

Archaeological Survey and Excavation

Stockton and Darlington Railway

Preston Park

Stockton-on-Tees



TA 20/02

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Stockton-on-Tees

2003 - 2008

Robin Daniels

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*Tees Archaeology, Sir William Gray House, Clarence Road, Hartlepool, TS24 8BT
Tel: 01429 523455 Fax: 01429 523477 email: tees.archaeology@hartlepool.gov.uk*

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Summary

This report describes the methodology and results of a programme of archaeological investigation carried out by Tees Archaeology with the help of volunteers at Preston Park, Stockton on Tees. The site is centred on National Grid Reference NZ 4270 1583 and comprises a length of c.847m of the former track bed of the Stockton and Darlington Railway. The work was carried out in order to better understand the character and construction of the rail line built between 1823 and 1825.

Small scale excavations took place in 2003 and 2005. Survey and hand auguring took place in 2007 and 2008.

The survey work identified a range of previously unidentified features including a loop siding, a ramp leading up to the railway, an earth platform and the location of borrow pits for the clay to construct the embankment.

The excavations recovered block holes for the individual sleeper blocks and identified poaching between the tracks caused by the passage of horses pulling wagons and coaches. They also recovered the method of constructing the embankments with planking revetting was recorded and a unique marker post that may relate to the earliest use of the railway was found.

1. Introduction

The scheme of works comprised an archaeological survey, hand auguring and small scale excavations which took place on the former route of the Stockton and Darlington railway through Preston Park, Stockton on Tees (Figs.1-4). The work was carried out by Tees Archaeology between 2003 and 2008. The fieldwork was led by Robin Daniels with the help of Gary Green and a number of volunteers. This report sets out the results of these investigations.

The former route of the Stockton and Darlington railway runs for c.1.02 km along the western edge of Preston Park, bounded to the east by the A135, Yarm Road. The strip of land is presently woodland. Only c.847m of this length was available for survey. The thicker woodland in the northernmost section did not allow for survey. To the east of the woodland is the open parkland of Preston Park. It is centred on NZ 4270 1583.

The solid geology of the area is sandstone overlain by a glacial till, which in this area takes the form of clay.

Preston Park was created out of farmland bought by David Burton Fowler in 1820. Work then took place to build a hall and park. To achieve this the area was extensively landscaped, including the creation of ponds, tree-planting and the construction of a walled garden.

When completed the hall originally faced across the River Tees towards the Cleveland Hills, it was re-modelled in 1882 by Sir Robert Ropner so that the hall looked into the park, but by this time the railway no longer ran along the park edge.

The Stockton & Darlington Railway was built to carry coal from the Durham coalfields to the River Tees at Stockton. Construction started in 1822 and it was opened on September 27th 1825.

The original line of the Stockton and Darlington Railway ran along the eastern edge of Preston Park, but this alignment was abandoned in 1852 following the opening of the nearby North Eastern Railway, Leeds Northern Branch line, which is still in use today. This has left a relatively untouched stretch of the railway which has seen little in the way of later modernisations and it can provide a glimpse into the methods of construction of one of the earliest railways.

This report sets out with the results of the survey work and hand auguring followed by those of the excavations.

2. The Archaeological Survey by Robin Daniels

Introduction

A survey of the southernmost 847m of the route of the Stockton and Darlington Railway through Preston Park took place in 2007 and 2008, with a week's work taking place in the October of each year. The project was led by Robin Daniels and Gary Green of Tees Archaeology with the assistance of volunteers.

In 2007 the southernmost part of the route in Preston Park was surveyed and a more northern section recorded the next year. The intention of the project was to obtain as detailed a picture as possible of the layout and construction of the railway.

The survey posed a number of specific questions about the track bed in this area, these included:-

- How and in which direction was the track widened from single to double?
- Is there any evidence for sidings or spurs?
- What materials were used in the construction of the railway?
- What is the gradient?
- What was the nature of any of the boundaries to the wayleave?

The Methodology

The survey was carried out using a Total Station Theodolite to put in survey points at various distances apart and tapes were then used to do offset measurements to the points to be surveyed. The area is quite heavily wooded with winding paths and this reduced the sightlines quite considerably.

The drawn survey was produced to a scale of 1:200 and was preceded by a walkover survey to identify the features to be recorded. In addition to producing a plan of the earthworks, profiles across them were levelled at suitable locations and ten of these profiles were hand augured at appropriate points to gain a better understanding of the methods and material of construction (Appendix 1). The profiles have been drawn with a horizontal scale of 1:100 and a vertical scale of 1:10 to allow easier interpretation of the results.

The Results

The results of the earthwork survey are shown in Figs. 4 - 13 and the results of auguring the profiles are set out in tables in Appendix 1. The following description moves from south to north.

Southern end of Preston Park to South Lodge

At the southern end of the route through Preston Park the track bed occupies a shallow cutting, lower than the level of the adjacent road. It is bounded to the east by a hawthorn hedge and this provides the boundary between the track bed and the road for much of its length, in this area the western boundary is provided by the fence line of the adjacent allotments (Figs. 4 & 5).

Profiles 4 and 5 demonstrate this shallow cutting (Figs. 4, 5 & 9). At Profile 4 the track bed is lower than the road by 0.41m, while at Profile 5 the drop is 0.6m. In both cases the track bed is cambered slightly and this may be in response to a slight curve in the track in this area.

At Profile 4 the track bed is c.9m (29.5ft) wide and the total width within the wayleave is c.15m (49ft).

As the track bed runs to the north it reaches the same level as the road and eventually rises above it. Once the two are on a level the boundary between the S&DR and the road is marked by a narrow steep sided ditch set inside the hedge. A similar ditch marks the wayleave to the east. These ditches can be seen in the subsequent profiles (see especially Fig. 9, Profile 6).

Just after the position of Profile 5 the track bed splits with the clear indication of a second track moving to the east (Figs. 4 & 5). The latter was traced to the area of the main entrance road into the park, but was not visible on the ground continuing beyond it,

however examination of LIDAR images of the site suggests that it continued to become a loop siding. This is a previously unrecognised siding which is not mapped. The siding is not documented anywhere but it is possible that it was built to provide building materials for Preston Hall, which was under construction at the same time as the railway. The width of the track bed just before the visible split is c.16.6m (54.46ft).

The siding is separated from the main track bed by a shallow ditch (Figs. 4, 5 & 9, Profile 6). Profile 6 runs across both the main track bed and the siding and shows this ditch as well as the two wayleave ditches. In this location the western wayleave ditch is 0.28m deep and at the eastern 0.52m. It should also be noted that the siding is c.0.10m lower than the main track bed and the siding is lower than the track bed throughout its length. At profile 6 the main track bed is 7m (23ft) wide and the siding 5m (16ft) wide (Figs. 4, 5 & 9).

The ends of profile 7 were difficult to place due to vegetation, however this shows the siding at up to 0.40m lower than the main track bed (Figs. 4, 5 & 9). The main track bed was c. 7m wide and the siding 9m wide. Augured samples of the 'siding' were examined between profiles 6 and 7 in order to seek confirmation that it was a track bed (Figs. 4, 5 & 7; Appendix 1.1: Nos 8 - 10). All three produced evidence of coal and ash, with that furthest from the main track bed (No 8) revealing most ash.

A second set of augured samples were taken between Profile 7 and 3/3b (Figs. 4, 5 & 7; Appendix 1.1: Nos 3 - 7). These were also sited to explore the difference between the main track bed and the siding. These seem to demonstrate a pattern of clays at the centre of the respective track beds and the presence of ash to the sides.

At Profile 3/3b the difference in height between the main track bed and the siding is again clearly visible, being of the order of 0.3m (Figs. 4, 5 & 9). A boundary ditch was surveyed to the east of the siding (Figs. 4 & 5). This defines a width of 9m for the siding and the main track bed is 8m (26ft) wide. We know from documentary sources that the original single line with passing places was converted to double track throughout and the dimensions of the main track bed confirm this. The width of the siding suggests that once it had branched off the main, it possibly split into two tracks.

At Profile 8 the main track bed was 0.52m higher than the siding (Figs. 4, 5, 7 & 8). Profile 8 was accompanied by a full set of augur samples (Appendix 1.1: Nos 11-16) and these have been drawn up in conjunction with the profile drawing to create a hypothetical section through the track bed (Fig. 10). It must be stressed that this contains a number of assumptions, not all of which may be correct.

Excavation (see below) has demonstrated that the basic profile of the track bed comprised a clay embankment with deposits of ash, cinder and coal building up against it over time and this is reflected in the interpretation of the results of the auguring.

It is suggested that the original track bed was encountered in A14 with a make-up of brown clay. The deposits at the bottom of A15 and A16 reflect ash and cinder accumulating alongside the embankment. Deposits of clay (A16 b-e) were then put down over the ash to raise the level to that of the original track bed and so widen the track from single line to double.

The deposits in A13 represent the drainage/boundary ditch between the siding and the main line, while A11 is sited on the original track bed of the siding, with A12 representing material deposited to the side of it and introduced to level it up, perhaps to take a second track. These reconstructions suggest that the original track bed for the railway and the siding were about 9.5 feet wide.

Profiles 1 and 2 (Figs. 4, 5 & 8) documented the main track bed, recording the boundary ditch to the west and the drop onto the siding to the east. The full width of track bed and siding are covered in Profiles 9 – 12 and of these Profiles 10 and 12 were augured (Figs. 4, 5, 8 & 11; Appendix 1.2 & 1.3)

All four of the profiles at the northern end of the siding indicate the difference in levels between the siding and the main track bed and also the ditch that separated them. At Profile 9 (Figs. 4, 5 & 8) the siding lay about 0.30m lower than the main track bed. The main track was 8m wide at this point and the siding approximately 7m.

Auguring along Profiles 10 and 12 confirmed the impression from the work on Profile 8 that the original topsoil (characterised as loose brown soil) was left in place and new material was placed on top of this to create embankments of various sizes. The clay used falls into two types, grey and yellow and one of the interesting questions about Preston Park is where this material came from (see below).

The auguring of Profiles 10 & 12 indicated that the original embankment was 0.18 to 0.20m high, when the track was doubled a slightly higher embankment was built c.0.1m higher. The siding had deposits of clay of about 0.2 - 0.26m thick in, about the same as the original embankment, although it is noticeable that the auguring of Profile 12 identified a layer of coal underlying the clay suggesting that the siding had been constructed after use of the line had begun.

The survey and LIDAR images (https://maps.nls.uk/geo/explore/side-by-side/#zoom=17&lat=54.5356&lon=-1.3410&layers=6&right=LIDAR_DTM_1m) indicate that the siding returns to the main track bed, to create a loop, in the vicinity of the present main entrance into the park. It is not identifiable by the time that the track bed can be surveyed again after the South Lodge (Figs. 4 & 6).

