

EDF Energy plc - 610mm natural gas cross country pipeline from Grayingham, Lincolnshire to West Burton, Nottinghamshire

Results of archaeological evaluation by trial trenching at Knaith Park (SK846857) and Blyborough (SK927953), Lincolnshire

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**EDF ENERGY PLC – 610MM NATURAL GAS CROSS COUNTRY
PIPELINE FROM GRAYINGHAM , LINCOLNSHIRE TO WEST
BURTON, NOTTINGHAMSHIRE:**

**RESULTS OF ARCHAEOLOGICAL EVALUATION BY TRIAL
TRENCHING AT KNAITH PARK (SK846857) AND BLYBOROUGH
(SK927953), LINCOLNSHIRE**

**By Stephen Sherlock and Peter Cox with contributions by Jane Cowgill &
Alan Vince**

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SUMMARY

Eight evaluation trenches were excavated in September 2008 at two locations in Lincolnshire on the route of the proposed Grayingham to West Burton gas pipeline, to be constructed in 2009. At Knaith Park six trenches were excavated to test the results of geophysical survey and fieldwalking which had identified the presence of sub-surface magnetic anomalies and surface artefacts indicative of archaeological deposits at the site. Here trenches 3/4 and 6 revealed two discrete areas of burning containing much iron slag and associated material, considered to have resulted from iron smelting and smithing on the site. A small quantity of associated pottery suggests that the activity is of Romano-British or later date. At Blyborough the two trenches revealed no evidence for sub-surface archaeological deposits and the magnetic anomalies are believed to be of geological origin. The data gathered will be presented to the Lincolnshire County Archaeological Officer for clarification over any necessary mitigation required during construction

1. INTRODUCTION

1.1 This report has been prepared by AC archaeology Ltd on behalf of EDF Energy PLC in accordance with a Pipeline Construction Authorisation (PCA), granted under the Pipelines Act 1962, for the installation of a 610mm pipeline from Grayingham, Lincolnshire (SK934953) to West Burton, Nottinghamshire (SK802858). The route is shown on Fig. 1. It is proposed that construction of the pipeline will commence in Spring 2009.

1.2 The report presents the results of intrusive archaeological site investigations undertaken at two locations that have been identified as being of archaeological potential. The locations were identified in the Archaeological Scheme of Investigation agreed with Lincolnshire County Council (AC archaeology 2008) and arrangements subsequently confirmed in the project design (AC archaeology 2008a).

2. ARCHAEOLOGICAL BACKGROUND

2.1 The pipeline at Knaith Park runs close to Heynings Priory which is a Cistercian nunnery founded after AD1135 and includes a precinct moat, fishponds, leats, buildings and a hollow way. Linear and curvilinear cropmark features, that are possibly associated with the Priory, have been recorded across a broad zone to the west and northwest of the site. Heynings Priory is a Scheduled Monument. Previous surveys of the pipeline route here have comprised both a recorded geophysical survey by gradiometer (GSB 2007)

and fieldwalking (AC archaeology 2007). The results of the geophysical survey are included on Fig. 2 and include several spreads of magnetically enhanced material consistent with burning. The fieldwalking recovered small quantities of worked flint, Romano-British and Medieval pottery and a single piece of slag from the vicinity of the magnetic anomalies.

2.2 The pipeline route at Blyborough crosses close to the recorded sites of several ploughed out barrow (prehistoric burial) sites. Geophysical survey by gradiometer recorded a small number of magnetic anomalies in the pipeline route that are considered to be of potential archaeological origin.

3. METHODOLOGY

3.1 The work was undertaken in accordance with a project design (AC archaeology 2008a) submitted and approved by the Lincolnshire County Archaeological Officer (LCAO). The evaluation comprised the machine-excavation of eight trenches. Each trench measured 20m x 1.6m. Ordnance Survey coordinates were calculated for each trench. The position of each was located using a GSM2 GPS receiver and marked on the ground using spray paint or temporary pegs. The location of the trenches as excavated is shown on Figs. 2a & 2b.

3.2 The trenches were initially cut using a tracked excavator with a toothless ditching bucket. The topsoil was removed under archaeological supervision onto the subsoil horizons and all layers were recorded on a trench pro-forma sheet. Archaeological horizons were excavated by hand and all the spoil heaps were scanned for the recovery of artefacts.

3.3 All artefacts or deposits revealed were recorded using the standard AC archaeology pro-forma recording system, comprising written, graphic and photographic records and in accordance with AC archaeology's General Site Recording Manual, Version 2. Site trench Plans were drawn at a scale of 1:50 whilst archaeological features were planned at 1:20 and sections drawn at a scale of 1:10. A representative section showing the full layer sequence in each trench was also produced. Levels shown are based upon a site ordnance datum. The archive has been prepared using AC archaeology code AC1123

4. RESULTS: KNAITH PARK

4.1 Trenches 1 to 6 were located along the route of the pipeline at Knaith Park and were sited to assess the results of the Geophysical and fieldwalking surveys.

Trench 1

4.2 Trench 1 was the most westerly trench nearest to a small stream, it was 20m long NE-SW and 1.60m wide. The removal of 0.28m of topsoil (101) exposed a fine, yellow-brown subsoil 0.09m deep over a natural sand horizon. There were no finds and no subsoil archaeological features within this trench. Modern land drains were present.

Trench 2

4.3 Trench 2 was aligned NW-SE and was offset from the centre of Trench 1 (Fig. 2a). The trench was 20m long and 1.60m wide. The topsoil (201) was a very sandy soil 0.40m deep, from which there were no finds. Beneath this horizon was a thin layer of sand and clay (202) 0.10m thick, above clean natural sand horizon. This trench had no finds and no subsoil archaeological features. Modern land drains were present.

