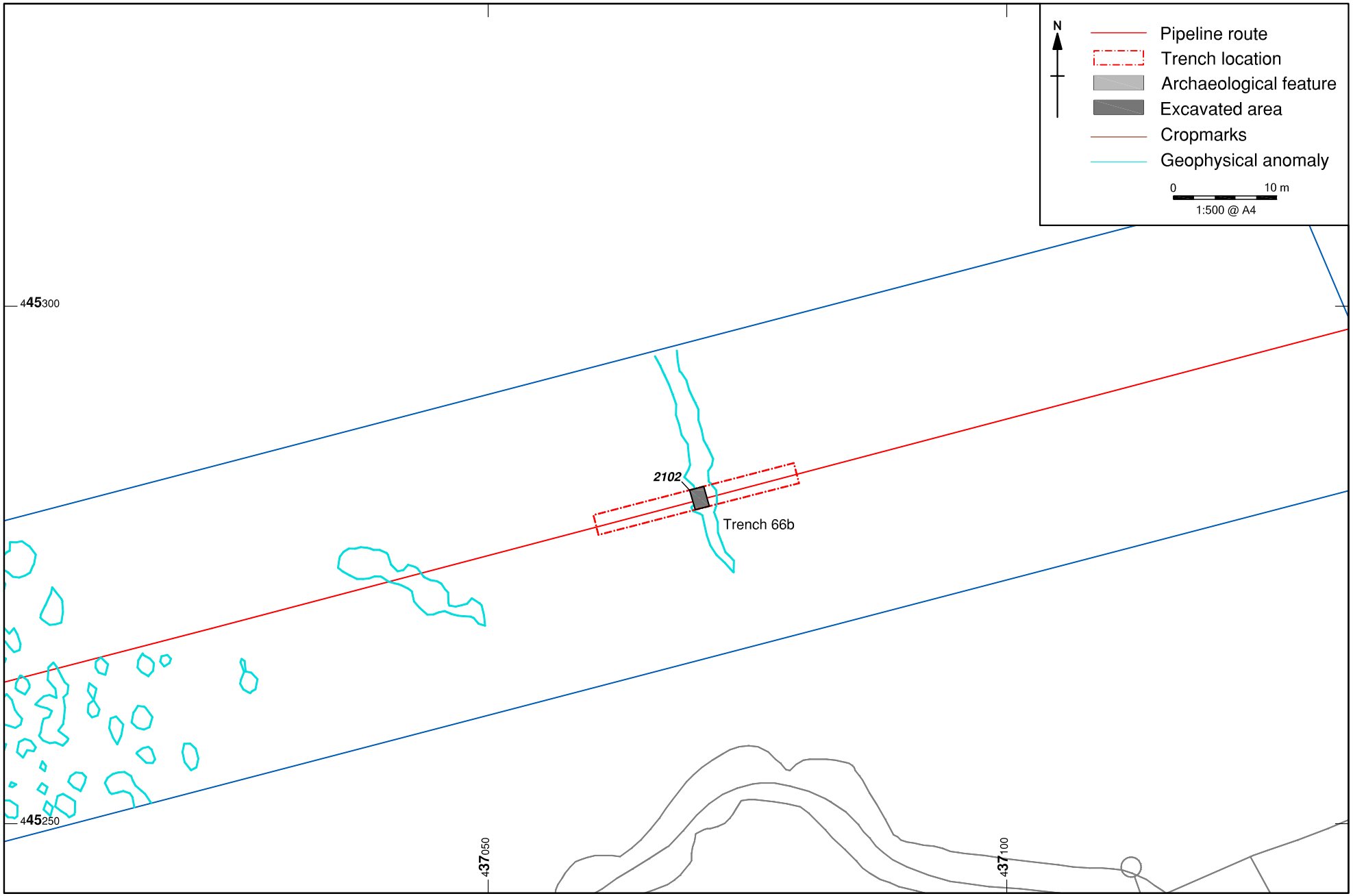

Figure 46: Package J - detail Trench 66b

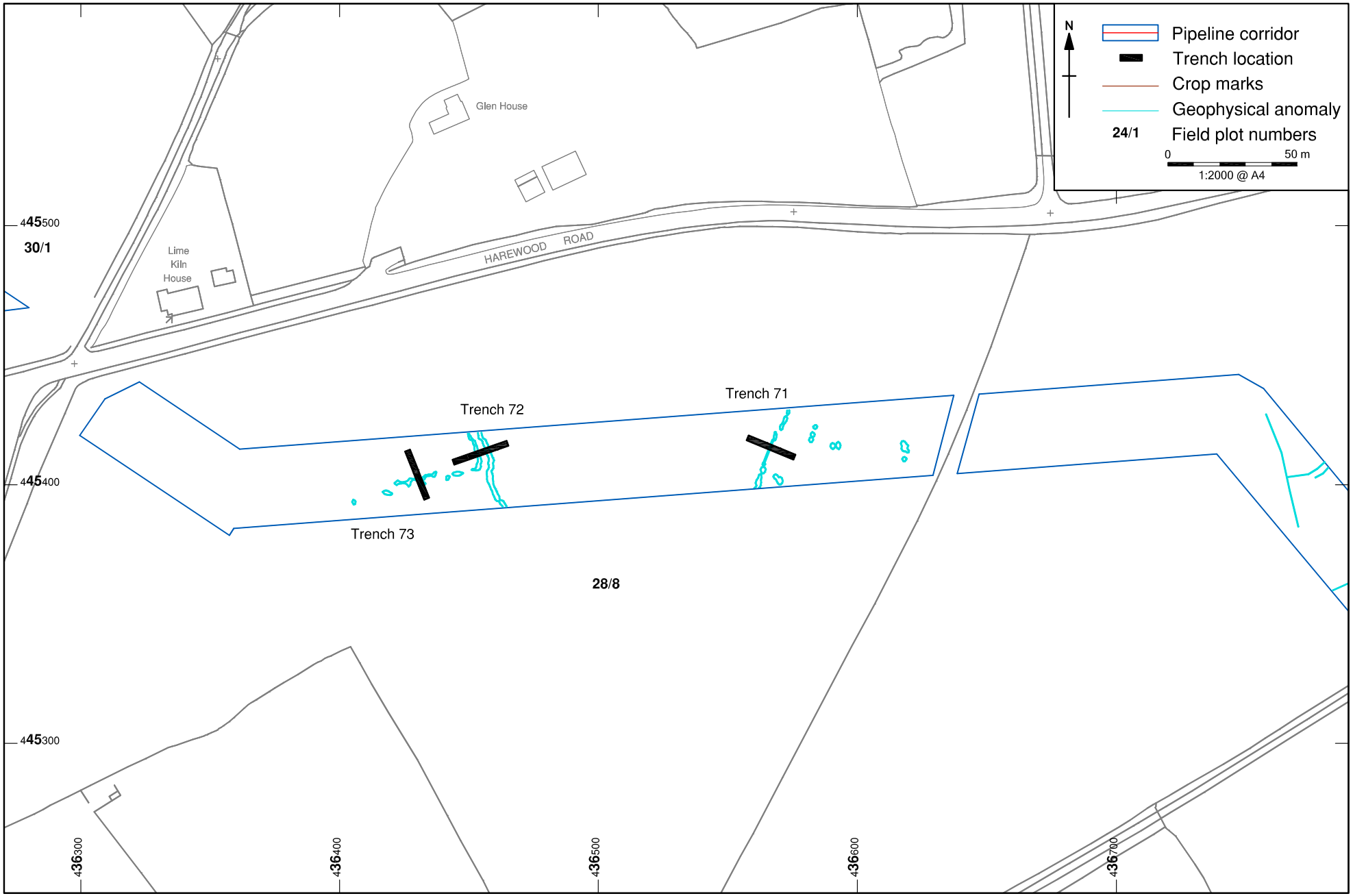

Figure 47: Package K

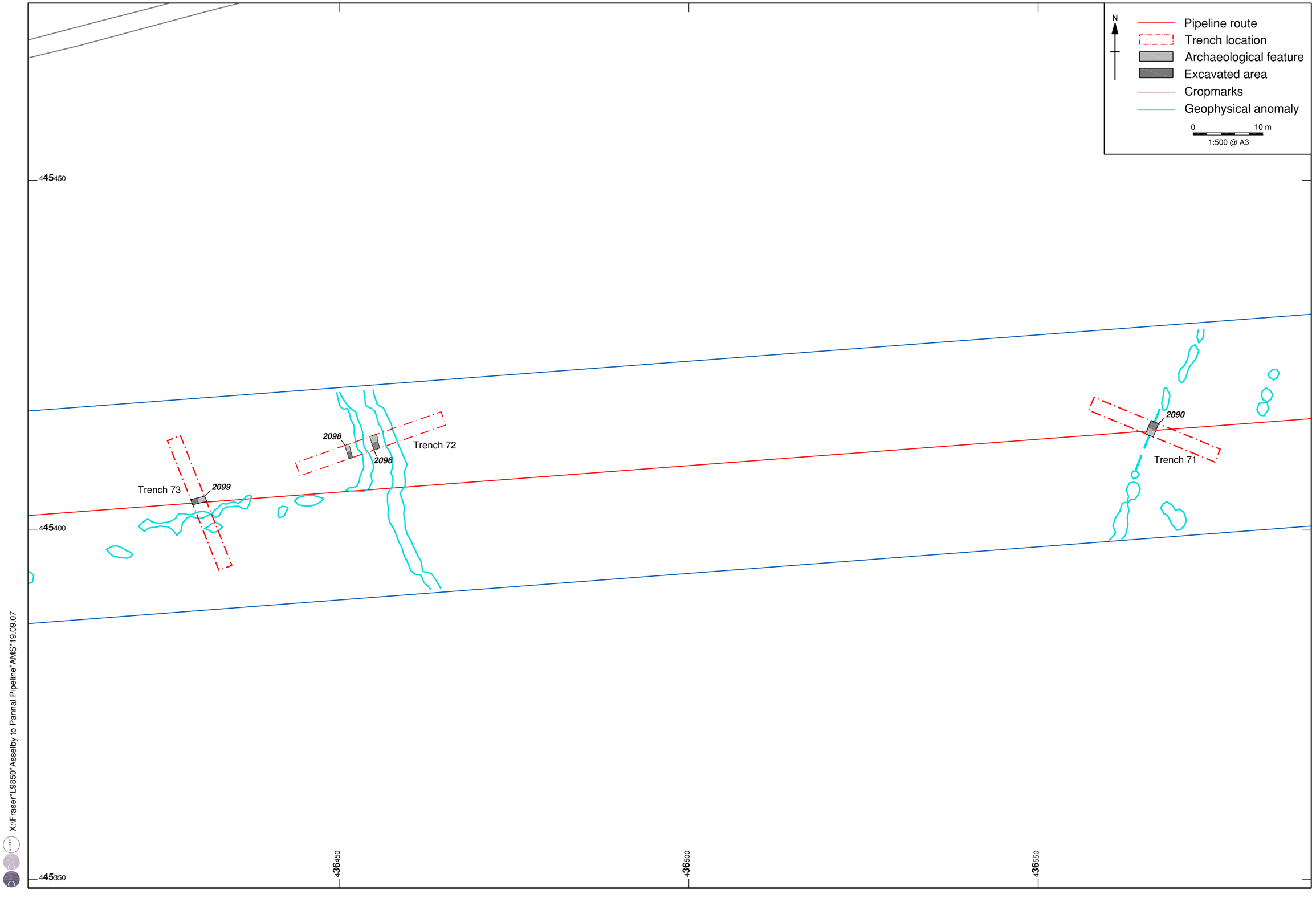

