

A58 Blackbrook Diversion, St Helens Merseyside

Archaeological Excavation Interim Report



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SUMMARY

This report presents an interim account of the results to date of an on-going programme of archaeological investigations undertaken in advance of the construction of the proposed A58 Blackbrook Diversion, St. Helens (SJ 5346 9655 – 5437 9749). The development is being undertaken by Birse Limited, and involves substantial earth-moving works that will have an impact on the sub-surface archaeological resource.

Following on from the results of a desk-based assessment of the entire development area (OA North 2002), a programme of archaeological evaluation trenching was implemented in 2004 (OA North 2004) that assessed the nature, extent, character and date of buried remains within the study area. The south-western section of the route could not be evaluated in 2004 because of restricted access, although a compulsory purchase order, issued recently upon the owner, has allowed the completion of the remaining archaeological trenches. An additional eight evaluation trenches were excavated prior to the preparation of a series of balancing ponds along the south-east side of the proposed road. All the trenches were excavated by Oxford Archaeology North (OA North) in March 2006.

The evaluation trenches excavated in 2004 revealed considerable evidence of industrial activity along the proposed road route through the discovery of a number of sites and also the widespread dumping of waste material associated with the industrial processes undertaken in the area. Of these, four sites warranted mitigated recording in advance of the road construction, that required the excavation of four open area trenches of varying sizes. The sites comprised; a wooden platform (Trench A) that almost certainly represented the foundation of a small timber building probably dating to the nineteenth century, a brick culvert and extant wall remains (Trench B) that probably pertain to a building associated with the Blackbrook Colliery, a small brick building foundation (Trench C) of unknown function, and the remains of a cutting associated with the Stanley Bank Incline (Trench D). All excavations were undertaken during March 2006.

A watching brief is currently being maintained along agreed sections of the proposed route, in particular along the length of an access road onto the site that would possibly impact sub-surface deposits associated with the northern eastern part of the Garswood-Pewsfall incline plane, and in the south-western part of the route which is contaminated by Japanese Knotweed.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to express its thanks to Sean Martin of Birse for commissioning and supporting the work, and to Barry Holladay for logistical support. OA North are also grateful to Sarah-Jane Farr (Merseyside Archaeological Officer), for her support and advice throughout the course of the project. The project was funded entirely by Birse Ltd

The archaeological evaluations were directed by Caroline Rayner and the excavations directed by Sean McPhillips, who were assisted by Caroline Bullock, Alistair Vannen, Ged Callaghan and Rebecca Pressley. All surveying requirements were undertaken by Mark Storey. The drawings were prepared by Mark Tidmarsh. The report was compiled by Sean McPhillips and Caroline Rayner and was edited by Jamie Quartermaine, who also project managed the project.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 During March 2006, Oxford Archaeology North (OA North) undertook a programme of archaeological evaluation and excavation in advance of the proposed A58 Blackbrook Diversion in St Helens (Fig 1) (SJ 5346 9655 5437 9749). The work was undertaken on behalf of Birse Ltd.
- 1.1.2 In order to secure archaeological interests, the planning archaeologist for Merseyside produced a scope of works and a brief detailing the required archaeological works in advance of and during the proposed road construction. A project design was prepared by OA North in accordance with project brief, and provided by a programme of archaeological evaluation was to assess the nature, extent and significance of buried archaeological remains. In addition, a programme of mitigative excavation was undertaken of sites identified by an earlier programme of evaluation (OA North 2004). A watching brief was maintained by OA North during the ground works for the road construction. This report provides an interim statement of the results of the archaeological evaluation, and mitigative excavation.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 In response to a request Birse Ltd, OA North submitted a project design, in response to a project brief from the Merseyside Archaeologist, for a programme of archaeological excavation and evaluation in advance of the proposed A58 Blackbrook diversion road scheme in St Helens. Following the acceptance of the project design by the Merseyside Archaeologist, OA North was commissioned to undertake the work.
- 2.1.2 The archaeological evaluation comprised the excavation of 20 trial trenches, along the line of the road (Fig 2) and was implemented during March 2006. The mitigation excavation comprised four open areas centred on sites identified during the earlier phase of evaluation (OA North 2004). All work was consistent with the relevant standards and procedures provided by the Institute of Field Archaeologists.