Trench 3 (detailed plan: Fig. 3a)

4.4 Trench 3 was 20m long NE-SW and 1.60m wide. This trench contained four layers; (301) a fine silty loam topsoil 0.30m deep, (302) a dark brown subsoil 0.15m deep, both layers extended the full length of the trench. Layer (303) was an orange-brown compacted soil extending the length of the trench and overlay layer (304). Layer (304) was a black silty sand that contained some ironstone nodules. The layer was in the centre of the trench at the junction with Trench 4. There was no structural element or features associated with this layer. The layers in this trench are equivalent to contexts (401) to (403) in trench 4.



Plate 1: View of Trench 3 from SW showing extent of layer (304)

Trench 4 (detailed plan and section Fig. 3a – b)

4.5 Trench 4 was 20m long NW-SE and 1.60m wide. The trench contained six contexts and four features all at the eastern end of the trench adjacent to trench three. Layers (401), (402) and (403) were soil horizons that were a similar sequence of topsoil and subsoils as recorded in trench three as sequence (301) to (303). Layer (404) was a black silty sand that was cut by feature [410]. The cut of feature [410] contained a feature interpreted as a hearth-structure associated with the manufacture of iron. Three elements were identified in the evaluation. [407] was an alignment of ironstone/slag fragments NW-SE, 0.40m wide that extended across the western side of the trench. This alignment was repeated 2m to the east and formed the eastern side of the hearth structure. In the centre of the hearth were larger fragments of approximately 0.40m x 0.50m, this is considered to be the furnace bottom. The full structure was recorded as [409], an ironworking furnace with dimensions of 1.60m N-S and 2.50m E-W, in a cut feature [410] that was 0.17m deep (Fig. 4). Fragments of the ironworking debris were collected for analysis from this feature.

hearth?
JC's 6.9.
burning?

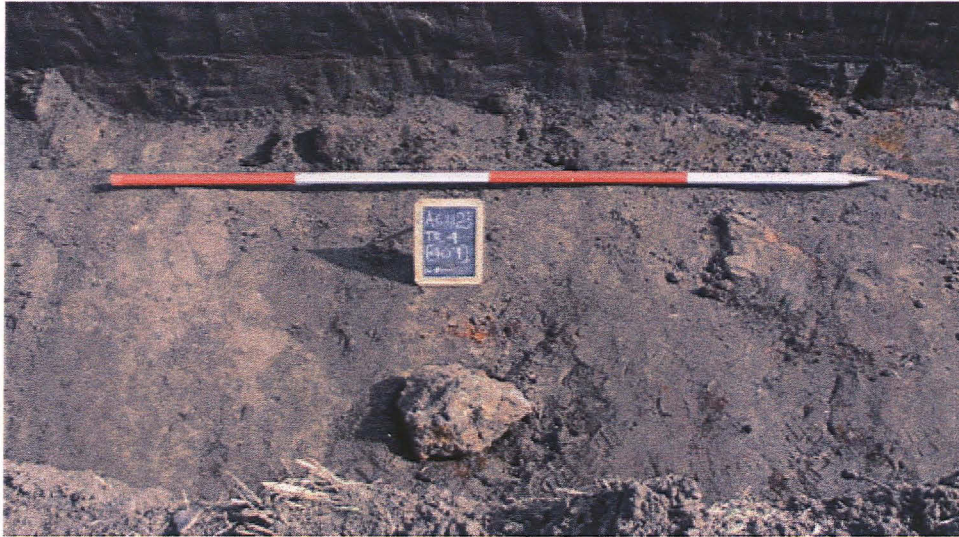


Plate 2: Trench 4 showing detail of ironworking debris in situ within F410

Trench 5

4.6 Trench 5 was 20m long NE-SW and 1.60m wide. The topsoil (500) was a dark brown silty sand 0.40m deep. Beneath the topsoil was an orange-brown sandy subsoil 0.40m deep recorded as (501). A yellow-orange sand (502) considered to be the natural geological horizon was cut by a field drain [503] that crossed the trench aligned E-W. There were no finds and no subsoil archaeological features within this trench.

Trench 6 (Detailed plan and section Fig. 3c-d)

4.7 Trench 6 was 20m long aligned NW-SE and 1.60m wide. The SE end of the trench was offset from the centre of Trench 5. The trench contained a topsoil horizon (601) and a subsoil (602) the same as all other trenches. Layer (603) was a sandy-clay 4.20m long (NW-SE) that contained many pieces of slag considered to be associated with ironworking. This layer (603) was 0.20m deep and as well as the large amount of metalworking debris there were three sherds of Romano-British pottery. A section 0.30m wide and 4m long was excavated across this layer, this exposed a feature [F604] considered to be a bloomery-hearth used in ironworking. The full structure was 1.40m wide, but the core of the iron bloom was 0.30m wide in the centre. The feature extended beyond the trench to the NE unexcavated area masked by layer (603). In addition to lumps of slag there were two further fragments of burnt ironworking debris associated with the hearth that were left in-situ.

Je - no structure?