Figure 48: Package K - detail Trenches 71 - 73

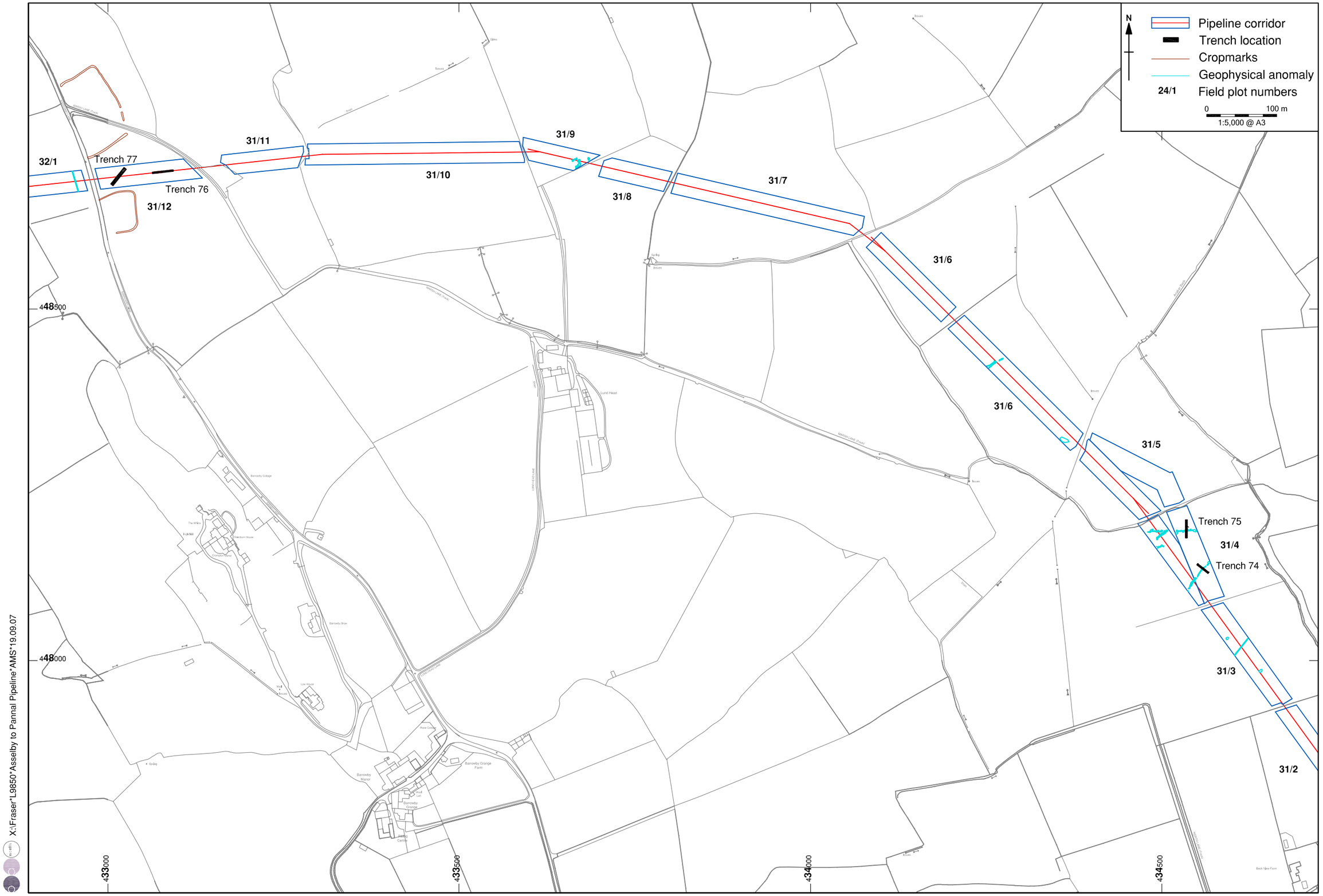

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Figure 49: Package L

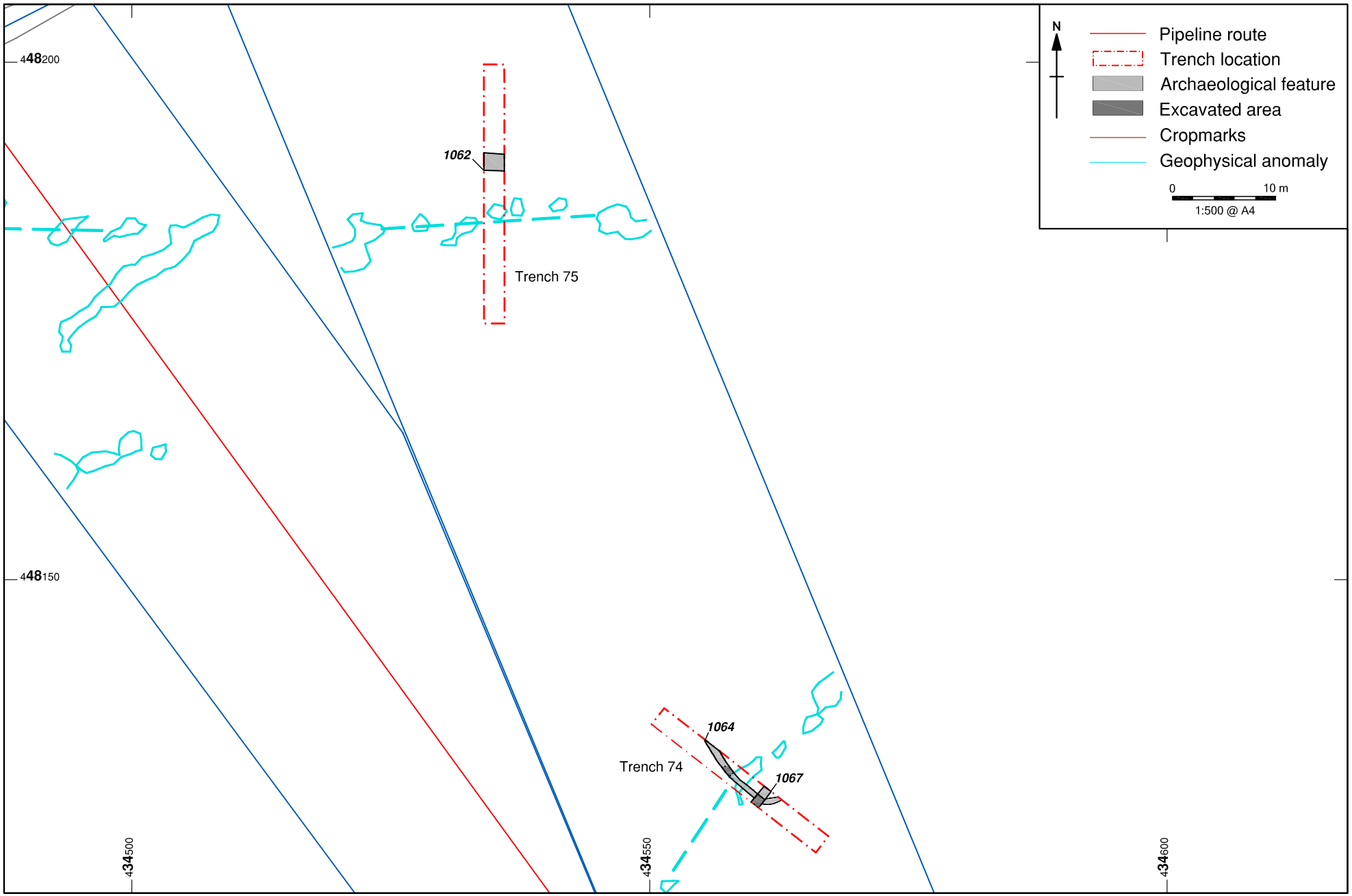