2.2 EVALUATION TRENCHES

- 2.2.1 The evaluation trenches were excavated by a combination of mechanised and manual techniques; the topsoil was removed by a JCB 3CV excavator, fitted with a 1.8m wide toothless bucket, and archaeological deposits beneath were first manually cleaned and then any features identified were manually excavated. The machine excavation did not intrude into any potential archaeological stratigraphy and all machine excavation was undertaken under careful archaeological supervision. Given the brown field nature of the site, however, in a high proportion of the trenches significant relatively recent dumping deposits were also removed by machine. Following mechanical excavation, the floor of the trench was cleaned by hand and manual excavation techniques were used to evaluate any sensitive deposits, which enabled an assessment of the nature, date, survival and depth of deposits and features. The trenches were on the whole not excavated deeper than 1.25m to accommodate health and safety constraints. A few of the trenches were excavated deeper than this to evaluate potential survival of archaeological deposits, but these trenches were only examined from the surface and were backfilled immediately.
- 2.2.2 The trenches were excavated in a stratigraphical manner, whether by machine or by hand. The trenches were located by use of GPS equipment which is accurate to +/- 0.02m, altitude information was established with respect to Ordnance Survey Datum. Archaeological features within the trenches were planned by manual techniques.
- 2.2.3 **Recording:** all information identified in the course of the site works was recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records were available for inspection at all times.
- 2.2.4 Results of the field investigation were recorded using a paper system, adapted from that used by Centre for Archaeology of English Heritage. The archive includes both a photographic record and accurate large scale plans and sections

at an appropriate scale (1:50, 1:20, and 1:10). All artefacts and ecofacts were recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

2.3 EXCAVATION

- 2.3.1 The excavation used a variety of techniques from mechanical excavation to delicate hand excavation, to suit differing conditions. Following machine removal of the overburden, the core site was subject to manual cleaning over the whole excavation area, since extant deposits were fragile and machinery in their vicinity could disturb relatively delicate layers and relationships. The aim of this work was to investigate all features stratigraphically and to produce a plan of the site. Despite the potential significance of the site it was not considered necessary to excavate every feature in its entirety, and a rigorous sampling strategy was applied once the full potential of the site had been established. To maximise the information generated from available resources, all features were cleaned and a sample excavated, to establish their date, function and stratified relationship.
- 2.3.2 Prior to any ground disturbance the limits of the excavation area were fenced for safety. The topsoil and any obvious overburden deposits were removed mechanically under archaeological supervision. Machine stripping of the excavation area was undertaken using a 360° excavator fitted with a 1m toothless ditching bucket. The work was supervised by a suitably experienced archaeologist. Machine excavation was halted at the first significant archaeological deposit. Thereafter, structural remains and features were cleaned manually to define their extent, nature, form and, where possible, date; all deposits and features were subject to stratigraphic manual excavation. The deposits encountered during the excavations were sampled according to the appropriate professional standards to enable environmental analysis if required. For health and safety reasons the mechanical clearance was limited to a maximum depth of 1.2m, after which the sides were stepped in.
- 2.3.3 **Recording:** archaeological planning was undertaken by hand in conjunction with a Leica 1200 differential GPS (accurate to 20mm). All planning data was digitally incorporated into a CAD system in the course of the excavation and was superimposed with the base survey provided by Birse Ltd. This process generated scaled plans which were also subject to manual survey enhancement. Section drawings were generated manually.
- 2.3.4 A complete record of all features and horizons was made, comprising a full description and preliminary classification of features on OA North pro-forma sheets, and their accurate location in plan. A photographic record in colour slide and monochrome formats was also compiled. A full and detailed photographic record of individual contexts was maintained, and more general views were also generated, using 35mm cameras on archivably stable black and white print film as well as colour transparency. Photographic records were maintained on *pro-forma* sheets.