South Lodge to North Lodge

There is a gap of about 70m where it was not possible to continue the survey due to the presence of the current main entrance into the park and the South Lodge. It should be noted that at the time of the tithe map of 1839, the main entrance to Preston Hall was off Preston Lane and neither the lodges nor the entrances they sit beside had been constructed (http://reed.dur.ac.uk/xtf/view?docId=ark/32150_s1gf06g2666.xml#DDR-EA-TTH-1-t).

The survey commences again just to the north of the South Lodge (Figs. 4 & 6). The construction of a footpath in this area has disturbed the track bed and reduced the height of the embankment on the eastern side of the track bed to a significant extent. The archaeological excavations of trenches A and B (see below) did however demonstrate that that this had mainly affected the widened track rather than the original track bed of 1825.

Profiles 13 and 14 cover the first part of this stretch of track bed (Figs. 4, 6 & 12). In Profile 14 the boundary ditch to the road was able to be incorporated into the survey and both profiles demonstrate the cut into the embankment made to create the path and indeed this can also be seen on Profiles 15 and 16 (Figs. 4,6 & 12). The total width of the embankment is c.16m at Profiles 13 and 14 and the embankment at its highest point stands c.1.2m high.

Profile 13 was augured (Appendix 1.4) and revealed the use of the same grey and yellow clays as encountered elsewhere, with the initial track bed having 0.25m of clay deposited

over the topsoil and the widened track bed having 0.34m of clay.

The impact of the footpath is particularly clear at Profiles 15-17 and it is possible that the material removed from the embankment to create the path has resulted in an apparent increase in the width of the embankment (Figs. 4, 6, 11 & 12). The full width of the embankment could only be captured in Profile 17 and here it seems to be c.20m wide (Fig. 11). The maximum difference in height on Profile 15 was 1.3m, on Profile 16 it was 1.13m and on profile 17 it was 1.17m. Profile 17 had augured samples taken which indicated a deposit of c.0.32m of clays, compared to 0.19m where the track bed had been widened (Appendix 1.5).

There is a disturbance of the track bed just after Profile 17 as it is crossed by a modern footpath (Figs. 4 & 6). From this point onwards the track moves away from the road, although the boundary ditch remains beside the roadside. At Profile 18 the slope of the embankment commences c.7.5m from the boundary ditch and is c.14.5m wide and 0.71m high compared to the ground to the west (Figs. 4, 6 & 11). The auguring provided interesting results, demonstrating spreads of clay over the loose brown soil over the whole area (Appendix 1.6). There was a significant difference in the soils either side of the embankment, most notably the absence of sandy gravelly soils to the east of the track bed. There was also a significant difference in levels with the ground to the east of the track bed being c.0.5m lower than that to the west.

As the track bed continues to the north it moves further way from the road and at Profile 19 it is c.11.75m east of the boundary ditch (Figs. 4, 6 & 11; Appendix 1.7). The embankment is c.15.46m wide at this point and c.0.5m high in relation to the ground level to the west. As was the case with Profile 18 the ground to the east is lower than that to the west, by about 0.4m.

At Profile 20 the track bed is c.16.5m to the east of the boundary ditch and the height of the embankment is c.0.6m. The survey identified the presence of straight ridge and furrow between the track bed at the boundary ditch (Figs. 4, 6 & 13). This is normally associated with horse ploughing and at first sight it was presumed that this pre-dated the construction of the railway. However when this profile was augured it was discovered that there was coal beneath the furrow indicating that cultivation of this area had happened after the railway had come into use (Appendix 1.8). Some of the ridges are very close to the embankment and it is difficult to believe that this cultivation had taken place while the railway was in use and it most probably post-dates the abandonment of this part of the route. This supposition is reinforced by the presence of this same type of ridge and furrow overlying features that were almost certainly constructed to serve the railway (see below).

A number of the profiles demonstrate that the ground to the east of the track bed is significantly lower than that to the west, in addition there are different soils present on the west side than the east. While this is a phenomenon that requires more investigation, it is believed that this is as a result of digging out the clay in the ground to the east to construct the track bed through the park. It is notable that the clays encountered both in the track bed embankment and the surrounding area seem very homogenous and there is no evidence of completely different clays being used in the construction process compared to those in the ground in the immediate vicinity of the track bed.

The LIDAR clearly shows an area of disturbance to the east of the track bed, more or less coincident with the woodland and again this would be consistent with this area being used

for clay digging (https://maps.nls.uk/geo/explore/side-by-side/#zoom=17&lat=54.53835&lon=-1.33981&layers=168&right=LIDAR_DTM_1m).

Bank and Earthwork Platform

As the track bed approaches the North Lodge and the associated access road it continues to move away from the Yarm road and just before it reaches the access road there are two features to the west of the track bed. Both of the features are separated from Yarm Road by the railway boundary ditch and are almost certainly contemporary to the construction of the railway.

Bank

The southerly feature is a bank which is at right angles to the track bed and while individual measurements of its height varies it as much the same height as the track bed and rises c.0.7 – 0.8m above the ground level to either side (Profiles 21- 23, Figs. 4, 6, 12 & 13). Auguring along the bank produced evidence of the ubiquitous coal and what appeared to be a sequence of crushed stone surfaces overlain with coal and ash (Appendix 1.9).

Earthwork Platform

There is a distinct earthwork platform to the north of the bank and west of the track bed. It measures c.8.6m wide (east to west) by 18.6m long (north to south). The platform stands c.0.4m high, slightly lower than the bank it adjoins and there is a discernible dip between the two (Profile 22, Figs. 4, 6 & 13). There is north – south aligned ridge and furrow on the platform which presumably post-dated its use and is probably contemporary to the surrounding ridge and furrow. Auguring of the platform (Appendix 1.10) identified the same grey and yellow clays as seen on the bank and track bed and coal was also encountered in the augur sample.

There was also ridge and furrow to the east of the platform, between it and the track bed (Profile 24, Figs. 4, 6 & 13).

From North Lodge to Preston Lane

The area to the north of North Lodge was not surveyed as the woodland here is well established and at the time there were no clear paths through it, although these are now being established. Walk over survey in the woods identified the embankment in a number of locations and it can be seen on the LIDAR map of the area (https://maps.nls.uk/geo/explore/side-by-side/#zoom=17&lat=54.53986&lon=-1.33873&layers=168&right=LIDAR_DTM_1m). It does however appear that parts of the track bed have been heavily disturbed, particularly at the northern end.

The boundary of Preston Park is Preston Lane and the track originally continued to the north of the lane through a cultivated field, it should be noted that LIDAR shows no indication of the track through this area, indicating the level of damage that can be inflicted by cultivation over one hundred and fifty years.

Discussion

The survey and auguring along with a review of the LIDAR data has provided valuable new information about the section of the Stockton and Darlington Railway through Preston Park.

It has identified that the track bed enters the park as a low cutting and exits it as an embankment and that there is a rise of 1.93m from south to north (a gradient of 1:140) through the length of the park. That is loaded wagons were being pulled up a shallow

gradient.

The Stockton and Darlington Railway was built with horse power in mind, even though it famously adopted steam power quickly. Nevertheless horses provided the main power for at least the first five years of its history and it was clearly believed that horses could deal with a gradient of 1:140.

The most striking results of the survey are the identification of what appears to be a loop siding just to the south of the South Lodge. This is not recorded on any known documentation of the line and moves too far away from the main track to be a passing loop.

Preston Hall was being built at the same time as the railway and it seems probable that this siding was provided to make it easier for David Burton Fowler to obtain materials to build the hall.

The presence of borrow pits to the east of the northern part of the route is also striking and it would indicate that where possible materials that were close to hand were used for construction. Perhaps it was in return for digging this clay that the railway built the loop siding for David Burton Fowler? The auguring certainly indicates that the embankment was built of clay and that this appears to be the same clay that is present in the immediate area.

The bank and earthwork platform adjacent to North Lodge are particularly interesting. When first encountered it was suggested that this might be some kind of level crossing to give access to the park from Yarm Road, however it was quickly realised that the boundary ditch separating the road from the railway continued past these, effectively separating them from the road. On this basis it seems probable that the earthwork platform was some kind of loading or storage area directly related to the railway and the bank provided the access route from this to the railway.

The final point in relation to the survey relates to the boundary features. There is a well-established boundary between the railway and the road, comprising a ditch with a quickset hawthorn hedge outside it. The boundary between the railway and park is however much less difficult to identify. At the southern end of the line there is also a ditch and this provides a boundary between the wayleave of the railway and what are now allotments but which is shown as an ordinary field on the Tithe Map; at the time of the operation of the railway. The eastern boundary of the railway is clearly demarcated on the Tithe Map of 1839 and it seems probable that it originally comprised a ditch and hedge for its whole length but that this was removed, presumably when this section of the railway was abandoned and in order to re-integrate the area back into the park.

3. The Excavations

3.1 The 2003 Archaeological Excavation by Gary Green

Introduction

A small-scale excavation was carried out on the loop siding of the former Stockton & Darlington Railway track bed in Preston Park, Stockton (NZ 159 428). The work was carried out by school groups and interested members of the public over five days in November 2003, supervised by various Tees Archaeology staff members.

The scope of the works

The excavation had two principal aims, to provide school groups and members of the public with the opportunity to take part in an archaeological excavation and to examine how the siding was constructed, assess how much of it had survived and its current condition.

Results

A single trench approximately 5m x 1m was opened by hand on sloping ground perpendicular to a metalled footpath running through a lightly wooded area of the park adjacent to Yarm Road (Figs. 4 & 5). This raised path was believed to form the original base of the track bed, supporting iron rails laid on sleeper blocks.

Given the limited nature of the excavation and public Health & Safety implications, the trench was not extended across the footpath.

Figure 14 shows a section through Trench A; note that layer 04 was not regarded as a 'natural' deposit and that further excavation would be required to establish the full extent of the site stratigraphy.

None of the original sleeper blocks or other items of railway furniture were found during the excavation, however, the quantity of coal, cinder, brick and glass fragments found in layer (03) were certainly consistent with the finds expected alongside a railway running early steam engines with open footplates.

Finds

Archaeological finds were limited:

- i) small copper-alloy buckle (28mm x 19mm), with central iron strap bar, probably of late 16th, or more likely 17th century origin.
- ii) Small copper-alloy fragment, possibly the broken head of a Roman trumpet brooch
- iii) Heavily worn copper-alloy disc with no discernible markings; may be a coin, token or button
- iv) Copper-alloy button back (Fig.15), ¾" diameter (28 lines or Lignes] / 22mm), plain obverse and gilt reverse with the Quality Marks 'ORANGE GILT' and featuring a central device of the Prince of Wales Plumes. This device was often used as a backmark by the Birmingham button manufacturer Charles Jennens and the successor company Jennens & Co. Quality marks commonly appeared between 1800 -1850.
- v) Fragment of thinly pressed copper-alloy, with possibly Art Deco decoration on upper surface; no obvious form or function.
- vi) Single, undecorated grey-ware pottery sherd, probably Medieval.