Figure 50: Package L - detail Trenches 74 - 75

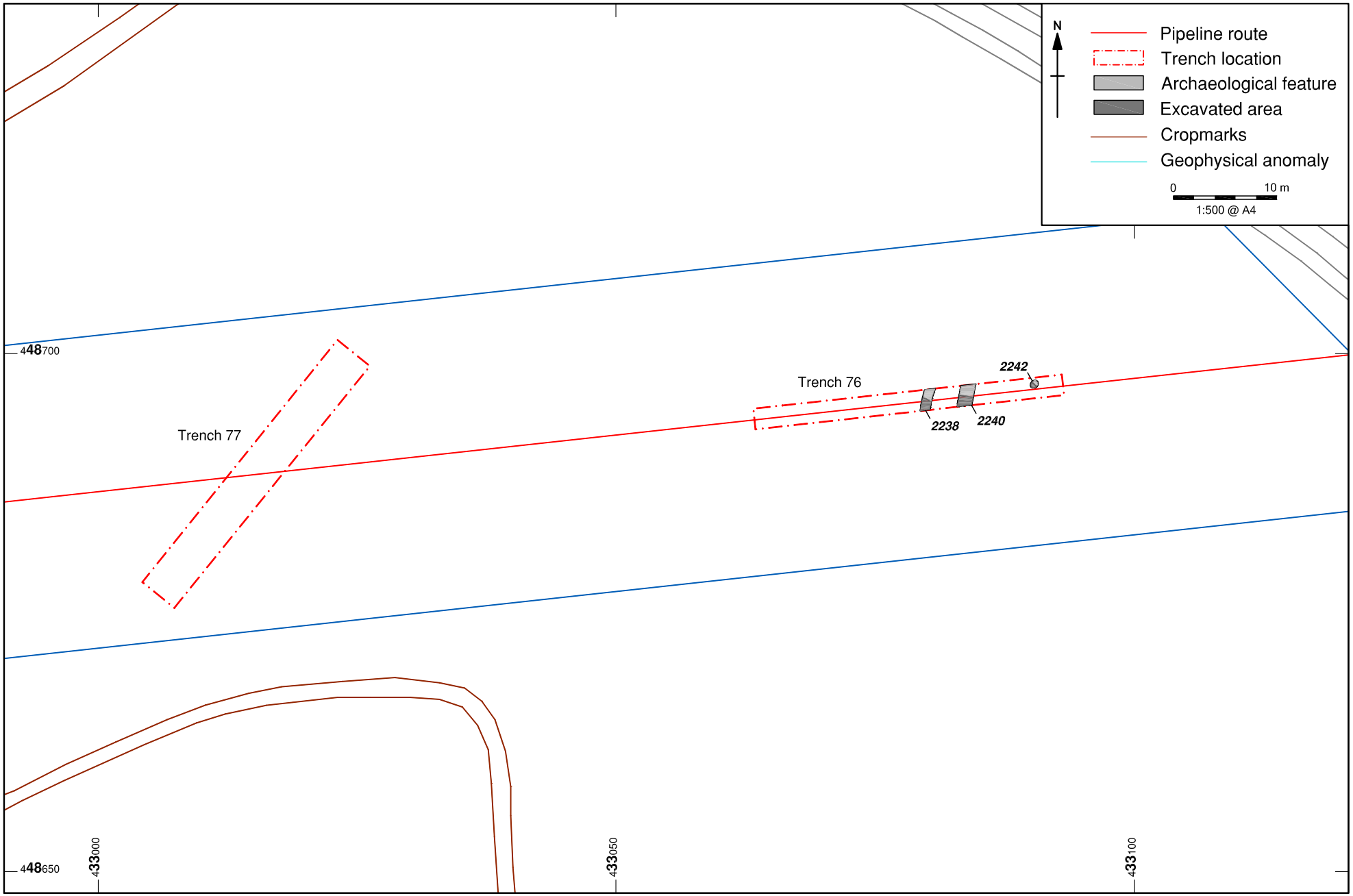

Figure 51: Package L - detail Trenches 76 - 77

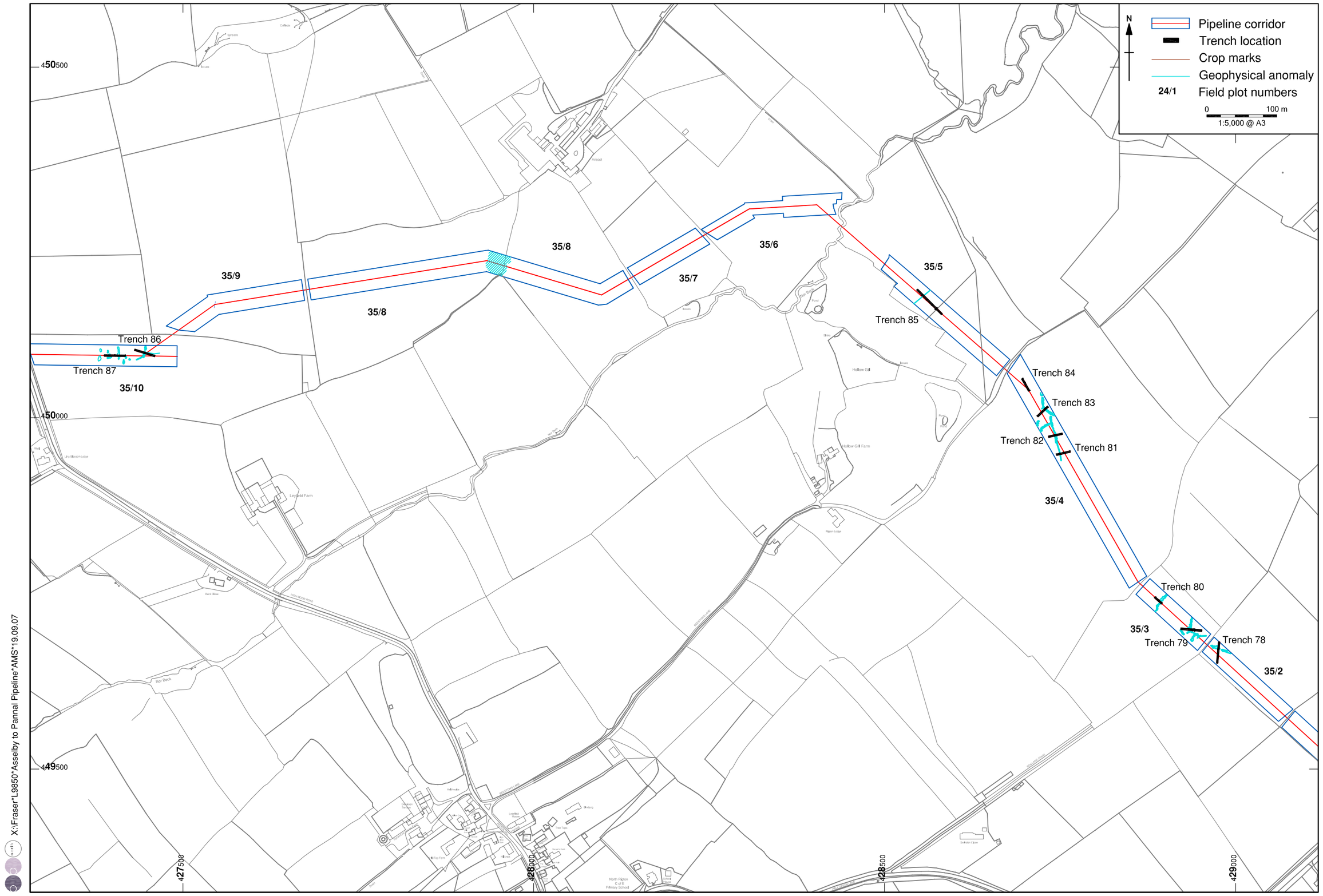

Figure 52: Package M