2.4 ARCHIVE

2.4.1 A full archive of the work is in production to a professional standard in accordance with current English Heritage guidelines (1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). It is intended that the results obtained from the various investigations will be combined to form a single, integrated archive. A copy of the report will be forwarded to the County Sites and Monuments Record (SMR), and a summary sent to the National Monuments Record (NMR).

3. EVALUATION RESULTS

3.1 Introduction

3.1.1 This section presents a summary of the results obtained from the archaeological evaluation, and has been compiled in advance of the detailed analysis of the entire dataset generated from the investigation.

3.2 RESULTS OF THE EVALUATION

- 3.2.1 In total, 16 trial trenches (Trenches 49 to 64) have been excavated across the study area (Fig 2a and 2b), in accordance with the project specification. Each trench measured 20m in length and 1.8m in width. Only the trenches that contained archaeological deposits or intervention are summarised, the results of which are presented below. Depths quoted are measured from the surface.
- 3.2.2 **Trench 49**: the trench was aligned north-west/south-east, and was excavated to a maximum depth of 1.10m. At the base of the trench was a natural, compact sandy orange-brown clay (1.10m depth), sealed by medium compact silty grey boulder clay (quite heterogeneous, and mixed with iron stone and discreet coal deposits). This was in turn overlain by a thin veneer of medium compact black clinker material (0.30m 0.40m), which was sealed by a topsoil/subsoil material (0.00m 0.30m).
- 3.2.3 The lower deposits were dumped waste/ by-products of the mining industry in the area. No finds were recovered and no archaeological features or standing structures were observed in this trench.
- 3.2.4 **Trench 50**: the trench was aligned south-west/north-east and was excavated to a maximum depth of 1.35m. At the base of the trench was a compact yellowish-white silty-clay natural deposit with less than 10% small stone inclusions, that was cut by a north-east/south-west orientated foundation cut for a possible wall. The cut measured 1.80m wide by at least 1.80m in length, and survived to a depth of 0.15m. The feature was filled with brown clay mixed with black clinker, which yielded a single sherd of nineteenth century pottery and smashed fragments of ceramic building material. The natural clay was also cut by a series of ceramic field drains bisecting the north and south ends of the trench.
- 3.2.5 Due to the lack of other dating material from the trench, it was difficult to ascertain any further associations for the foundation cut, although it possibly related to the mineral railway or mine workings. The field drains were part of an extensive network encountered in many of the evaluation trenches across the study area.
- 3.2.6 **Trench 51**: the trench was aligned north-east/south-west and excavated to a maximum depth of 1.10m. At the base of the trench was a compact fine greyish yellow boulder clay deposit with isolated/discreet patches of coal and clinker and approximately 5% iron stone inclusions. It was cut by a series of parallel field drains, orientated east/west. Three field drains were positioned at regularly spaced intervals bisecting the trench, all of which were standard red