Plate 3: Trench 6 showing the ironworking bloomery against the east side of the trench

5. RESULTS: BLYBOROUGH

5.1 Trenches 7 and 8 were located at Blyborough where geophysical survey had identified possible subsoil features.

Trench 7

5.2 Trench 7 was 20m long, (N-S) it was 1.60m wide (E-W) and was in a recently ploughed field that sloped away to the NE. The topsoil, layer (701) was a grey-brown ploughsoil 0.40m deep. Beneath this was a pale-yellow fine clay (702), it was 0.10m deep over the natural sand. At one point in the trench was a fine clay band 0.60m wide, it was

geological and may have formed that anomaly that was recognised on the geophysics. There was no subsoil archaeological features. Finds were recovered from the ploughsoil only.

Trench 8

5.3 Trench 8 was 20m long (N-S) and 1.60m wide (E-W) in a ploughed field. The top layer (800) was 0.44m deep, it was a silty dark brown ploughsoil. Beneath this was a reddish light brown sandy clay (801), 0.10m deep. There were some fragments of manganese at the north end of the trench, these may have provided a geophysical signal. Two plough scars were visible aligned N-S along the length of the trench, several pieces of unworked flint, medieval pottery and three pieces of ceramic burnt material was found amidst the ploughsoil. The pottery was retained. There were no subsoil archaeological features present in this trench.



**Plate 4: View of Trench 8
looking north**

6. THE FINDS

6.1 The limited number of finds recovered on site has been retained, cleaned and marked where appropriate. Finds have been quantified according to material type within each context and scanned by context to extract information regarding the range, nature and date of artefacts represented. This information is briefly discussed below. Finds are discussed by material type, summarising the nature, date range and condition of the artefacts. The material covers a broad date from possible prehistoric to the Medieval period, with material from the Romano-British period being most numerous.

Ceramic Building Material

by Alan Vince

6.2 A minute chip from topsoil context (301) in Trench 3 has been identified as being ceramic building material. It is too small to identify the fabric, form or date.

The pottery

by Alan Vince

6.3 The pottery indicates some activity in the area in the prehistoric (or early to mid Anglo-Saxon) period and in the Roman period (probably towards the later end of the period). Two medieval sherds are probably present as a result of manuring, indicating that the site was ploughed in the medieval period.

Table 1: summary of ceramic finds by context and type

Context	Trench	Class	Cname	Form	Weight	Condition
301	TR3	CBM	CBM		0.1	TINY CHIP
301	TR3	POTTERY	GREY	BOWL/JAR	4	
603	TR6	POTTERY	GREY	-	10	
603	TR6	POTTERY	SHELL	-	2	VABR
603	TR6	POTTERY	GREY	BOWL?	30	ABR
800	TR8 CLEARANCE	POTTERY	IASST		2	VABR
800	TR8 CLEARANCE	POTTERY	LSW2	JUG	2	VABR
800	TR8 CLEARANCE	POTTERY	GREY	-	0.5	VABR
800	TR8 CLEARANCE	POTTERY	LFS	-	2	VABR
800	TR8 CLEARANCE	POTTERY	GREY	-	17	

Prehistoric or Early to Mid Anglo-Saxon pottery

6.4 A single heavily abraded fragment from topsoil context (800), in Trench 8, covered with iron-rich concretion, appears to be prehistoric pottery (IASST). The fabric contains moderate angular fragments of sandstone up to 2.0mm across but is completely

featureless and cannot be closely dated. At Dragonby, situated about 20 kilometres to the north, most of the late Iron Age pottery was of shell-tempered types of a much finer character and this suggests that the sherd is actually of an earlier date (May 1996). Alternatively, the sherd might be of early to mid Anglo-Saxon date, and the poor condition of the sherd explained as being due to being present in ploughsoil.

Roman pottery

6.5 Six sherds of Roman pottery were recorded. These were mainly of wheelthrown greywares (GREY) which, at x20 magnification, could be seen to be tempered with a rounded quartz sand, in which most of the grains are well-rounded with a matt surface. This is typical of Trent valley terrace sands and of the greywares produced at various sites in the lower part of the valley, the closest to the pipeline being at Knaith.

6.6 A single sherd contained voids from the presence of coarse fragments of shell, together with sparse grains of rounded quartz similar to those in the greywares

6.7 The (SHEL) type is found in Lincoln, where it can be seen that the most common form is the lid-seated jar, which would allow the vessel to be classified as Dales ware (Loughlin 1977). However, unlike most Dales ware, these coarse, slightly sandy vessels are mainly of 4th century date (Darling and Precious forthcoming).

Medieval pottery

6.8 Two sherds of pottery of medieval date were recovered from topsoil context (800) in Trench 8. Both were very abraded. One is a shell-tempered ware, in which all of the shell inclusions have been leached and are now represented by voids, and the other is a wheelthrown glazed ware. Both have been identified as types found in Lincoln, but their condition means that these attributions should be treated with caution (Young and Vince 2005, LFS and LSW2).

The ironworking slag

by Jane Cowgill

Introduction

6.9 In trenches 4 and 6 evidence for iron smelting and smithing was recovered associated with subsoil features. The features were all too large to be hearths or furnaces, the latter commonly have an internal diameter of 0.30m.

Recording Methodology

6.10 A total of c. 36.73kg (155 pieces) of smelting slags and associated finds were submitted for recording (Table 2). The slag was identified solely on morphological grounds by visual examination, sometimes with the aid of a x10 binocular microscope. It was recorded on pro forma recording sheets and the information entered into a Microsoft Access database using the following encoded fields: Site; Context; Type; Count; Weight; Craft; Fuel; Condition; Comments. A note of probable fuel type has been recorded when fragments or imprints were incorporated within the slag. The soil in the bags containing the slag was washed and checked with a magnet for hammerscale, the results have been recorded under 'type' as magnetic matter. The catalogue forms Appendix 1.