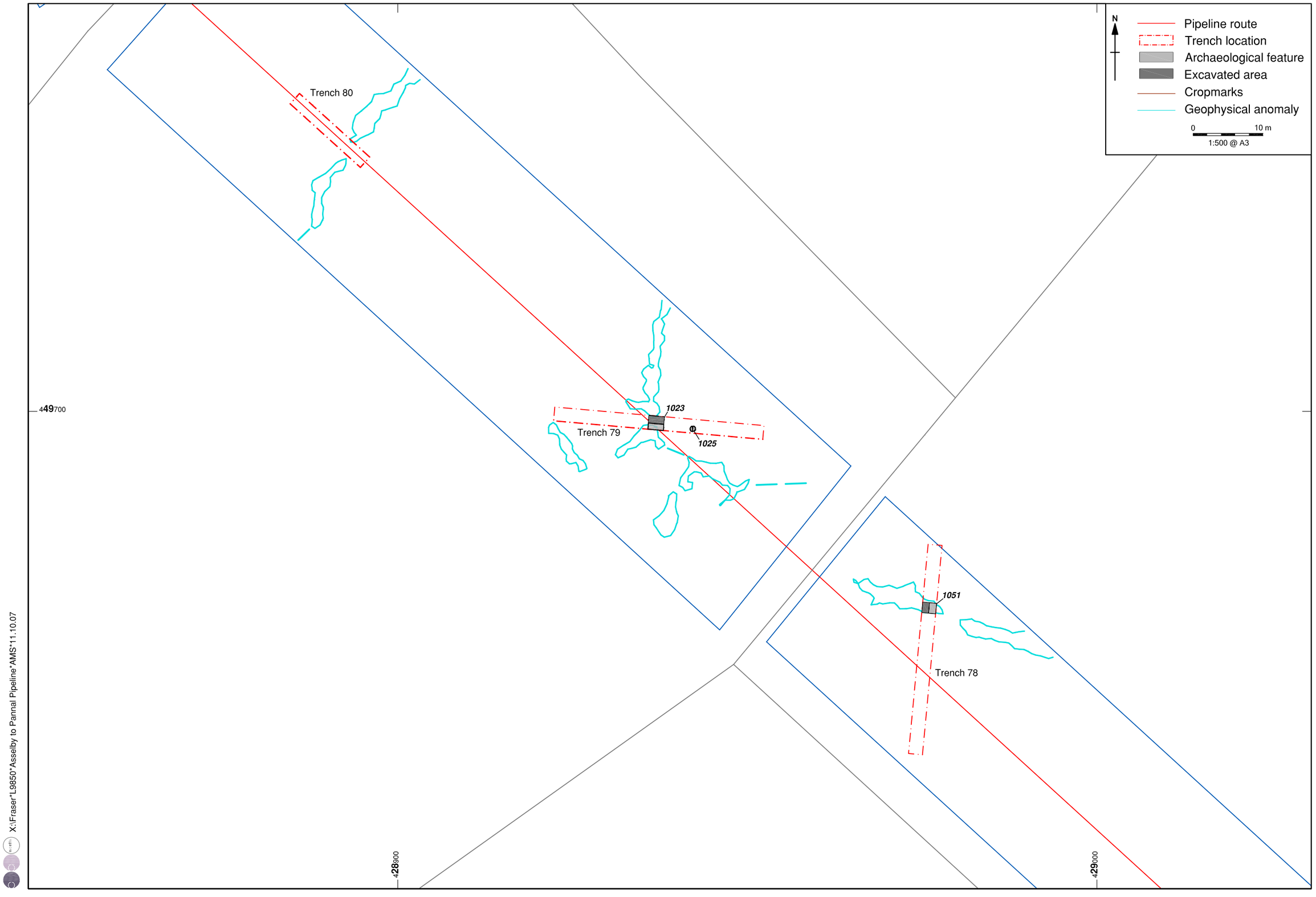

Figure 53: Package M - detail Trenches 78 - 80

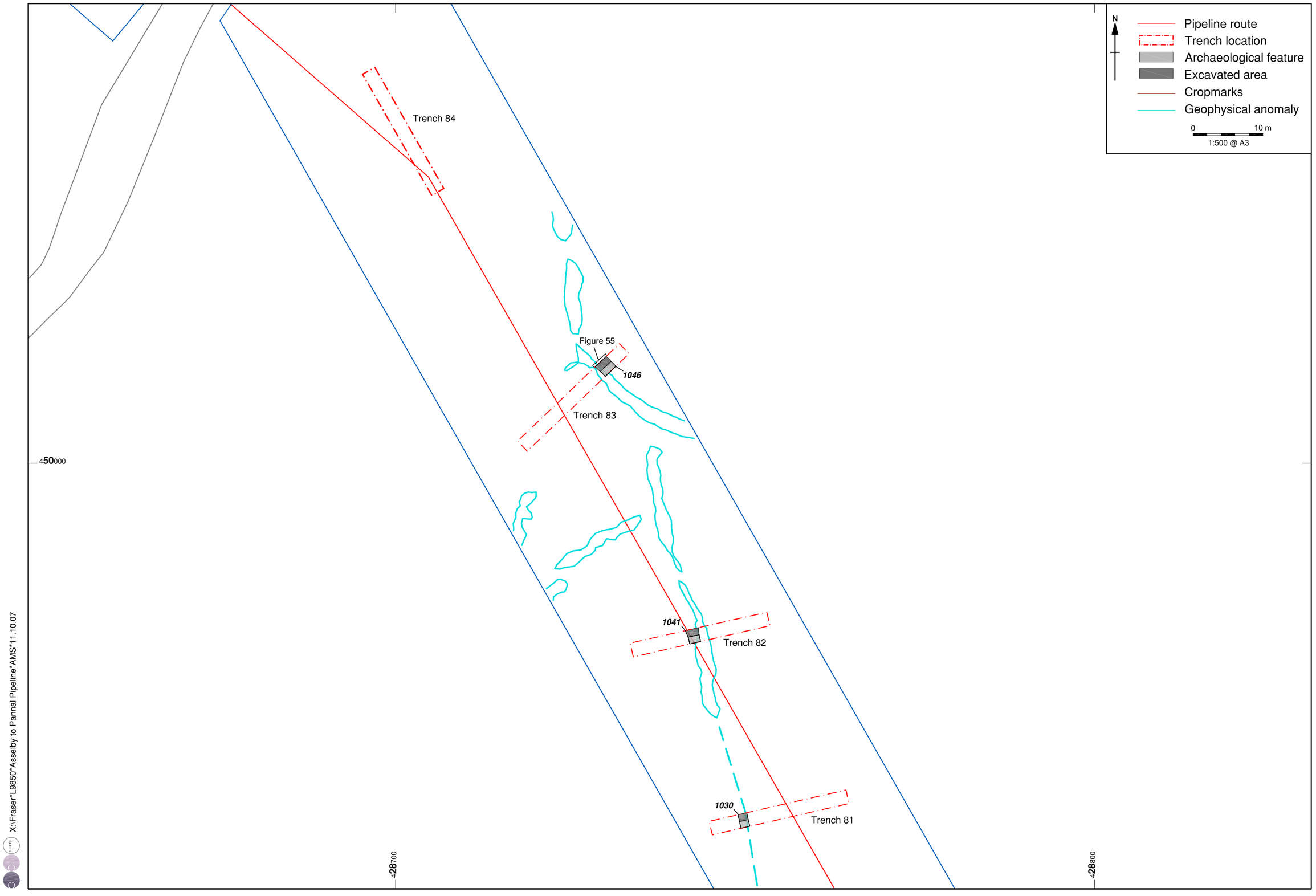

Figure 54: Package M - detail Trenches 81 - 84

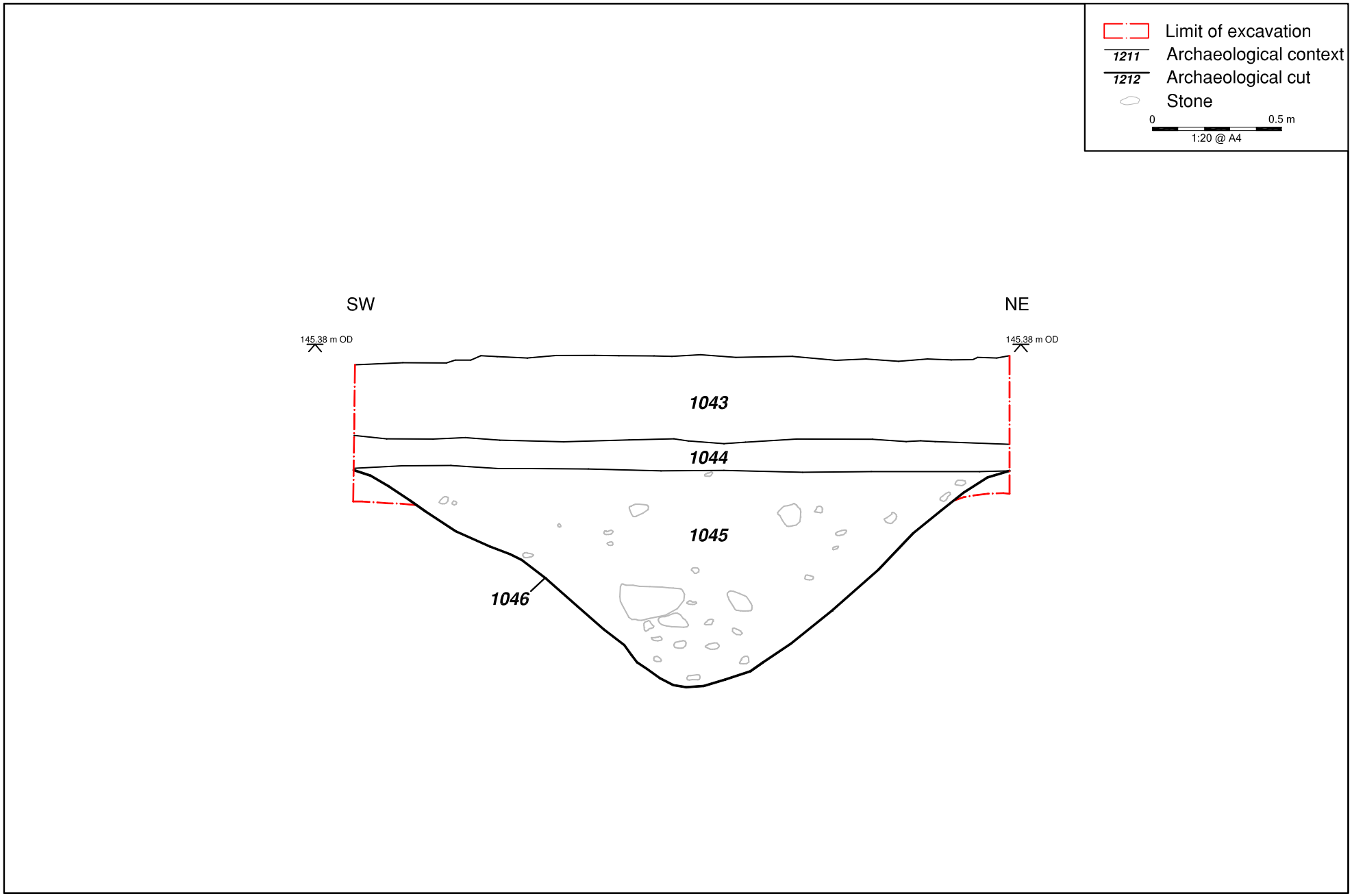