- triangular drains of approximate early nineteenth century date. A substantial dump of ironstone/clinker and coal was located against the western section of the trench. No significant archaeological features were observed within this trench and no finds or dating material were recovered.
- 3.2.7 *Trench 52*: the trench was aligned north-west/south-east across the line of the Garswood-Pewsfall Incline, and was excavated to a maximum depth of 1.10m onto natural light orange/brown clay, which was exposed across the northern part of the trench.
- 3.2.8 The trench was characterised by a stone wall running east/west across the south area of trench. It was constructed of roughly cut square pieces of grey stone (probably limestone), with a rubble core, and measured 0.40m wide and was at least 1.8m long. Parallel to this, but approximately 4.5m further south at the end of the trench, was a stone lined drain (0.38m wide, 1.8m + long) which was constructed in the same manner as the wall, but was hollow inside. The structures bordered a square cut resembling a post-pit that was cut into the natural, and measured approximately 0.50m deep, and contained a homogeneous fill of soft loose medium compact fine clinker material. A further two small square features, of similar depth, were encountered north of the stone wall and both contained similar fills of clinker and small angular pebbles. All these 'pits' were oriented north/south in a line and resembled geological test pits.
- 3.2.9 It is possible that the two stone built features (drain/culvert and small wall) were associated with the embankment and may have acted as some kind of boundary around the edge of the earthwork. However the trench did not present a clear cross section through the embankment.
- 3.2.10 *Trench* 53: the trench was aligned north/south and was excavated to a maximum depth of 1.55m. The natural subsoil comprised orange-yellow silty clay that contained <10% small rounded pebble and grit inclusions. There was little variation across the base of the trench aside from areas of natural banding where the clay varied in colour slightly.
- 3.2.11 The natural was cut by a 1.80m x 1.00m rectangular feature located at the south-west corner of the trench, which contained ironstone and clinker deposits. The deposit was heterogeneous, and appeared to have been dumped in one phase. A small section was excavated across the south end of this feature, but could not be bottomed due to the rapidity with which it filled with water. Its fill comprised loose clay.
- 3.2.12 No dating material or archaeological features were observed within this trench. The rectangular cut mentioned above was very regular and modern and again may represent some kind of geological test pit.
- 3.2.13 **Trench 54**: the trench was aligned east/west and excavated to a maximum depth of 2.5m onto the top of an orange-brown silty-clay natural. The natural was sealed by a heterogeneous make up layer comprising a mix of iron stone, clinker, mudstone, and grey silty clay. This was the largest deposit within the trench and appears to be a single large dump of material possibly a product of the nearby mine. No archaeological material or dating evidence was recovered from within this trench

- 3.2.14 *Trench 55*: the trench was aligned north-west/south-east across the route of the Garswood-Pewsfall Incline, and was excavated to a maximum depth of 1.10m. An orange-yellow compact silty clay natural deposit was exposed across the northern part of the trench.
- 3.2.15 The natural was sealed by a 0.60m thick deposit of compact grey silty clay mixed with iron stone and clinker, resembling made ground. It is probable that this made ground was a residue of the incline plane embankment, although no evidence of a ditch was encountered. No archaeological features or structures observed within this trench.
- 3.2.16 *Trench 56*: this trench was aligned north-east/south-west and was excavated to a maximum depth of 1.10m onto an orange-yellow compact silty clay natural deposit. The natural was sealed by a 0.40m thick grey-brown clay mixed with iron stone and clinker. The trench contained no archaeological features or datable artefacts.
- 3.2.17 *Trenches* 57 and 58: due to the topography of the site, and the presence of a large gas main bisecting the site, it was necessary to relocate Trench 58 and as a result create a single, large 'T'-shaped trench which was an amalgam of Trenches 57 and 58. Both trenches were 1.8m wide; Trench 57 was 20m long and Trench 58 was 15m. Both were excavated to a maximum depth of 0.80m onto an orange-yellow clay natural deposit. Both trenches were extremely difficult to excavate mechanically as they were located across one of the steepest parts of the slope. Both trenches contained a ceramic field drain oriented east/west cutting the natural clay. No other archaeological intervention was identified in either trench.

4. EXCAVATION RESULTS

4.1 Introduction

4.1.1 The programme of archaeological evaluation trenching undertaken in 2004 (OA North 2004) provided an indication of the nature and extent of buried remains across the route of the proposed road area. Four elements of the site in particular were revealed to contain buried remains pertaining to the industrialisation of the area during the late eighteenth and nineteenth centuries. Following consultation with the Client and the Merseyside County Archaeologist, it was recommended that these were areas were subjected to further archaeological investigation. The following trenches were excavated: Trench A examined a wooden platform, Trench B examined a culvert and associated colliery buildings, Trench C examined a building foundation of unknown function, and finally Trench C examined a cutting associated with the Stanley Bank Incline. The location of these trenches are shown in Figures 2a and 2b. The results from each trench are summarised below in chronological order.