Table 2: summary of Appendix 1

Type	Count	Weight
Evidence for iron smelting		
Block slag	6	26361g
Furnace remains	6	332g
Slag	57	3127g
Tap	28	4970g
Evidence for iron smithing		
Hammerscale	1	92g
Magnetic matter	-	16g
Slag	5	1047g
Non-specific evidence		
Concretion	35	55g
Ironstone	1	179g
Tuyere	2	137g
Vitrified clay	14	417g

Discussion

6.11 The slags are the by-products of both iron smelting (the production of iron metal from a suitable ore) and the smithing of the resultant bloom into a bar of iron (primary smithing) and possibly further smithing the iron into an artefact (secondary smithing). Although this latter stage is unlikely to have occurred at a smelting site. Visually the slags can be divided into two groups, although they are likely to be the by-products of a single industry. The flowed tap slags are generally in a fresh condition, well preserved but are a brownish colour, rather than being an expected glossy black. The large blocks of slag and associated pieces, however, are generally a mid grey to brown colour and have 'leached' soft, powdery surfaces that are easily scratched with a finger nail. Many are coated in an iron-rich concretion that is an orange- brown rusty colour and some have an iron-panned surface, which has formed on the lower side when buried (not necessarily the base when formed). Iron slags are generally considered to be very stable but these have evidently been in conditions that have seriously affected the slag surfaces, possibly a fluctuating water table. The differences displayed by the two types of slag is unusual as they should metallurgically be identical in composition but this may relate to the amount of metal iron contained within them.

6.12 The slags suggest that the iron was being smelted in some type of pit furnace where the slag collected in a pit below the working furnace, rather than being tapped into a hollow alongside it. All the flowed pieces are vertical flows, there are no true 'cakes', or fragments of them, amongst this assemblage that would indicate a slag-tapping furnace was used. The large blocks with flattish tops and curved sides are also indicative of pit furnaces. There is therefore a good chance that some of the furnace structure may have survived, even if only the below ground element, as the pits below the furnace can be quite deep (see for example Jackson and Ambrose 1978).

6.13 Hammerscale, a by-product of iron smithing, was found in the soil bagged with the slag and as a concreted lump (context 603) which may be from a smithy floor. Spheroidal scale can dominate the hammerscale assemblage from a smelting site, but this is not the case in this instance, reinforcing the fact that this is both a smelting and smithing site.

6.14 There are two fragmentary tuyeres or furnace air holes with further possible pieces recorded as vitrified clay. They are all made from a very sandy fabric. No rim diameters or air holes were measurable but on one (context 405) they were 50mm apart.

6.15 Pit furnaces are usually Iron Age to Early Roman in date, although the possibility that some could be Saxon cannot entirely be ruled out. Block slags have been recorded from a number of sites in South Yorkshire (for example Halkon and Millet 1999 and McDonnell 1988) and from around Doncaster (Cowgill 2001) but none have been recorded from North Lincolnshire. There is also no record of smelting sites existing in the vicinity of Gainsborough on the Historic Environment Record, Lincolnshire County Council, although a very large Roman iron smelting industry appears to have flourished in Market Rasen contemporaneous with a pottery production industry just a few kilometres to the east.

7. COMMENT

Knaith Park

7.1 Although there has been a slight adjustment to the pipeline route since the original geophysical survey (Fig. 2a) the ironworking activity in trench 3 (and trench 1) appears to coincide with a an area of magnetic enhancement recorded by gradiometer. This area was also noted during the fieldwalking survey to exhibit a darker soil colouration and may therefore define the extent of the ironworking activity.

7.2 The discovery of the possible Romano-British ironworking at Knaith Park adds to a corpus of 228 Roman iron production sites that have been recognised in a recent study (Schrufer-Kolb 2004, 37). Excavations at Dragonby (May 1996) recorded slag and hearth lining material dating from the late Iron Age through to the Late Roman period. There were not many features to support the assertion that smithing was occurring at Dragonby although a possible ore roasting furnace was noted (May 1996, 608). In this context the discovery of possible ironworking hearths and smithing evidence at Knaith Park is significant. The low occurrence of datable finds may require radiocarbon determination(s) to confirm the date of the activity at Knaith Park.

7.3 The East Midlands Archaeological Research Framework for Roman Lincolnshire (Bennett 2006) records iron smelting at Hiboldstow, Sapperton and Creton, but there has been little systematic recording along the limestone ridge. The more recent atlas of Roman rural settlement (Taylor 2007) records three areas of Roman ironworking at: the Weald, Forest of Dean and the Jurassic ridge north from Northamptonshire. Taylor's map (ibid fig 4.12, p37) suggest the main focus of ironworking is found further south than the Knaith Park discoveries. The potential site at Knaith Park can provide additional information about ironworking in Lincolnshire during the Roman period.

7.4 The archaeologically significant deposits at Knaith Park are at depths (600mm+) that would not normally be affected by the pipeline's construction. Only along the actual pipe trench would subsoil deposits be totally removed and these might be recorded during the archaeological monitoring of the pipeline's construction.

Blyborough

7.5 At this site there appears to be no direct correlation between anomalies recorded in the geophysical survey and actual subsoil features (Fig. 2b). There appears to be no significant archaeological deposits at this location although the general vicinity is known to contain prehistoric remains. These might be recorded during the archaeological monitoring of the pipeline's construction.

Conclusion

7.6 The results will now be presented for review with the LCAO as per section 4.1.1 of the approved Scheme of Investigation (AC archaeology 2008).