Figure 55: Trench 83, section through ditch ***1046***

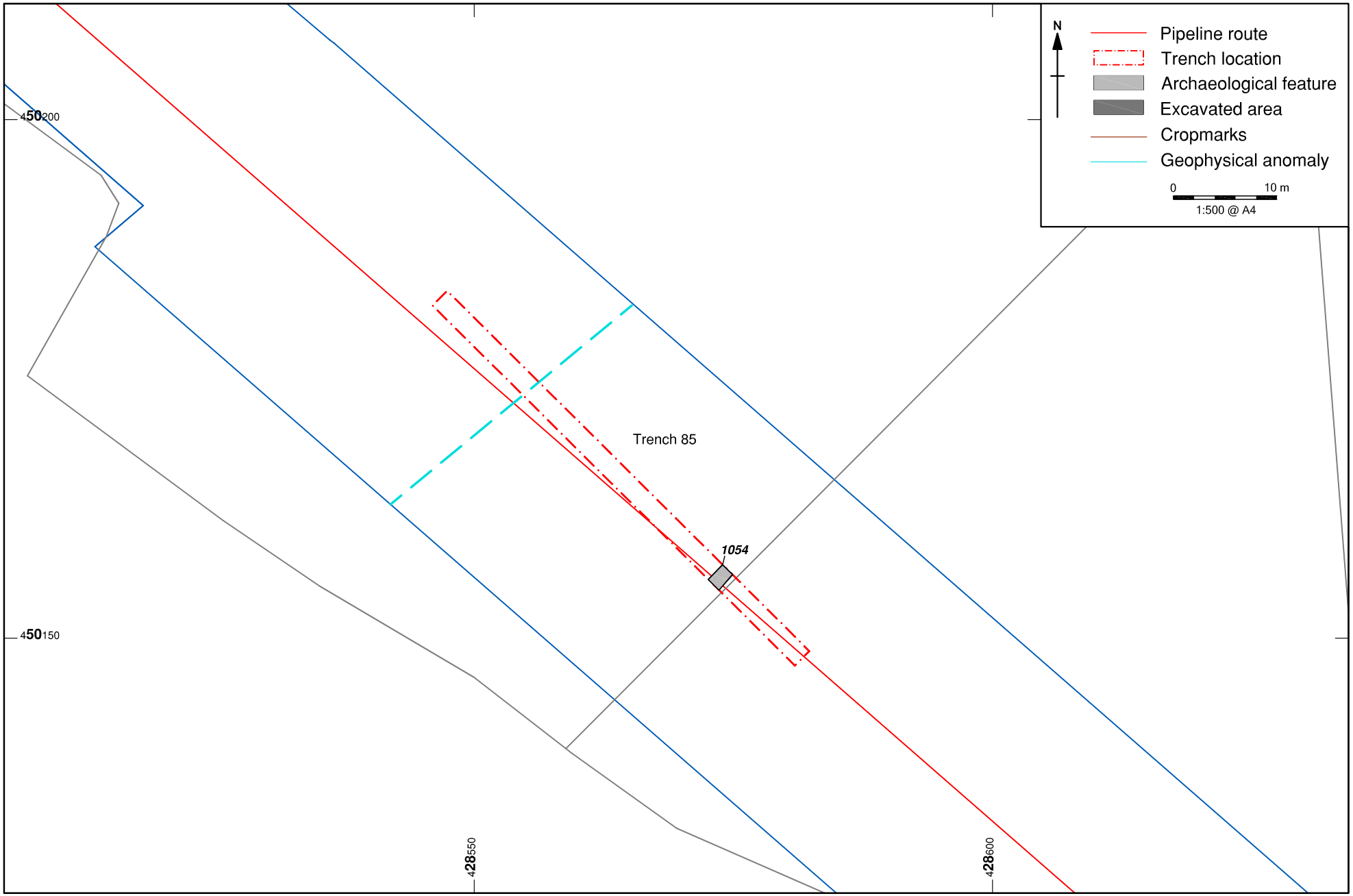

Figure 56: Package M - detail Trench 85

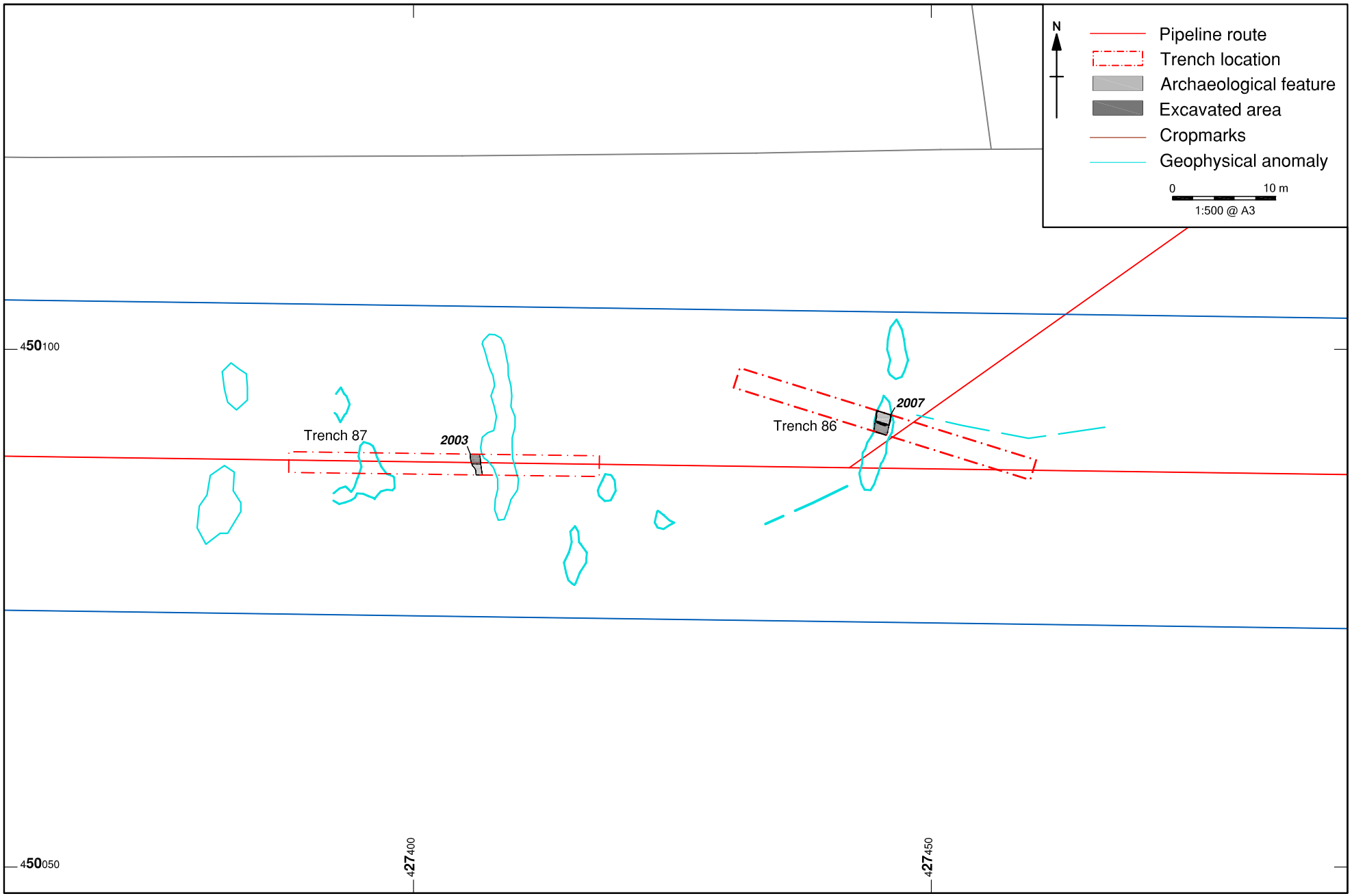

Figure 57: Package M - detail Trenches 86 - 87

Plate 1: Excavated intervention through ditch ***1018*** in Trench 3, on the Holocene alluvial geology

Plate 2: Excavated intervention through ditch ***2259*** in Trench 60, on the Magnesian limestone geology

Plate 3: Selection of late Romano-British pottery retrieved from deposit ***1142***, ditch ***1151*** in Trench 12

Plate 4: Key from deposit ***2062***, ditch ***2063*** in Trench 51

Plate 5: Oblique flint arrowhead from deposit ***2128***, ditch ***2129*** in Trench 40

Plate 6: Perforated rotary quern stone in deposit ***2076***, ditch ***2077*** in Trench 50