4.2 TRENCH A (WOODEN PLATFORM)

- 4.2.1 The trench was aligned north/south was initially opened to encompass 20m² but was reduced to 10m² due to constant flooding, and was excavated to a maximum depth of 0.66m. The trench was characterised by a timber structure that resembled the foundation of a small building. Its position close to the Garswood-Pewfall Incline embankment suggested that it was a related component of the industrial landscape.
- 4.2.2 Natural clay was exposed at a shallow depth of 0.16m along the southern part of the trench comprising brown sandy clay and contained frequent water worn pebbles. The clay extended down slope towards the embankment.
- 4.2.3 The timber platform (Plate 1) was aligned north-east/south-west and was within the northern part of the trench, located within a natural hollow, and was directly above the natural clay. It measured almost 6m² and was formed by six rows of treated pine planks laid horizontally, each averaging 1.6m x 0.3m x 0.2m; these were edged by substantially thicker timbers (0.38m width) of varying lengths. The central area of the platform sealed a 0.30m thick deposit of clinker that formed an interface between the wood and the natural clay; it also functioned as a levelling layer supporting the platform. A similar deposit of clinker was observed along the structures north-western edge and measured 0.7m wide, separating the platform from a further line of timbers. Several timbers and poles around the outside of the platforms gave the impression of a collapsed building; in particular there was a 2.5m long pole attached to the northern edge, and thinner tapered planks were detached around the eastern side. Several areas of the platform contained patches of brick insets that appeared to have been laid within gaps in the wood to replace missing planks thus creating surfaces. The bricks were handmade and bonded with a grey ashy mortar. A small number of the bricks were seemingly replaced by

wooden blocks of identical brick dimension, although the reason that bricks were not used is uncertain. Two small, timber-lined, 'boxes', each measuring 0.35m by 0.20m, were observed behind the northern and southern timber border, sunk to a depth of 0.25m below the level of the platform. These 'boxes' possibly housed timber uprights, although a precise function was unclear. Several iron objects were observed protruding from the outside of the platform that were seemingly part of an integral construction element, although this could not be fully determined.

4.2.4 The structure was sealed by a light-brown, firm sandy clay that contained frequent pebbles and charcoal inclusions as well as sherds of late eighteenth and nineteenth century pottery. It would appear the clay perhaps formed a possible make-up layer above the platform when the site was abandoned. The clay was in turn overlaid by a light-grey, soft silt subsoil that was spread thin across the trench, and was sealed by humic silty-clay topsoil.

4.3 TRENCH B (COLLIERY BUILDING AND CULVERT)

- 4.3.1 Trench B was located to the immediate north of a disused concrete capped mine shaft, and was aligned north/south. The trench was initially 5m x 10m in size, but was then expanded to 10m x 10m in accordance with the requirements of the Merseyside Archaeologist; it was excavated to a maximum depth of 0.45m. The trench was characterised by extant sub-surface remains associated with the late eighteenth century constructed Stanley Bank Incline, observed running north-east/south-west across the western edge of the trench (Plate 2). Other archaeological remains included a collapsed wall, a floor surface and a brick column that collectively represented part of a structure pertaining to a large, late nineteenth century building. Later archaeological intervention comprised an east/west aligned circular culvert (Plate 3) which crossed the southern edge of the trench bordering a disused mine shaft. The culvert was seemingly intended for drawing water away from the shaft during coal mining activity.
- 4.3.2 Across the central part of the trench, at a depth of 0.45m below the turf, was a yellow-red silty-clay natural deposit which contained frequent sand patches. The clay was cut along the western edge of the trench by the remains of the incline, which comprised crushed brick, sandstone and clinker spread over a distance of 5m by 2m and was observed extending beyond the east-and south-facing section.
- 4.3.3 The incline in turn was truncated by the culvert which was installed at a similar time as the capping of the mine shaft, suggesting the culvert was operational after the mine was abandoned. A line of tumbled bricks, along the northern edge of the culvert, was possibly a disturbed, collapsed wall associated with a colliery outbuilding.
- 4.3.4 Further evidence of a possible colliery building was indicated by the remains of a structure along the northern edge of the trench, which comprised a 10m long collapsed wall aligned east/west, that was 0.45m high. It was constructed from handmade bricks, bonded with a dark-grey, ash rich, mortar, of a type that was commonly used in the late nineteenth century. A possible return of the wall was observed extending north for a distance of 1.2m at the north-east