Conclusions

The excavation was very successful in its aim of providing school groups and members of

the public with the opportunity to take part in an archaeological excavation; the often cold and wet weather did not dampen enthusiasm or prevent the keen-eyed recovery of finds.

The recovery of a small number of disparate finds spanning a period of nearly two thousand years, may well have unwittingly been brought to the site in re-deposited material used during the construction of the railway, or perhaps in the later general landscaping of the park. Unfortunately, none of these finds were sufficiently diagnostic to link them to the Stockton & Darlington Railway.

Time, ground conditions and weather prevented a complete excavation of the track bed, however, there are some indications as to how the track bed was formed.

The heavy concentration of clinker and coal in Layer 03, suggests that the original sleeper blocks may have been bedded directly into the yellow clay of Layer 04, either on the 'flat', or as a slightly raised track bed, the general shape and form of which is mirrored today by the existing path.

The track bed appears to have been raised at some later point, by the addition of the red/brown clay of Layer 02; this 'made-up' ground has a relatively long, gentle slope, or 'batter', and was perhaps constructed to better deal with the increased size and weight of later steam engines and their loaded wagons.

The lack of significant diagnostic finds would seem to indicate that following dismantling of the railway in the early 1850's, much of the railway furniture was removed and probably re-used elsewhere; for example the double-slipway on the promenade adjacent to Saltburn Pier (Fig. 16), was constructed from the re-used stone sleeper blocks from this railway (Tomlin, 2001).

3.2 The 2005 Archaeological Excavations by Robin Daniels

Introduction

Two trenches, A and B were excavated on the western edge of the top of the former track bed of the Stockton & Darlington Railway (S&DR). A third trench (C) was opened but not excavated to provide a public activity (Figs. 4 & 6). The S&DR was opened in 1825 and original track bed continued in use until 1851 when it was abandoned and the present line, to the west became the sole route into Stockton.

The embankment of the railway is very marked and is adjacent to the original road, a steep sided ditch separates the two features. The whole of the route of the track bed is now heavily wooded and tree roots had disturbed the topmost deposits but had not penetrated into the more compact clay of the embankment. All excavation and backfilling was by hand.

Trench A

An area 5.2m north-south and 3m east-west was opened on the top of the track bed and a short extension 0.9m N-S and 2.5m E-W was laid out over slope of the embankment into the ditch separating the road from the railway. The area of the trench was reduced to 2m north-south and 3m east-west to ensure that it was fully excavated (Figs. 4, 6 & 17).

The Embankment

The bank was constructed of a yellow clay (04/12) which had been deposited in layers and revetted. The position of planking was recovered on the side of the embankment and

this defined a series of steps each set in about 0.5m from the one below and each step being about 0.20m high.

The width of the top of the embankment was c.1.9m and a height of 0.7m was seen.

Large deposits of coal, ash and clinker had fallen down both sides of the embankment (03, 05, 14) and relate to its use by steam engines and in hauling coal.

The original embankment (04/12) had been widened at the top. This was achieved by capping the deposits which had built up on the western bank with a layer of yellow clay (02). On the eastern side a more extensive widening took place and involved the deposition of sandy soil (13) and a coaly layer (15) which were capped by clay (07). This widening may well be the doubling of the whole line which is documented and probably took place in the 1830s.

The Rail Line

The line of the track on top of the original embankment was visible as two linear areas of flat ground which were interpreted as the location of the rails, set on stone or wooden blocks. Between these two areas was disturbed ground which was probably created by the passage of horses up and down the line. There was no indication of cross sleepers. The gap between these two linear areas was 1.3m (c.4ft 3.5 inches) and each had a minimum width of 0.26 - 0.28m (Fig. 18).

A layer of sandy material (11) filled the area of disturbance between the two linear areas and may represent contemporary attempts to level the surface.

Abandonment

Following the abandonment of the line, and perhaps at the time of the acquisition of the park by the local authority in the 1950s, landscaping took place on the site. This was particularly seen in Trench B (see below). A very dirty layer of orange brown sandy clay (06) containing brick, pieces of drain pipe etc was spread across the site. This also contained a cast iron way marker (Fig. 21). This underlay the immediate topsoil (01) which had heavy tree root damage.

Trench B

Trench B originally measured 4.6m north – south and 2.7m east – west. As with trench A only part of the trench was fully excavated and an extension was cut down the embankment to the west (Figs 4, 6 & 19).

The Embankment

The embankment was constructed of a mixed yellow/brown/grey clay (17). A depth of 0.45m was seen. This was overlain by a dirty yellow brown clay (08) which provided the original track bed surface. This layer was up to 0.15m deep and helped to define the original width of the embankment as being c. 3m.

There was evidence of the embankment having been revetted to assist in construction and these revetments created steps 0.8m deep, each set 0.12 to 0.2m in from the other

Layers of debris had accumulated against the steep slope of the western embankment and these comprised a mixed clay, coal and cinder layer (22) at the bottom of the slope.

The initial embankment had been widened to the west in the same way as in trench A. This had been achieved by the addition of a deposit of red-brown clay (16) which in turn had been overlain by a deposit of coal and cinder (21).

The Rail Line

There was clear evidence of the former alignment of the western rail in the form of block holes, cut into the top of the embankment (08/17) and which once held the stone or wooden blocks which supported the rail (Figs. 19 & 20).

Three block holes were excavated (09, 10, 11, from north-south) and a fourth (18) was seen in the southern section. Block hole 09 measured 0.40m x 0.80m and survived to a depth of c.0.12m, it contained a dark pink sand (12) overlying a base of partly crushed limestone. Block hole (10) was roughly 0.6m square with a maximum depth of 0.06m. It contained a pink sandy soil (13). Block hole (11) measured in excess of 0.7m north – south (continuing beneath the section) and c. 0.62m east - west where again it continued beneath the section. It had a maximum depth of 0.08m and contained a sandy soil (14).

The sand and sandy soils in the block holes may have been introduced to ensure that the blocks which carried the rail sat level on the consolidated clay of the embankment. The centre to centre spacing of the block holes was c. 1m.

Abandonment

Sometime after the line had gone out of use there was extensive landscaping. This included the deposition of a mixed soil (06/07) which had been tracked by a bulldozer, the caterpillar tracks of which had been preserved in the soil. In addition, the ditch between the embankment and the road had been infilled with a mixed deposit of soil, ash, coal and cinder up to 0.2m thick (02). A topsoil (01) then developed on the site.

Finds

The full list of finds is contained in the archive held by Tees Archaeology.

Trench A

There were extensive deposits of coal, ash and cinder, otherwise the range of finds was limited reflecting the later landscaping and debris accumulated in the ditch both during and after its use. Fragments of pottery, window glass and brick of 19th century and later date occur, as did some pieces of ballast in context A11. It is worth noting the presence of a piece of medieval pottery in context A05, the origin of this is uncertain. The most significant find was however a piece of cast iron.

Cast Iron Marker Post

This is a long casting of 'U' shaped section with a hollow back (Fig. 21). There is a bolt hole at the base of the casting with a bolt and evidence of mineralised wood. The object was probably attached to a wooden post to raise it higher and make it more visible.

Cast into the top of the post was a relief letter 'P'. Sited immediately below this was a cast disc with number '10', this had been rivetted onto the post.

It is believed that this object is associated with the use of the rail line in Preston Park and may indicate the distance in yards to the nearest passing place. It is as yet unparalleled despite inquiries at the National Railway Museum.

Trench B

The range of finds was largely the same as in trench A, but did include pieces of clay pipe in contexts B01 and 02.

Trench C

This was used by educational groups and only the topsoil was removed. This did however produce two pieces of green glazed reduced medieval pottery. As with the medieval pottery in trench A the origin of this is unknown but they are probably derived from the post abandonment landscaping of the site.

Discussion

These two small excavations have revealed a significant amount of information about the methods of construction and use of the track bed and changes over time.

The fact that the track has been placed on an embankment is obvious, but we now know that this was built in a series of revetted steps, perhaps with some consolidation of the imported clay taking place before deposition of the next step started.

The documentary sources indicate that the line was built as mainly single track with passing places, but that intensity of use led to the doubling of the track along its length. Clear evidence of the widening of the embankment was identified on both sites, although the secondary embankment still requires investigation.

The surface of the embankment provided evidence of the location of the sleeper blocks and of their 'in situ' spacing (trench B). In contrast the distinct area of disturbance between two undisturbed lines in Trench A provided a clear indication of the use of the track by horse pulled conveyances.

While the finds from the site were relatively mundane; the cinder, coal and ash provide first hand evidence for the use of the line by steam engines before its abandonment in 1851. Some of this coal may even have fallen off 'Locomotion' in its many journeys down the line.

The find of the possible marker post is significant in adding to the range of rail side furniture which was used on the first public, steam hauled railway in the world.

4. Conclusions

Survey and excavation on the line of the Stockton and Darlington through Preston Park has revealed valuable new information about the arrangement of the line in this area and about the methods of construction.

The identification of a previously unrecorded loop siding, access ramp and earth platform indicate that there are elements of the railway that were never recorded and suggest that other parts of the line may have similar features.

The excavations and auguring have demonstrated that we can learn a lot about the methods of construction of the line. The identification of 'borrow' pits at the northern end of the route through Preston Park indicates that where possible they used the material immediately to hand to build embankments rather than bringing material in.

The excavations recovered the method of construction of the embankment with layers of clay being deposited between planked revetting in a series of steps. It also demonstrated that when it came to making the whole line double track embankments were added to the side of the existing track bed.

Equally interesting the recovery of the positions of the sleeper blocks indicated that they were set into holes in the top of the track bed and levelled with sand. There was no indication that ballast was used, while the poaching between the line of the tracks in trench B confirmed the use of the railway by horses.

Inevitably the work has thrown up more questions, particularly about the purpose of the ramp and earth platform encountered near the North Lodge. Any further work could focus on this and in documenting the route through the woodland at the northern extent of the park.