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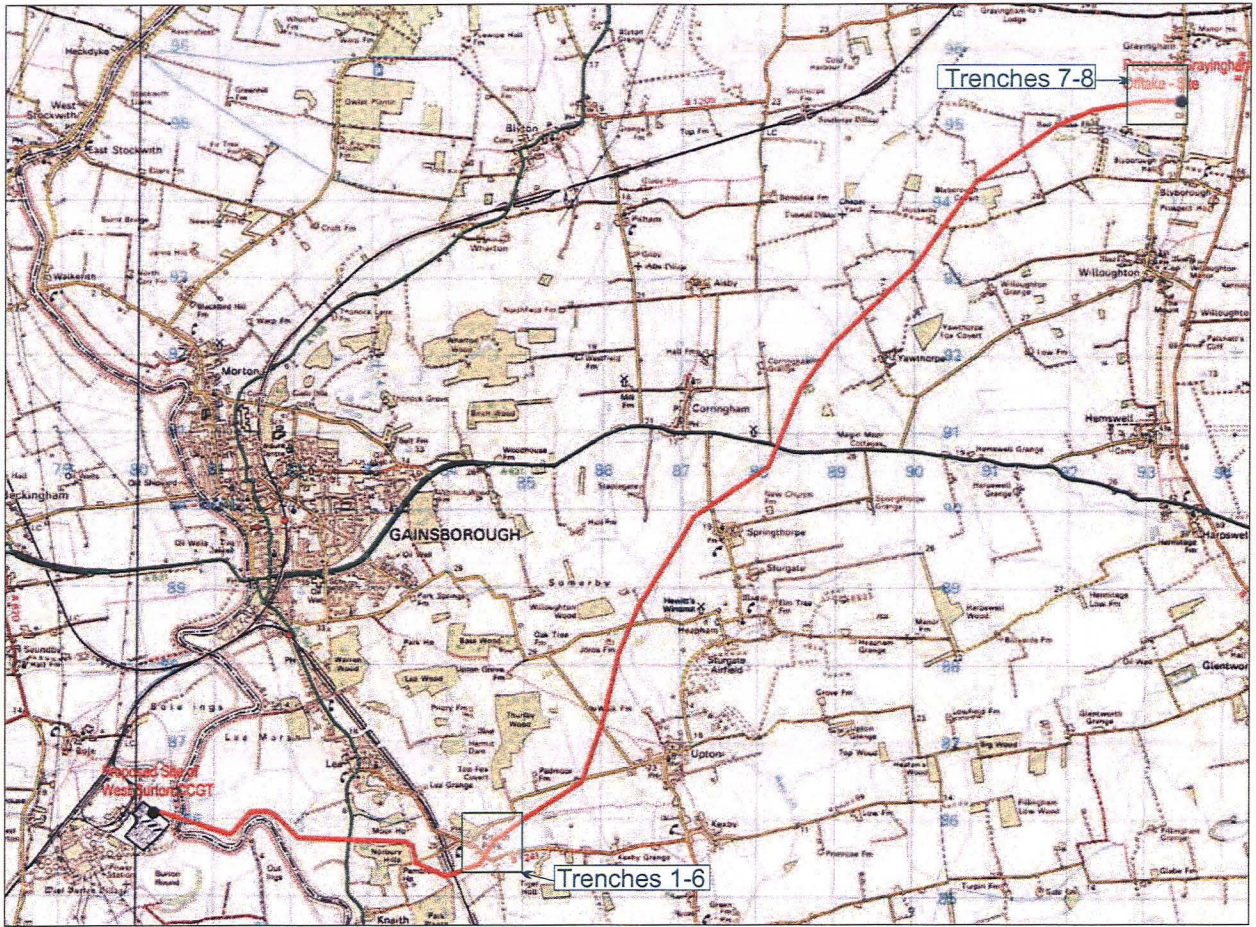