corner of the trench. This wall was also collapsed, although the bricks were bonded with lime mortar, suggesting an earlier construction. Both walls were bordered by the remains of a 1.2m wide, *in situ*, brick floor, that extended 10m across the trench and was laid directly onto the sandy clay natural. A 1.3m² brick column, resembling a machine base foundation, was encountered in the north-eastern corner of the trench, adjacent to the wall return. The column was constructed of identical brick components as the walls and was bonded with a similar grey, ashy mortar. The column survived to three courses in height and had two stepped foundations. The function of this structure was not determined although it was undoubtedly associated with the colliery.

4.4 TRENCH C (BUILDING FOUNDATION)

- 4.4.1 Trench C was aligned north-east/south-west, measured 10m² and excavated to a maximum depth of 0.40m. The purpose of the trench was to establish the plan, character and function of a building foundation observed during the evaluation. Other remains comprised a narrow linear feature composed of compacted clinker which resembled a deliberately laid path, aligned east/west across the trench.
- 4.4.2 The structure was rectangular in plan measuring 2.3m by 1.6m, and was located along the south-east corner of the trench following a north-east/south-west alignment. The single cell structure was laid above yellow clay natural deposits and survived as a single brick thick footprint comprising unmortared handmade bricks (250mm x 150mm by 120mm). It is probable that the structure was a small storage shed, possibly associated with Stanley Bank Farm.
- 4.4.3 The clinker path transected the central part of the trench bordering the northern edge of the building foundation. It comprised a 0.15m thick deposit of compacted stone and clinker that had a maximum width of 0.25m.

4.5 TRENCH D (STANLEY BANK INCLINE)

- 4.5.1 Trench D was excavated in order to record the remains of the incline railway that was constructed in the late eighteenth century to transport materials from the Stanley Copper Works. The railway possibly also served the Blackbrook Colliery located in the north-western part of the site, although this was uncertain. There was no distinct embankment surviving above ground, however, a substantial ditch extending 10m across the trench represented a deep cutting that probably associated with the railway. In order to establish the depth of the cutting, the trench was stepped at two 1.2m intervals to enable safe recording. The overall dimensions of the incline was 20m by 10m and was machine excavated to a maximum depth of 2.10m.
- 4.5.2 It would appear that the ditch, and its subsequent back filling, represented two clearly defined phases of the incline. The initial phase comprised the excavation of a 10m wide ditch (Plate 4) cut into natural clay, that followed a north/south alignment resembling a cutting. The ditch had steep angled sides that bottomed onto a flat base, and was observed at an overall depth of 2.1m below the present turf line. The east edge of the ditch was flanked by a brick-

lined drain (Plate 5), that was probably intended to draw surface water away from the cutting. The drain was sealed by dark-grey silty clay that was possibly a redeposited residue of the original bank base. The width of the ditch, across this part of the incline, was substantially wider than the 6m wide cutting observed within Trench 38 across the Garswood-Pewsfall Incline during the 2004 evaluation. The wider ditch on the Stanley Bank Incline may be the result of a re-cut along the western edge of the ditch allowing for the insertion of a twentieth century land drain, and the engineering demands that were required across a higher area of the landscape.

4.5.3 The ditch was sealed beneath a sequence of tipping layers that were the remains of an embankment. The layers included a line of crushed brick and stone at the ditch basal, sealed by a 0.4m thick deposit of compacted clinker observed at a depth of 1.8m below the turf. The tipping layers were in turn overlain by large stone boulders that were observed along the east and west edge of the feature and functioned as ballast revetment and to aid drainage. If the deposits within the ditch were associated with an embankment, then it is possible that either the top of the earthwork had been removed during ploughing, or that the soils represented a ditch back-filling event after the mineral railway had been abandoned.