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Appendix 1: Augured Sampling of Profiles

Appendix 1.1: Augured samples 1- 10 and of Profile 8 (Figs. 4, 5 & 7 for location)

Location	Augur Hole	Soil Composition
Base Point B.	1.	00-20cm: Loose Black Ash. 20-40cm: Compact Black Ash with Traces of Clay. 40-45cm: Gritty. 45-60cm: More Resistance. 60-65cm: Light Brown Clay.
Trees to the East of Base Point B.	2.	00-33cm: Loose Black Ash and Soil. 33-33.5cm: Dark Ash. 33.5-34cm: Brown Clay. 34-35cm: Light Brown Clay.
Base Point D.	3	00-43cm: Ashy Brown Soil. 43-45cm: Black Ash (Stopped at Firm Resistance).
To the East of Base Point D.	4.	00-28cm: Brown Soil and a Little Ash. 28-30cm: Light Brown Clay.
Base Point C.	5.	00-30cm: Ashy Brown Soil. 30cm Onwards: Dark Brown Clay.
West of Base Points C &D on Siding	6.	00-17cm: Ashy Brown Soil. 17-19cm: Ash. 19-30cm: Red Brown Clay.
West of Augur Hole Six.	7	00-17cm: Brown Soil. 17-20cm: Clayey Brown Soil. 20-40cm: Brown Clay.
On Siding to the North of Augur Hole Seven.	8.	00-20cm: Loose Ash and Brown Soil. 20-28cm: Clayey Ash. 28-40cm: Light Brown Clay.
On Siding to the North East of Augur Hole Eight.	9	00-12cm: Brown Soil. 12-15cm: Brown Clayey Soil. 15-30cm: Brown Clay with Coal.
Between the Siding and Mainline and to the East of Augur Hole Eight.	10.	00-20cm: Brown Soil. 20-40cm: Light Brown Soily Clay with Coal Flecks.
Profile 8	11	11a: 00-16cm: Brown Soil. 11b: 16-21cm: Clayey Brown Soil. 11c: 21-31cm: Light Brown Clay. 11d: 31-40cm: Red/Light Brown Clay
	12	12a: 00-13cm: Dark Brown Soil. 12b: 13-20cm: Clayey Brown Soil. 12c: 20-21cm: Coal and Ash. 12d: 21-41cm: Dark Brown Soil with Coal and Ash. 12e: 41-70cm: Light Brown Clay.
	13.	13a: 00-25cm: Dark Brown Soil with Flecks of Coal. 13b: 25-30cm: Clayey Dark Brown Soil and Flecks of Coal. 13c: 30-50cm: Dark Brown Clay with Flecks of Coal. 13d: 50-60cm: Clay Becoming Cleaner.
	14.	14a: 00-15cm: Dark Brown Soil. 14b: 15-17cm: White Mortar. 14c: 17-21cm: Dark Brown Soil with Coal Flecks. 14d: 21-25cm: Clayey Brown Soil with Coal Flecks. 14e: 25-30cm: Light Brown Clay with Coal Flecks.
	15	15a: 00-23cm: Dark Brown Soil with Flecks of Coal. 15b: 23-30cm: Black Ash and Coal with Dark Brown Soil. 15c: 30-37cm: Dark Brown Clayey Soil with Flecks of Coal. 15d: 37-40cm: Light Brown Sandy Ash. 15e: 40-56cm: Mixed Ashy Soil. 15f: 50-60cm: Light Brown Clay.
Profile 8		

Location	Augur Hole	Soil Composition
	16	16a: 00-18cm: Loose Dark Brown Soil with Flecks of Coal. 16b: 18-28cm: Compact Clayey Dark Brown Soil with More Coal Flecks. 16c: 28-32cm: Dirty Light Brown Clay with Coal. 16d: 32-40cm: Compact Light Brown Clay. 16e: 40-50cm: Mixed Soil and Clay with Coal and Ash. 16f: 50-58: Coal and Ash 16g: 58-70cm: Dark Brown Soil with Coal and Ash.
	17	17a: 00-20cm: Loose Dark Brown Soil. 17b: 20-27cm: Clay and Dark Brown Soil with Coal Flecks. 17c: 27-30cm: Compact Red Clay. 17d: 30-40cm: Light Brown Sandy Clay with Coal.

Appendix 1.2: Augured sample of Profile 10 (Figs. 4, 5 & 7 for location)

Profile	Augur Hole	Location	Soil composition
10.	1.	3.6m from beginning of profile Top of old Track bed	0-9cm: Yellow Brown Clay with small fragments of Coal. 9-18cm: Grey Clayey soil with flecks of Coal. 18-25cm: loose brown/black soil.
	2.	7.2m Hollow between original track bed and widened	0-30cm: Loose brown soil with Coal.
	3	9m Top of 'widened' track bed.	0-5cm: Yellow brown clay. 5-7cm: Light brown clay. 7-11cm: Mix of clay and soil with coal fragments. 11-18cm: Grey clay with small coal fragments. 18-20cm: Brown clay with coal fragments. 20-25cm: Compacted brown soil with coal pieces. 25-27cm: Brown clay. 27-35cm: Loose brown soil.
	3.	13:50m Ditch between track bed and siding.	0-4cm: Brown clay. 4-11cm: Grey clay with pieces of coal. 11-17cm: Compacted brown soil with large pieces of coal. 17-18cm: Yellow brown clay. 18-23cm: Clayey brown soil with flecks of cinder and coal. 23-35cm: Loose brown soil with flecks of cinder and coal.
	4.	18.40m 'Siding'	0-10cm: Yellow/brown clay. 10-12cm: Yellow/brown clay with cinder and coal. 12-20cm: Light brown clay. 20-25cm: Clayey brown soil. 25-37cm: Loose black/brown soil.
	5.	30m Beyond embankment	0-12cm: Sandy yellow brown clay. 12-20cm: Light grey clayey soil. 20-23cm: Soil and brown clay mix. 23-40cm: Loose black/brown soil with vegetable matter

Appendix 1.3: Augured sample of Profile 12 (Figs. 4, 5 & 7 for location)

Profile	Augur Hole	Location	Soil composition
12.	1.	3.70m from beginning of profile	0-5cm: Fine light brown sand. 5-9cm: Fine ash and coal. 9-13cm: Light brown clay. 13-20cm: Grey brown clayey soil. 20-25cm: Compacted brown soil. 25-30cm: Loose dark brown soil.
	2.	7.80m	0-14cm: Coal and ash. 14-16cm: Yellow brown clay. 16-26cm: Loose brown soil with pieces of coal. 26-33cm: Clayey brown soil with coal flecks. 33-45cm: Loose brown soil.
	3.	12m	0-5cm: Dark brown clay. 5-21cm: Yellow sandy clay. 21-28cm: Brown clay with flecks of coal. 28-38cm: Clayey brown soil with coal fragments. 38-40cm: Compacted brown soil 40-55cm: Loose brown soil.
	4.	17.30m	0-16cm: Red/brown clay. 16-20cm: Yellow clay. 20-26cm: Red/brown clay with coal fragments. 26-29cm: Coal. 29-39cm: Compacted brown soil with coal fragments. 39-45cm: Loose brown soil.
	5.	27.30m	0-21cm: Sandy yellow clay. 21-26cm: Compacted brown soil. 26-40cm: Loose brown soil.

Appendix 1.4: Augured sample of Profile 13 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition
13.	1.	4.50m Top of track bed near road.	0-4cm: Yellow brown clay. 4-6cm: Sandy soil with coal flecks. 6-9cm: Yellow sandy clay. 9-14cm: Fine ash and coal. 14-15cm: Grey clay with coal flecks. 15-25cm: Compacted brown soil with flecks of coal. 25-45cm: Loose brown soil with pieces of vegetation.
	2.	7.10m Hollow between two track beds.	0-17cm: Light brown clay. 17-18cm: Yellow sandstone 18-25cm: Compact brown soil. 25-45cm: Loose brown soil.
	3.	10m Top of second track bed	0-22cm: Light yellow brown clay. 22-34cm: Mixed light brown clay and brown soil with flecks of coal. 34-50cm: Loose brown soil.
	4.	14.30cm	0-21cm: Light yellow brown clay 21-27cm: Mix of clay, sandstone and coal. 27-29cm: Coal and ash. 29-39cm: Compact brown soil with pieces of coal. 39-46cm: Compact brown soil. 46-60cm: Loose brown soil.
	5.	19m	0-15cm: Light brown clay with coal flecks and brick fragments. 15-31cm: Mixed brown clay and brown soil with coal flecks. 31-39cm: Dark brown clay.

Profile	Augur Hole	Location	Soil composition
13			39-40cm: Compacted brown soil. 40-60cm: Loose brown soil with flecks of coal.
	6.	On field outside railway opposite profile 13	0-3cm: Yellow sandstone. 3-14cm: Mix of light brown clay, soil and coal. 14-30: Brown Soil
	7.	4m out from rubbish bin, possible stone wall/dolomite track. Coring at A4 survey point.	0-16cm: Light brown clay. 16-20cm: Brown soil and light brown clay mix. 20-48cm: Brown soil.
	8.	On field midway between A4+A5 at wood edge.	0-3cm: Light brown clay. 3-6cm: Dark grey clay. 6-7cm: Light brown clay. 7-14cm: Dark grey clay with flecks of stone. 14-15cm: Light brown clay. 15-18cm: Dark brown clay. 18-40cm: Brown soil.

Appendix 1.5: Augured sample of Profile 17 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition
17.	1.	1m Bottom of ditch.	0-15cm: Compact dark grey clayey soil with coal flecks. 15-25cm: Compacted brown soil 25-65cm: Loose brown soil with vegetation.
	2.	3.5m Top of lower track bed.	0-5cm: Light brown clay with flecks of coal. 5-7cm: Mix of coal and clay. 7-18cm: Compacted grey clay and soil 18-21cm: Light grey sandy clay. 21-32cm: Sandy, gravelly soil with small inclusions. 32-60cm: Loose brown soil.
	3.	9m Top of higher track bed.	0-7cm: Light brown clay. 7-8cm: Coal with soil. 8-9cm: Light brown clay. 9-12cm: Yellow sandy clay with coal pieces 12-19cm: Compact grey clay with flecks of coal and red clay. 19-28cm: Compact brown soil. 28-40cm: Loose brown soil.
	4.	13m Slope	0-12m: Dark grey/brown clay (Very stiff). 12-13cm: Yellow clay. 13-21cm: Fine ash and coal. 21-24cm: Mix of dark grey and yellow clay 24-25cm: Dark grey clayey soil with coal pieces. 25-30cm: Dark grey clayey soil. 30-33cm: Mixed yellow/grey clay. 33-38cm: Compacted brown soil. 38-50cm: Loose brown soil
	5.	23m Beyond track bed	0-10cm: Mixed light grey/yellow sandy clay. 10-21cm: Mixed light brown clay and soil with stone flecks. 21-40cm: Dark brown clay with stone flecks.
	6.	29.50m Beyond track bed	0-9cm: Light grey clay. 9-13cm: Light brown clay. 13-27cm: Light yellow/brown sandy clay with coal flecks. 27-34cm: Light brown clay (Very dry). 34-35cm: Red brown sandstone. 35-50cm: Loose brown soil.