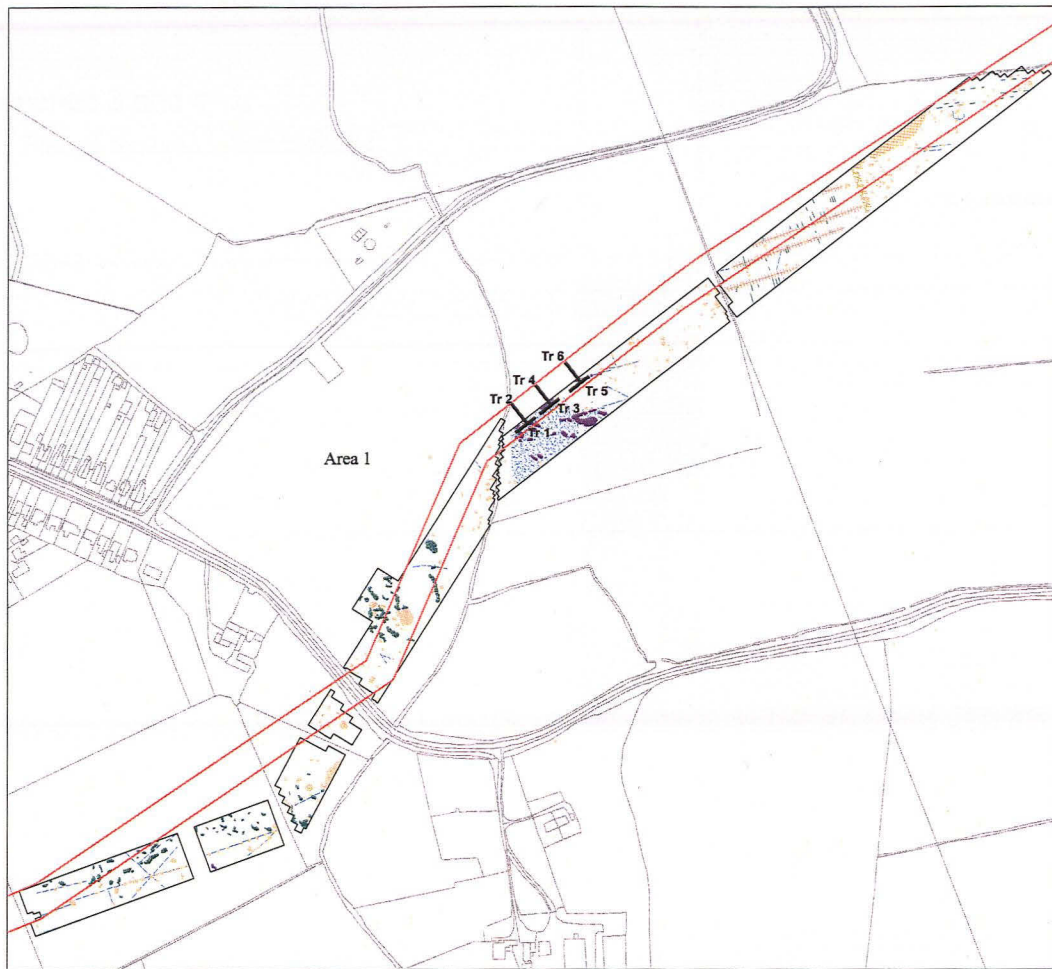
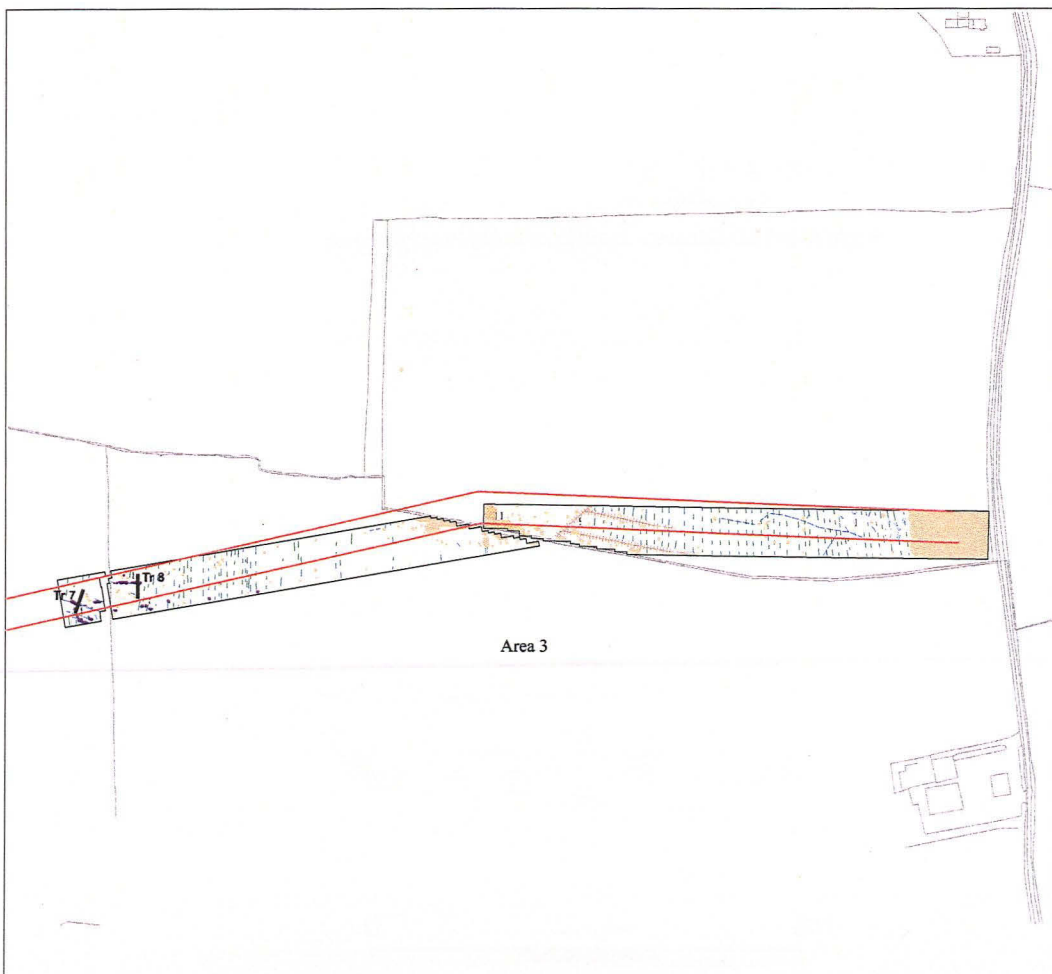