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ILLUSTRATIONS

FIGURES

Figure 1: Location Map

Figure 2a: Location of excavation trenches-North

Figure 2b: Location of excavation trenches-South

PLATES

Plate 1: View of wooden platform in Trench A, looking north

Plate 2: Remains of the Stanley Bank Incline in Trench B

Plate 3: Culvert in Trench B

Plate 4: View of cutting in Trench D, associated with the Stanley Bank Incline, looking south-west

Plate 5: Brick drain within the cutting in Trench D

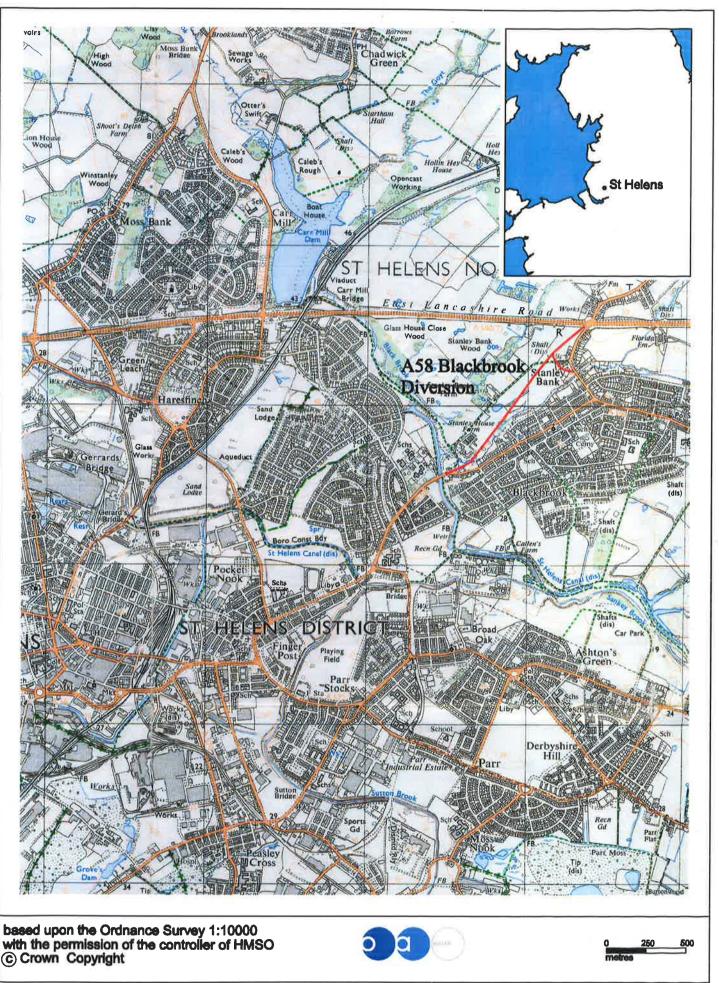