Appendix 1.6: Augured sample of Profile 18 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition
18.	1.	2.30m Area between road and track.	0-11cm: Light brown clay. 11-12cm: Sandy/gravelly soil with flecks of stone. 12-21cm: Light brown clay with coal flecks. 21-29cm: Compact brown soil with flecks of coal. 29-50cm: Loose brown soil.
	2.	6m Between road and track.	0-19cm: Mottled light brown clay with small ironstone inclusions. 19-25cm: Mottled light brown/light grey clay. 25-26cm: White sand/gravel 26-31cm: Light brown clay. 31-40cm: Compacted brown soil with flecks of coal. 40-50cm: Loose brown soil.
	3.	12m On slope of track bed.	0-3cm: Yellow brown clay. 3-5cm: Red brown clay 5-12cm: Light brown clay with coal pieces 12-19cm: Mix of soil and light brown clay with coal. 19-27cm: Compact brown soil with pieces of coal. 27-50cm: Loose brown soil.
	4.	13.5m Top of track bed.	0-19cm: Mix of sand, brown soil and coal. 19-26cm: Compact brown soil with flecks of coal and pieces of stone. 26-50cm: Loose brown soil.
	5.	14.80m Top of track bed.	0-6cm: Light brown yellow clay. 6-10cm: Sandy soil with pieces of coal. 10-13cm: Cinder and ash. 13-17cm: Sandy brown soil, flecks of coal. 17-24cm: Compact brown soil, flecks of coal. 24-38cm: Loose brown soil.
	6.	19m Top of track bed.	0-7cm: Coal and ash. 7-18cm: Mid brown clay. 18-30cm: Loose brown soil.
	7.	28m	0-5cm: Clean yellow brown clay. 5-16cm: Yellow brown clay. 16-20cm: Light brown clay. 20-29cm: Mid brown clayey soil. 29-40cm: Loose brown soil.
	8.	34.50m	0-26cm: Light brown clay. 26-30cm: Compact brown soil. 30-40cm: Loose brown soil.
	9.	42.50m	0-17cm: Light brown clay. 17-26cm: Mixed brown soil and light brown clay. 26-40cm: Loose brown soil.

Appendix 1.7: Augured sample of Profile 19 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition
19.	1.	5m Ground between road and track.	0-31cm: Yellow/light brown clay. 31-37cm: Dirty yellow brown clay. 37-39cm: Compact brown soil. 39-55cm: Loose brown soil.
	2.	11m Ground between road and track.	0-25cm: Ash and coal. 25-37cm: Light brown/yellow clay, with flecks of coal. 37-45cm: Light brown clay. 45-60cm: Loose brown soil.
	3.	12.50m	0-2cm: Coal and ash. 2-8cm: Dirty brown clay.

Profile	Augur Hole	Location	Soil composition
		Ditch at base of track.	8-25cm: Coal and ash. 25-40cm: Mixed brown/yellow with flecks of coal. 40-60cm: Loose brown soil.
	4.	20m Top of track bed.	0-22cm: Mixed brown clay with flecks of coal. 22-37cm: Coal and ash. 37-60cm: Loose brown soil.
	5.	30m Land to the South of track bed.	0-39cm: Light brown clay with grey mottles. 39-48cm: Compact clayey brown soil. 48-60cm: Loose brown soil.
	6	33.50m	0-22cm: Red brown clay with grey mottles. 22-31cm: Yellow clay. 31-45cm: Compacted clayey soil. 45-60cm: Loose brown soil.
	7	35m	0-8cm: Red/brown clay with grey mottles 8-25cm: Yellow clay. 25-35cm: Mixed yellow clay. 35-40cm: Dirty yellow brown clay 40-60cm: Loose brown soil.

Appendix 1.8: Augured sample of Profile 20 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition
20.	1.	9.30m Furrow.	0-12cm: Brown clay with grey mottles. 12-32cm: Yellow clay with stone inclusions. 32-40cm: Compacted brown soil. 40-50cm: Loose brown soil with flecks of coal.
	2.	10.30m Top of ridge.	0-20cm: Coal/ash and soil mix. 20-30cm: Compact brown soil with flecks of coal. 30-50cm: Loose brown soil with flecks of coal.
	3.	5.30m Top of furrow.	0-23cm: Yellow clay. 22-30cm: Dirty yellow clay. 30-35cm: Yellow mixed clay. 35-40cm: Compact brown soil with clay. 40-50cm: Loose brown soil.
	4.	10.30m Offset 5m to the East to check coal and ash deposit	0-12cm: Yellow clay. 12-30cm: Ash, coal and soil. 30-31cm: Yellow clay. 31-40cm: Compacted brown soil 40-55cm: Loose brown soil.
	5.	8m Ridge	0-5cm: Brown clay with grey mottles. 5-30cm: Yellow clay. 30-40cm: Dirty yellow clay/soil with flecks of coal. 40-55cm: Loose brown soil.
	6.	13.30m Ridge	0-23cm: Yellow clay 23-31cm: Mixed compact yellow clay/brown. 31-50cm: Loose brown soil.
	7.	21.50m Top of track bed.	0-2cm: Clean yellow clay. 2-10cm: Clean yellow/grey clay. 10-28cm: Dirty yellow clay with coal. 28-31cm: Coal and ash 31-40cm: Compacted brown soil, traces of clay. 40-50cm: Loose brown soil.
	8.	27.50m Top of track bed	0-3cm: Yellow clay. 3-25cm: Dirty yellow brown clay. 25-50cm: Loose brown soil.
	9.	34m	0-5cm: Brown clay with grey mottles

Profile	Augur Hole	Location	Soil composition
			5-30cm: Yellow clay. 30-35cm: Compact soil with yellow clay. 35-50cm: Loose brown soil.
	10.	38m	0-12cm: Brown/yellow clay with grey mottles 12-25cm: Yellow clay 25-33cm: Compact brown soil. 33-50cm: Loose brown soil.
	11.	43.50m	0-15cm: Brown clay with grey mottles 15-22cm: Dirty yellow clay. 22-37cm: Mixed soil and clay 37-50cm: Loose brown soil.
NB Ridge and furrow at right angles to railway, samples contained coal at the bottom of 0-50cm core under soil.			

Appendix 1.9: Augured sample of Profile 21 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location	Soil composition (*=Possible surface)
21.	1.	63.30m From F1 to G.	0-9cm: Loose sandy soil with coal. 9-10cm: Limestone. * 10-13cm: Coal and ash. 13-15cm: Sandstone. * 15-16cm: Coal and ash. 16-19cm: Limestone. * 19-23cm: Coal and ash. 23-50cm: Brown soil.
	2.	20m	0-11cm: Sandy black soil with coal flecks. 11-20cm: Black soil, coal and ash. 20-21cm: Yellow clay 21-27cm: Black soil, coal and ash. 27-29cm: Sandstone. * 29-33cm: Dirty ashy soil. 33-50cm: Loose brown soil.
	3.	25.50m	0-8cm: Sandy black soil. 8-10cm: Limestone. * 10-15cm: Black ashy soil. 15-30cm: Loose coal and soil. 30-35cm: Very compacted brown soil with flecks of brick and coal. * 35-50cm: Loose brown soil.
	4.	30m	0-11cm: Black soil. 11-18cm: Grey clay. 18-28cm: Yellow clay 28-31cm: Grey clay. 31-37cm: Dirty yellow clay. 37-50cm: Black coal and ash. 50-80cm: Loose brown soil.

Appendix 1.10: Augured sample of Profile 22 (Figs. 4 & 6 for location)

Profile	Augur Hole	Location (On platform)	Soil composition
22.	1.	2.90m	0-22cm: Yellow clay. 22-28cm: Dirty grey clay. 28-50cm: Brown soil.
	2.	6.30m	0-22cm: Yellow clay. 22-27cm: Dirty grey clay.

Profile	Augur Hole	Location (On platform)	Soil composition
			27-50cm: Brown soil.
	3.	9m	0-10cm: Yellow clay 10-22cm: Dirty grey clay 22-40cm: Brown soil with coal. 40-5-cm: Loose brown soil.
	4.	Midway between trees In center of platform.	0-25cm: Yellow clay 25-50cm: Brown soil.
	5.	12.60m On ridge top beside platform.	0-25cm: Yellow brown clay. 25-52cm: Yellow clay 52-60cm: Brown soil/yellow clay and coal. 60-63cm: Yellow clay. 63-70cm: Brown soil.
	6.	11m Furrow between platform and ridge.	0-60cm: Brown soil with coal.

Figures

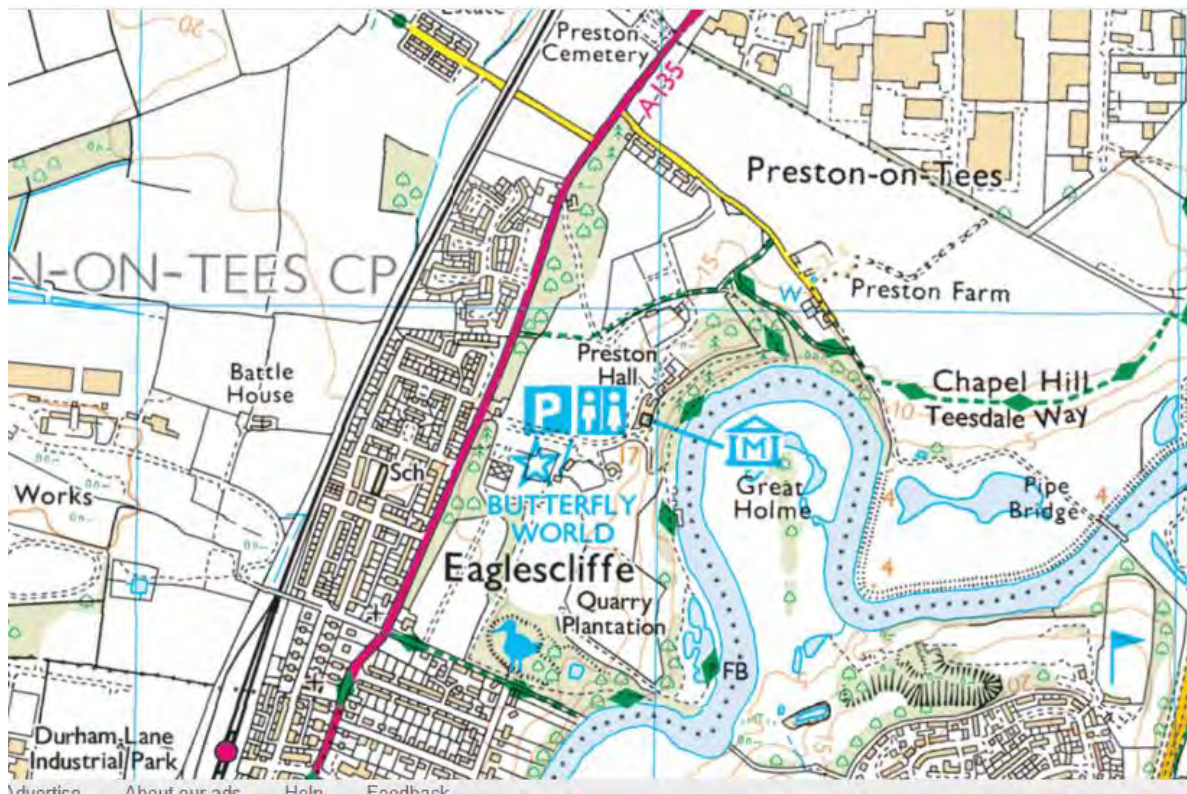


Figure 1. Ordnance Survey 1:25,000 map showing Preston Park, ©Microsoft 2020



Figure 2. Aerial Photograph showing the area surveyed, in the linear woodland next to the road, © Getmapping plc