Fig. 1: Location of evaluation sites



a) Trench locations 1-6

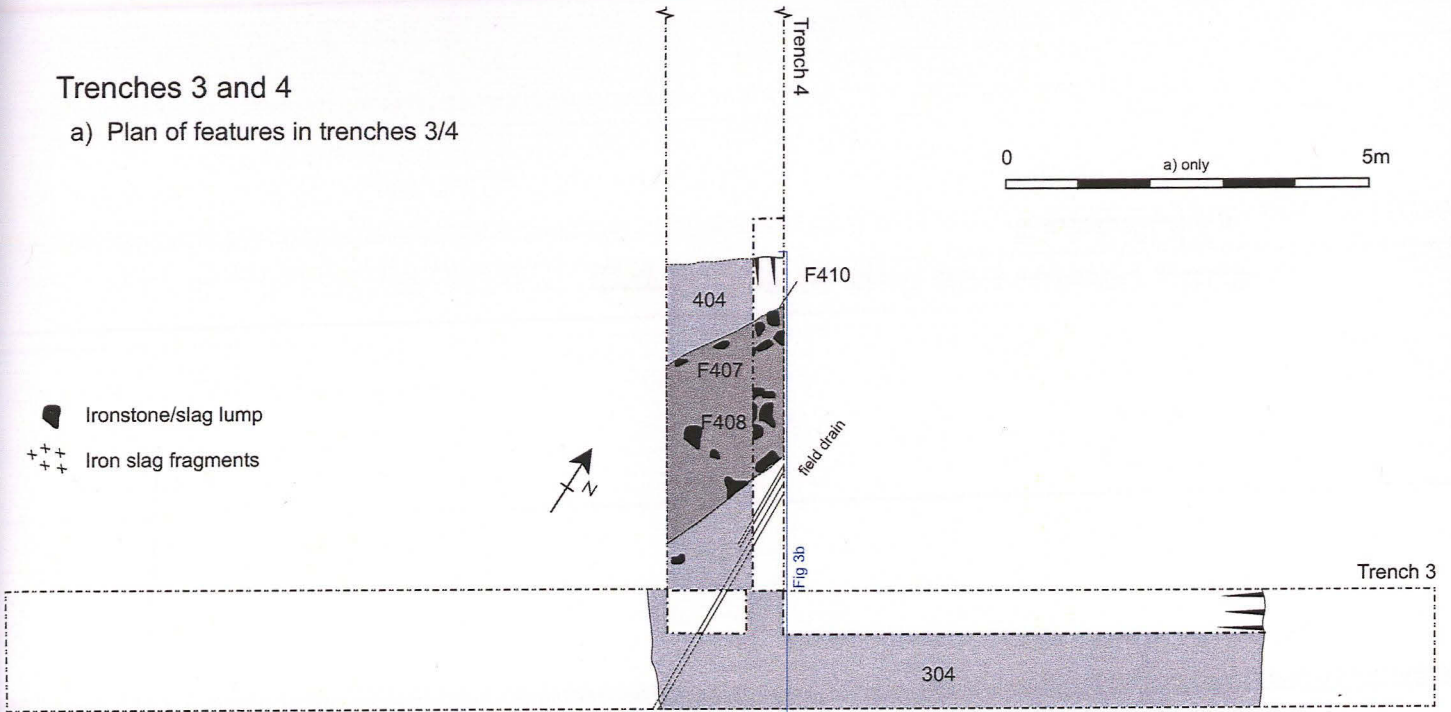


b) Trench locations 7-8

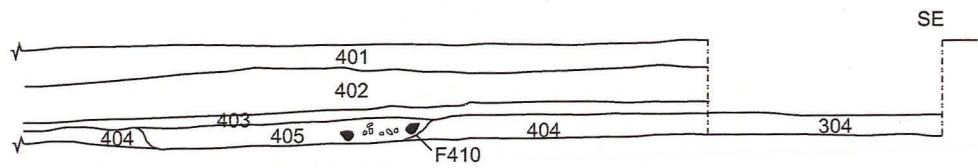
Fig. 2

Trenches 3 and 4

a) Plan of features in trenches 3/4

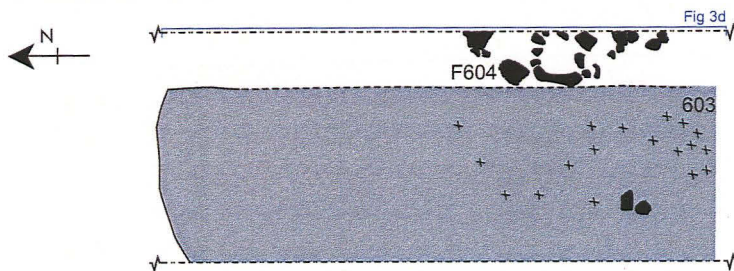


b) Section of Trench 4



Trench 6

c) Plan of feature F604 in Trench 6



d) Section through feature F604

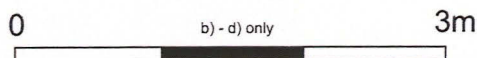
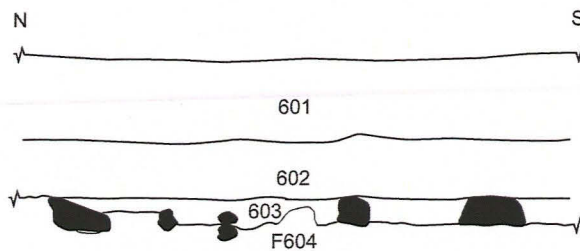


Fig. 3

APPENDIX1:
Catalogue of slag and related finds

Appendix 1. The catalogue of the slag and related finds from the West Burton Pipeline Evaluation