Figure 1: A58 Blackbrook Diversion: Location Map

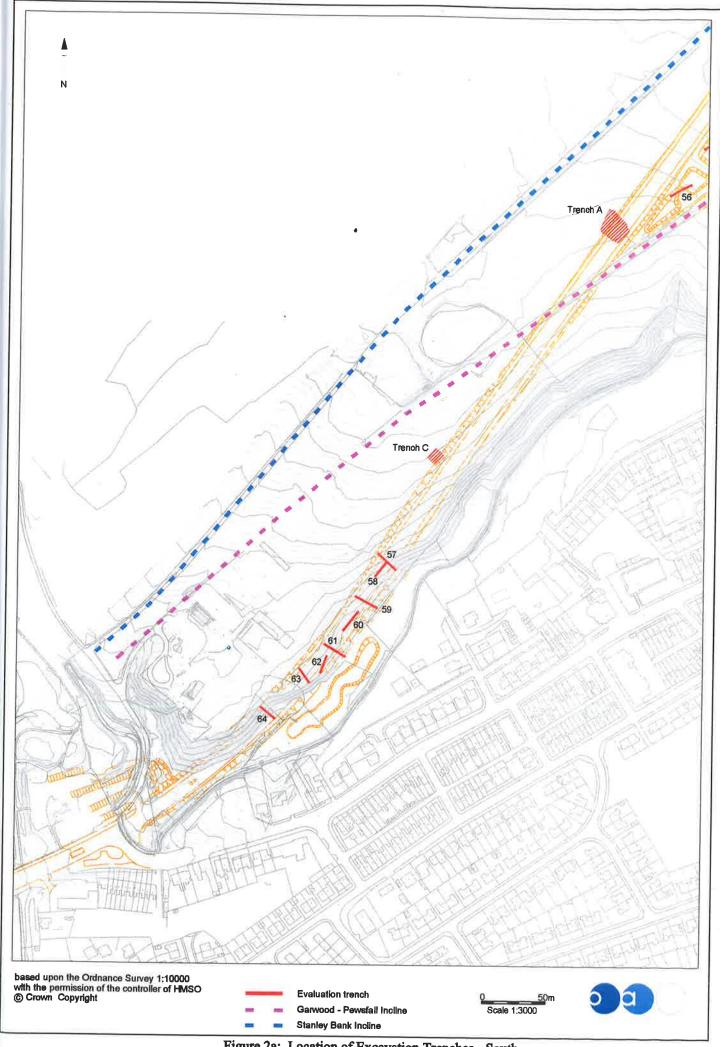


Figure 2a: Location of Excavation Trenches - South

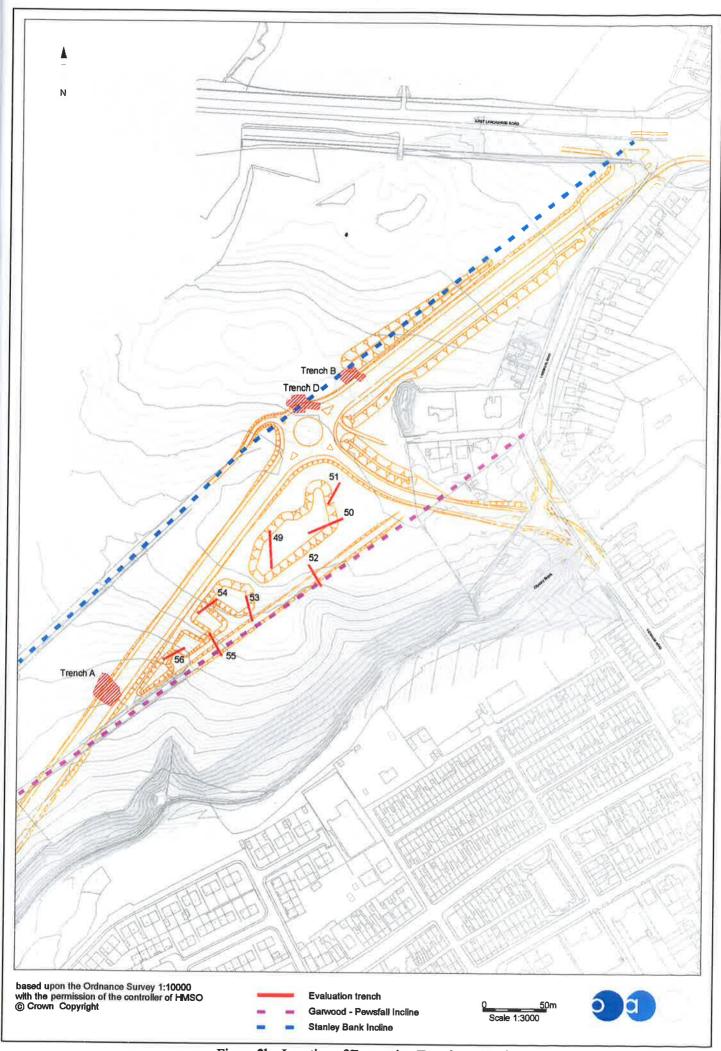


Figure 2b: Location of Excavation Trenches - North



Plate 1: View of wooden platform in Trench A, looking north



Plate 2: Remains of the Garwood-Pewsfall Incline extension in Trench B



Plate 3: Culvert in Trench B



Plate 4: View of the cutting associated with the Garwood-Pewsfall Incline extension, looking south-west



Plate 5: Brick drain within the cutting in Trench D