Figure 3. Ordnance Survey First Edition Map of 1857 (needs replacing for copyright)

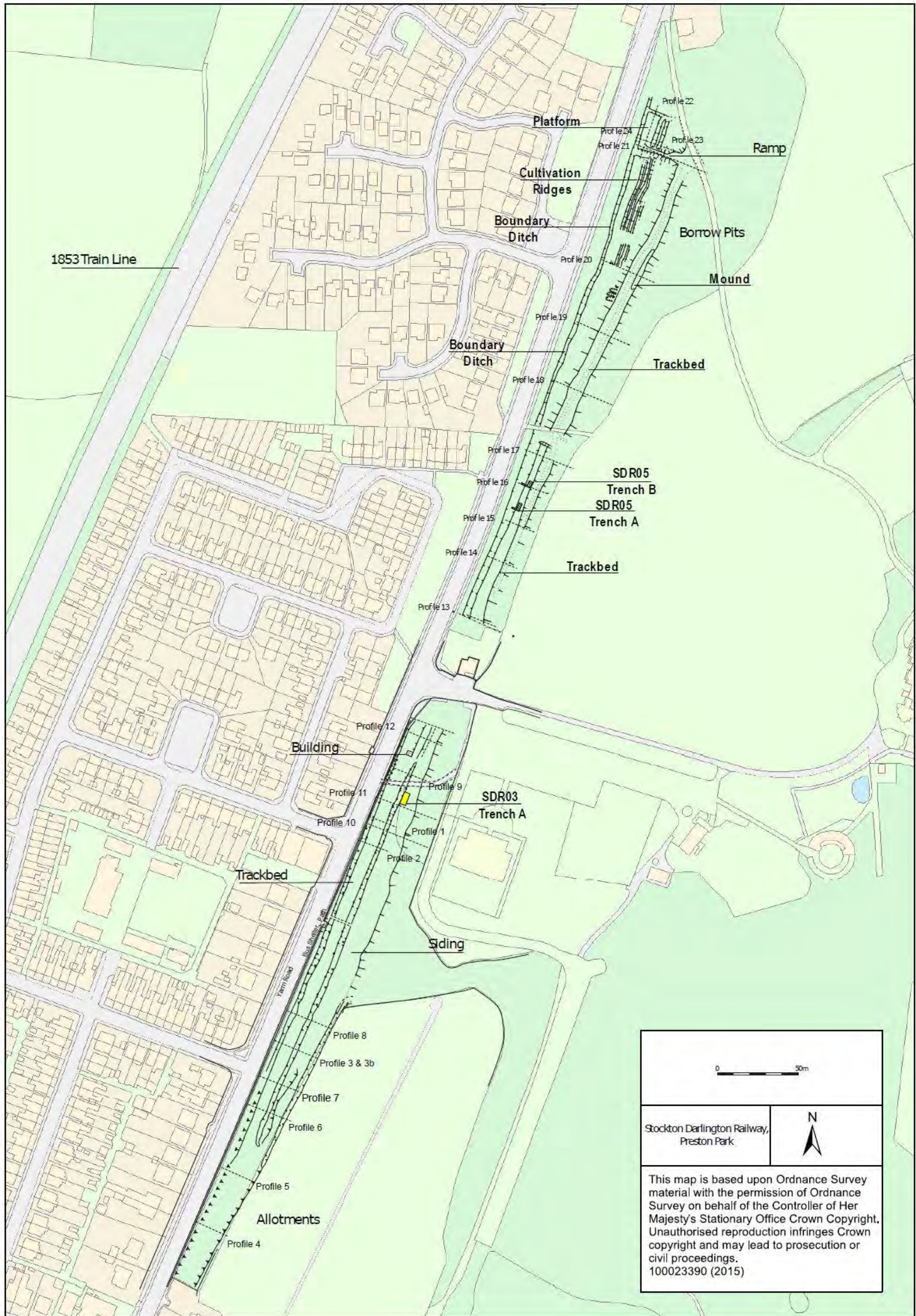


Figure 4. Survey of the Stockton and Darlington Railway through Preston Park showing the location of profiles and excavations