Context	Type	No	Weight	Craft	Fuel	Condition	Comments
405	BLOCK	1	3275	FESMELT	CHARC	VLEACHED	MID-DARK GREY AND POWDERY SURFACE; METALLIC SHINEY SURFACE FLAKING OFF (MAGNETIC) - MOST MISSING; WHEN BURIED LOWER SURFACE PANNED
405	BLOCK	1	9600	FESMELT	CHARC	VLEACHED	ENCRUSTED BROWN/ ORANGE CONCRETIONS; ?ORIENTATION BUT ?FLATTISH TOP WITH LARGE DIAMETER; FLOWS ON BASE; HEIGHT: 180MM; POWDERY SURFACE; LARGE CHARC IMPRINTS; WHEN BURIED LOWER SURFACE (ORIGINALLY SIDE) PANNED
405	CONCRE	35	55				SANDY BROWN/ ORANGE CONCRETIONS FROM SLAG
405	FURN?	2	56	FESMELT	CHARC		RUSTY BROWN/ ORANGE COLOUR
405	MAGMAT	0	4				MOST CORROSION PRODUCTS; 1 X SPHEROIDAL HAMMERSCALE
405	SLAG	20	1516	FESMELT		VLEACHED	MID/DARK GREY COLOUR; SOME ENCRUSTED BROWN/ORANGE CONCRETIONS
405	SLAG	29	247	FESMELT			ALL ENCRUSTED BROWN/ORANGE CONCRETIONS
405	TAP	1	11	FESMELT		VLEACHED	MID GREY COLOUR
405	TUYERE	1	118	FESMELT			REDUCED FIRED BACK; VERY SANDY; RIM TO AIR HOLE 50MM
405	VITCLAY	11	94	FESMELT			AIR HOLE/ TUYERE? VERY SANDY
406	SLAG	1	118	FESMELT		VLEACHED	PROBABLY ABRADED; ENCRUSTED BROWN/ ORANGE CONCRETIONS; MID GREY/ BROWN POWDERY SURFACE
603	BLOCK	1	1285	FESMELT		VLEACHED	PROBABLY ABRADED; ENCRUSTED BROWN/ ORANGE CONCRETIONS; MID-DARK GREY POWDERY; NO SURVIVING SURFACE
603	BLOCK	1	2935	FESMELT	CHARC	FRESH	MASS OF FLOWS; CURVED SIDE MOULDED IN A BOWL SHAPE; FLATTISH TOP; CRESENT SHAPE PIECE FROM TOP VIEW
603	BLOCK	1	3713	FESMELT		VLEACHED	TOTALLY ENCRUSTED BROWN/ ORANGE CONCRETIONS; FLAT TOP/ ROUNDED BASE? HEIGHT: 90MM; DIAMETER?
603	BLOCK	1	5553	FESMELT	CHARC		TOTALLY ENCRUSTED; ABRADED OR BADLY LEACHED? BROKEN IN TWO - EVEN CORE MATT; ORIENTATION? LARGE CHARC INCLUSIONS; LOWER SURFACE WHEN BURIED PANNED
603	FURN	4	276	FESMELT	CHARC		LOTS SMALL VOIDS; LOTS CHARC IMPRINTS
603	HAMMS	1	92				MASS HAMMERSCALE - CONCRETED FLOOR? MAGNETIC; SHOW TO FIELD STAFF**
603	IRONSTONE	1	179				
603	MAGMAT	0	12				MOST SLAG FLAKES FRAGMENTS?? IRON CORROSION FLAKES?? HAMMERSCALE BUT THIN - ODD; SPHEROIDAL PRESENT
603	SLAG	1	131	FESMELT	CHARC	ABRADED?	MASS CHARC IMPRINTS; BROWN COLOUR
603	SLAG	1	704				ENCRUSTED NOT LEACHED; LARGE HEARTH BOTTOM?
603	SLAG	4	343	FESMITH			PROBABLE SMITHING SLAG
603	SLAG	6	1115	FESMELT	CHARC		MOST TAP; ENCRUSTED BROWN/ ORANGE CONCRETIONS
603	TAP	1	18	FESMELT	CHARC	FRESH	FIND NO. 3; MID BROWN COLOUR
603	TAP	1	97	FESMELT			+ CONCRETED HAMMERSCALE
603	TAP	1	275	FESMELT		FRESH	MASS TINY FLOWS; COMPLETE PIECE? DARK GREY/ BROWN
603	TAP	1	708	FESMELT		FRESH	LARGE HORIZONTAL FLOW; CAKE FRAGMENT? GLOSSY; DENSE; BASE STRANGE MOULDED PATTERN
603	TAP	2	545	FESMELT	CHARC	FRESH	MULTI-FLOWS; 1 X DARK GREY/ BROWN; 1 X MID GREY/ BROWN
603	TAP	2	659	FESMELT		FRESH	DENSE; COMPOSED OF MULTI-FLOWS; BROWN COLOUR; 1 X ORE INCLUSIONS - MATT SURFACE; 1 X GLOSSY

603	TAP	8	784	FESMELT	CHARC	FRESH	COMPLETE LARGE 'SPLATTERS'; MULTI-DIRECTIONAL CHARC IMPRINTS; MID-BROWN COLOUR
603	TAP	11	1873	FESMELT	CHARC	FRESH	MOST FLOWS - NO OBVIOUS CAKE FRAGS; MID BROWN COLOUR
603	TUYERE	1	19	FESMELT			TUYERE OR AIR HOLE; VERY SANDY
603	VITCLAY	1	134	FESMELT			TUYERE? EXCEPTIONALLY SANDY; 22MM THICK; 2 LAYERS; NO RIM OR AIR HOLE; REDUCED FIRED
603	VITCLAY	2	189	FESMELT			TOTALLY VITRIFIED VERY SANDY LUMPS

CODES USED IN THE CATALOGUE ABOVE.

CHARC Charcoal

CONCRE Iron-rich concretion

FESMELT Evidence for the smelting of iron

FESMITH Evidence for the smithing of iron

FURN Furnace remains

HAMMS Hammerscale

VITCLAY Vitrified clay (probably either furnace or tuyere fragment)