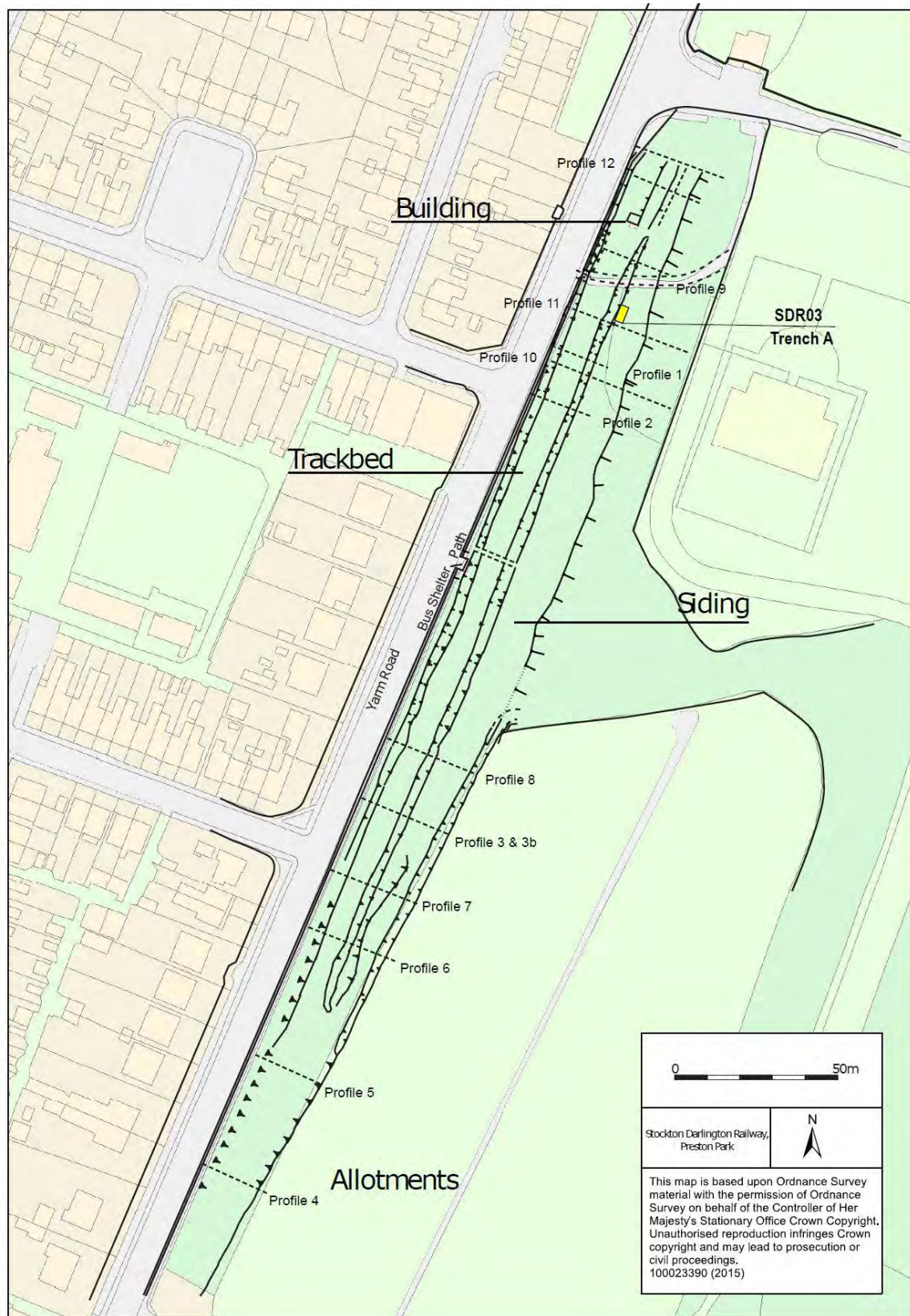


Figure 5. Southern section of the line through Preston Park

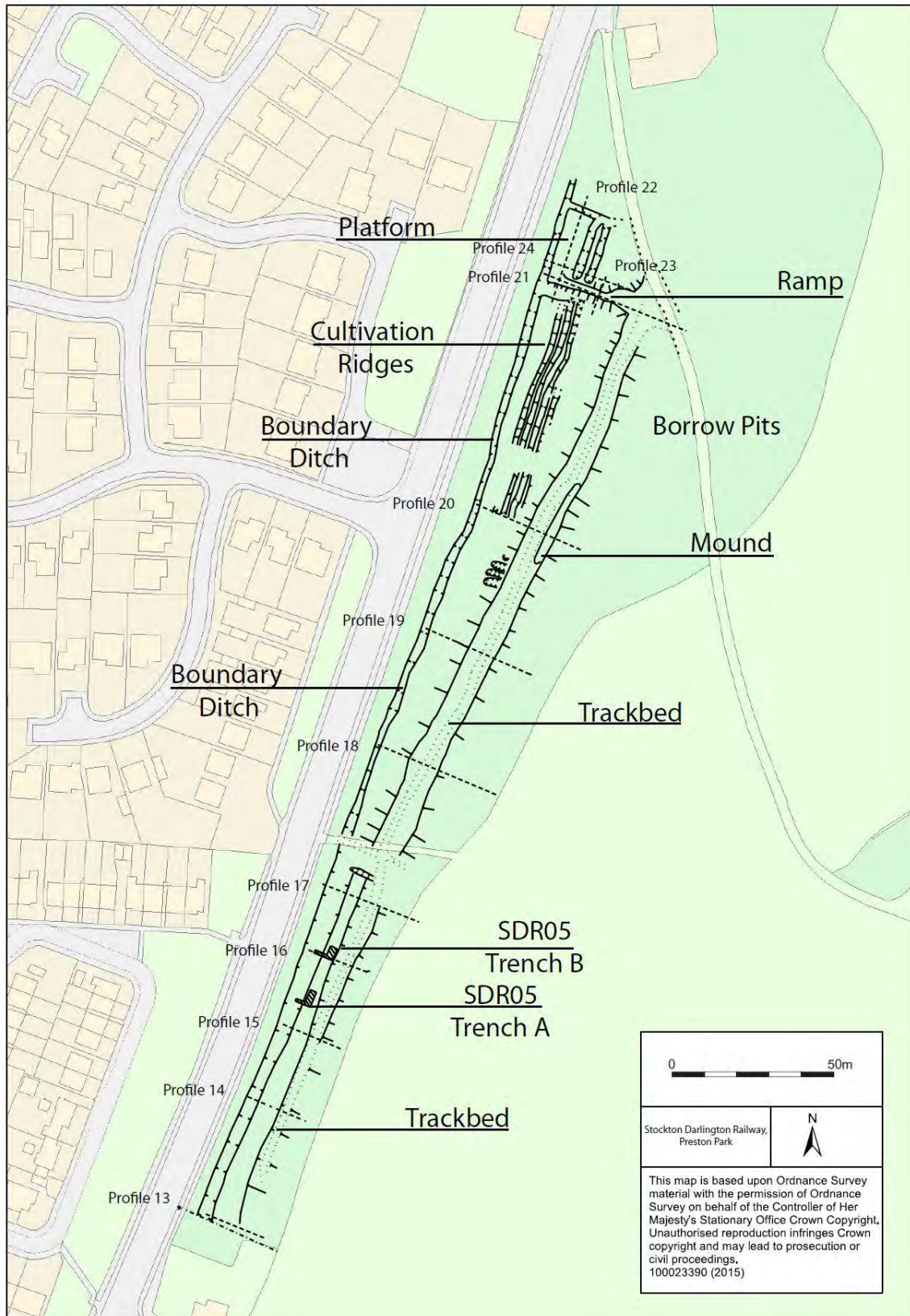


Figure 6. Northern surveyed section through Preston Park

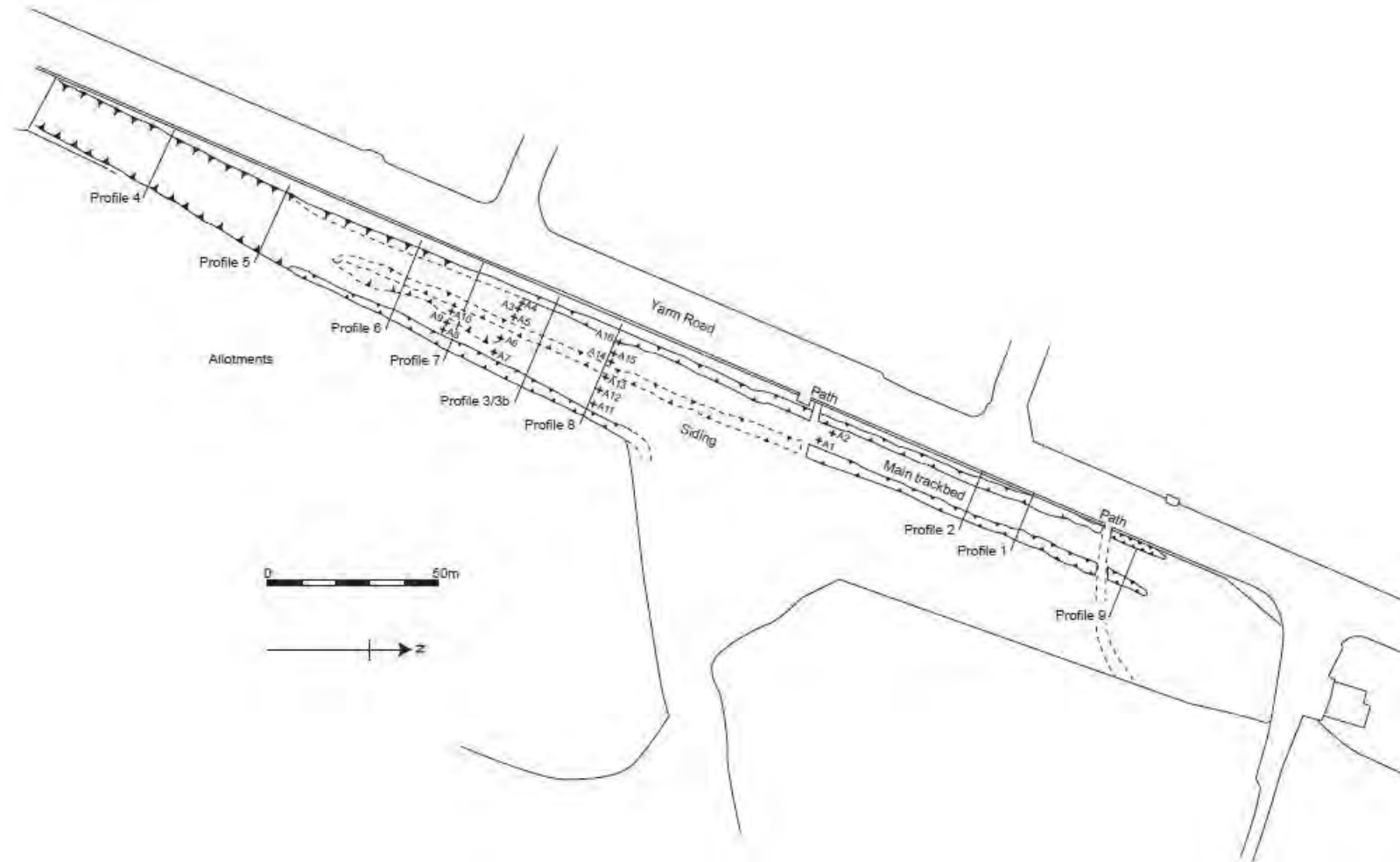


Figure 7. Plan of southern area surveyed showing the location of augured holes 1-10 and along Profile 8

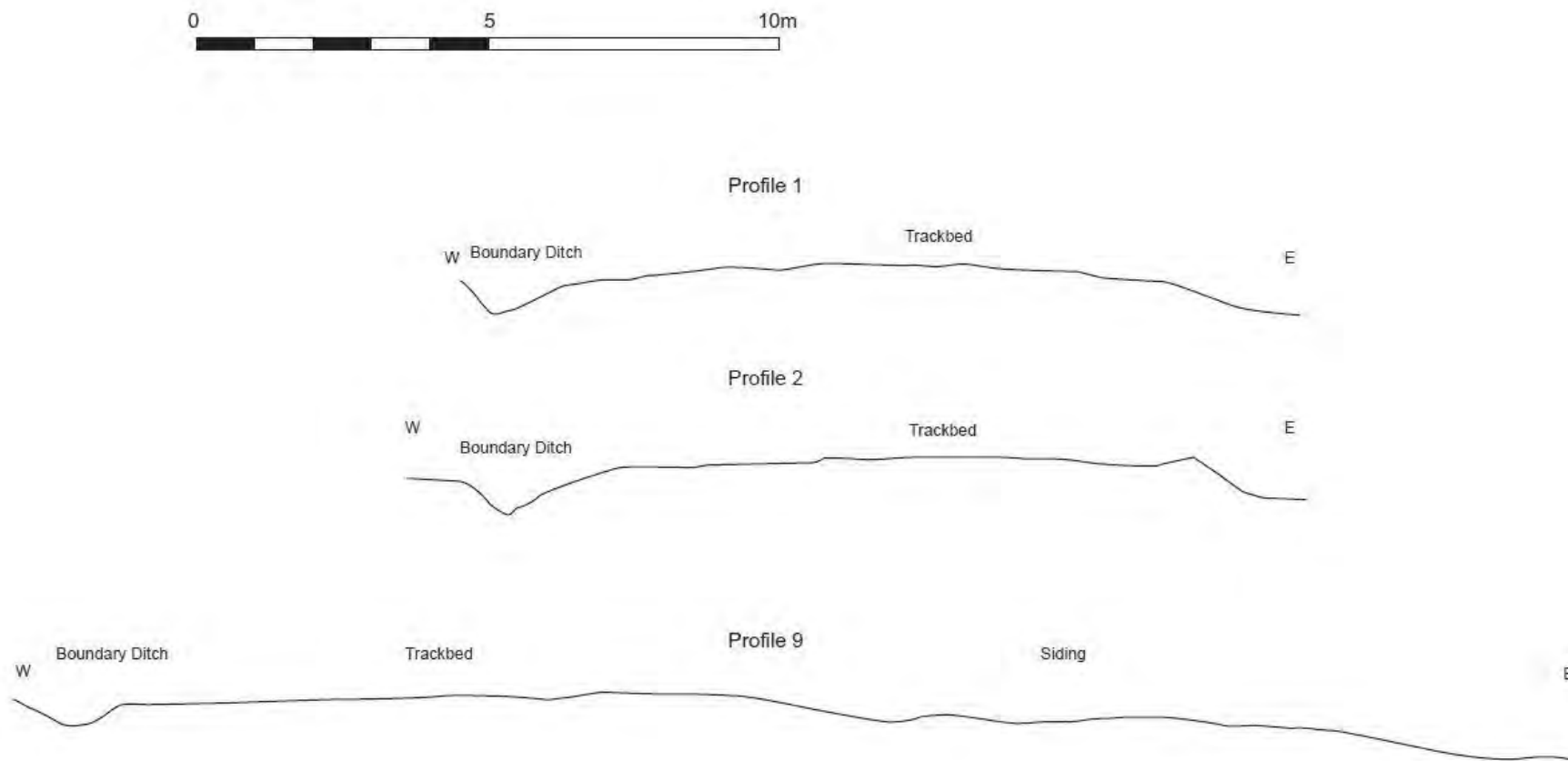


Figure 8. Profiles 1, 2 and 9 (vertical scale is 1:10)

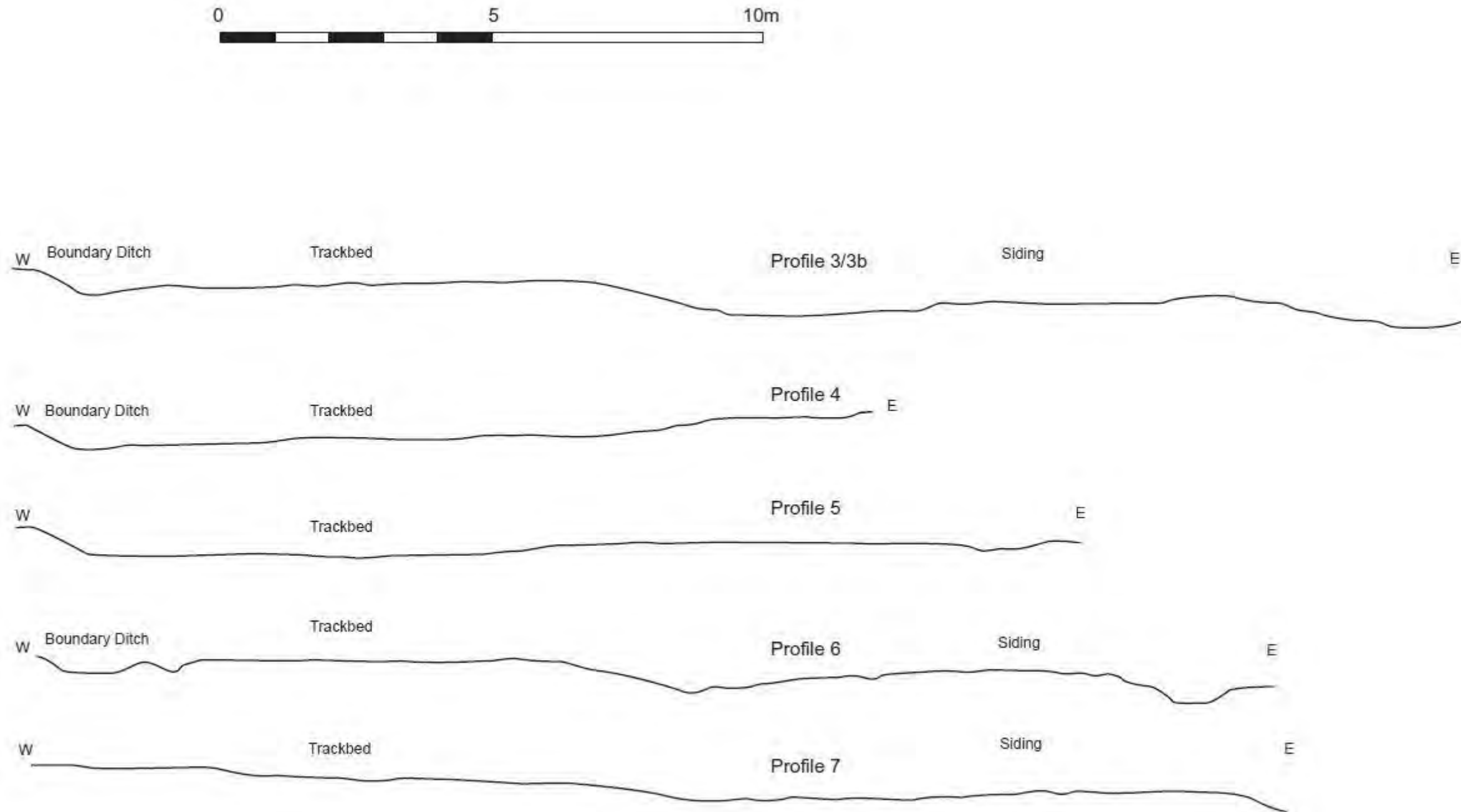


Figure 9. Profiles 3 – 7 (Vertical scale 1:10)

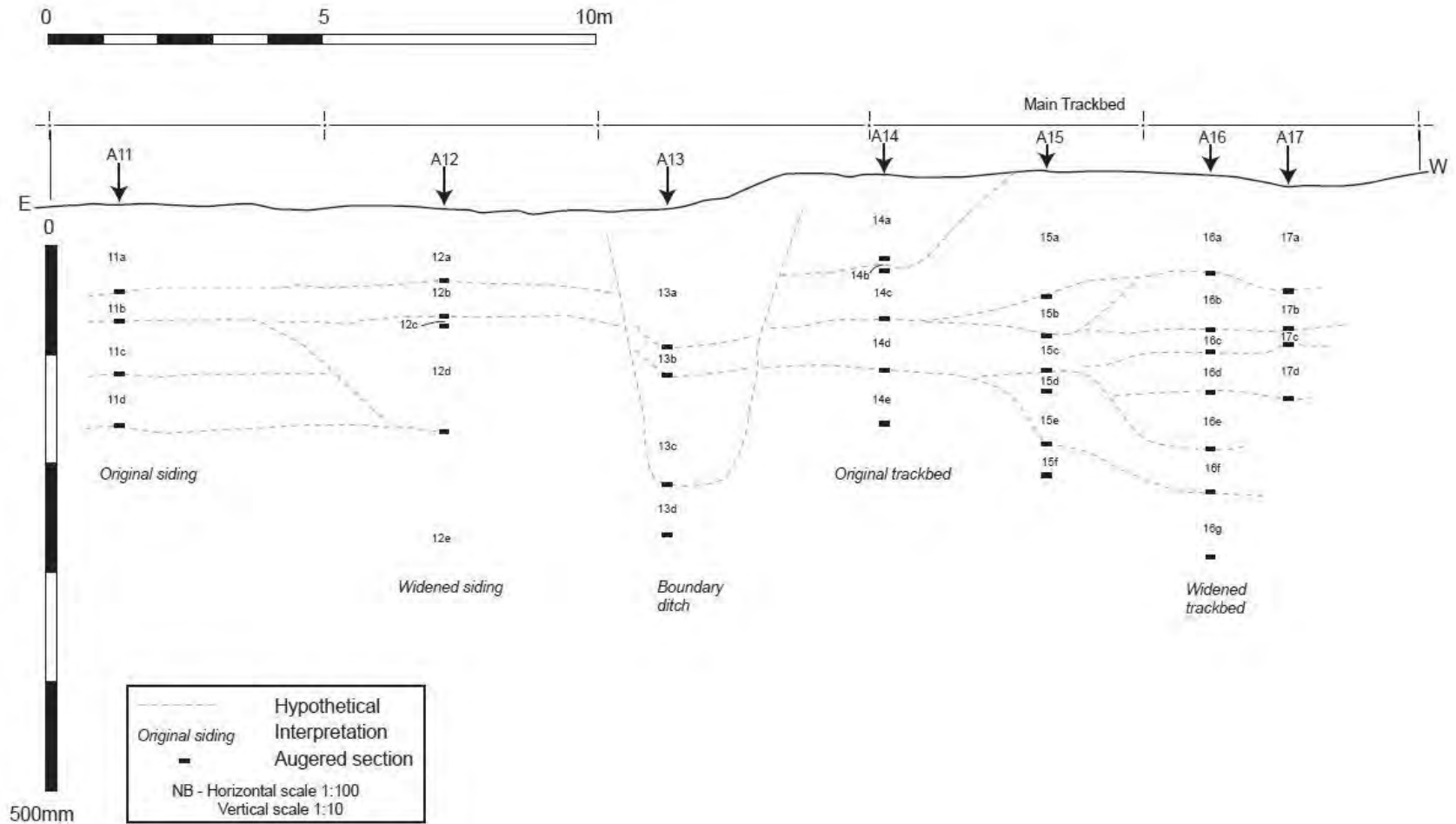


Figure 10. Profiles 8 with augur readings plotted and hypothetical section constructed. Horizontal scale 1:100, vertical scale 1:10

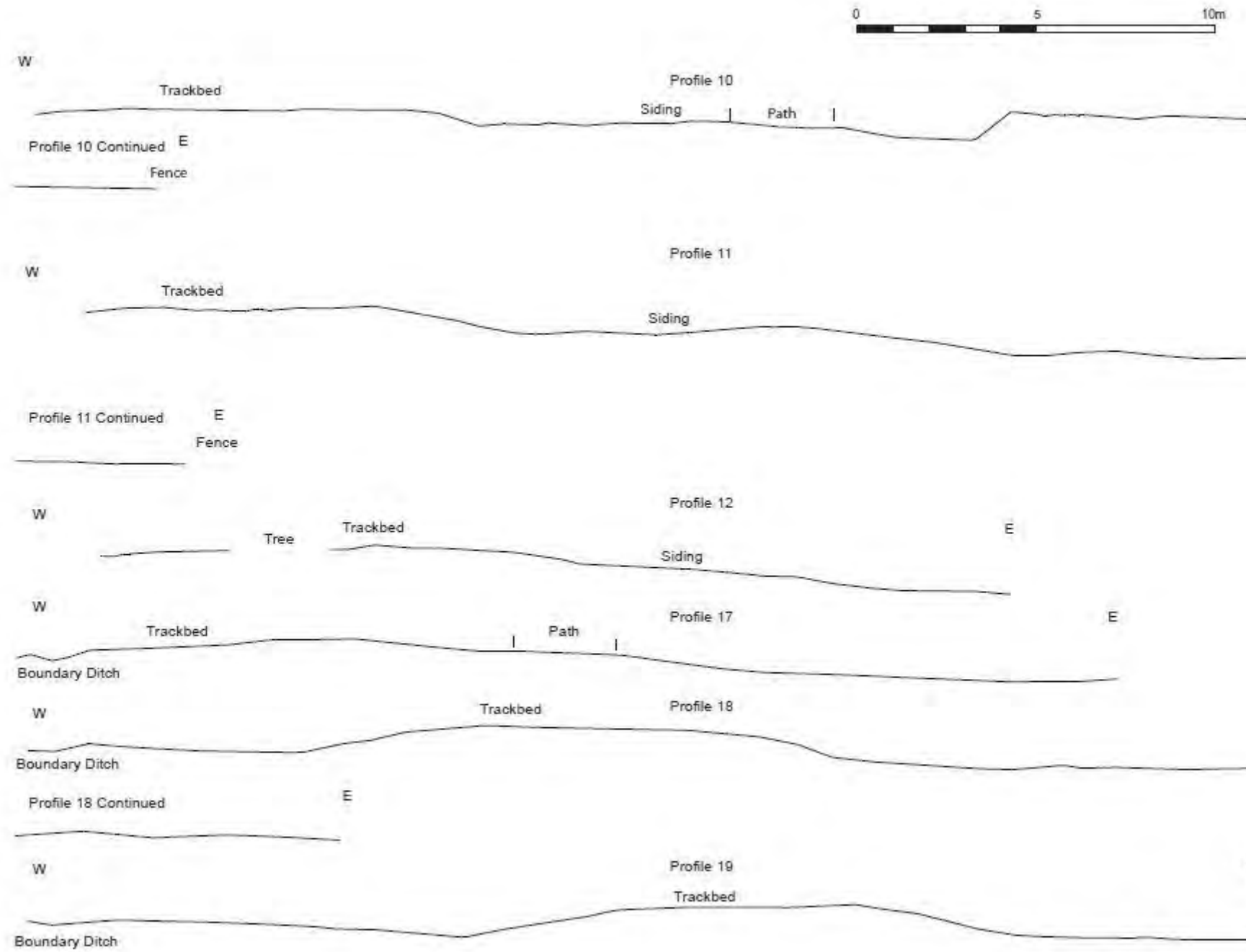


Figure 11. Profiles 10 – 12, 17 - 19. Horizontal scale 1:100, vertical scale 1:10

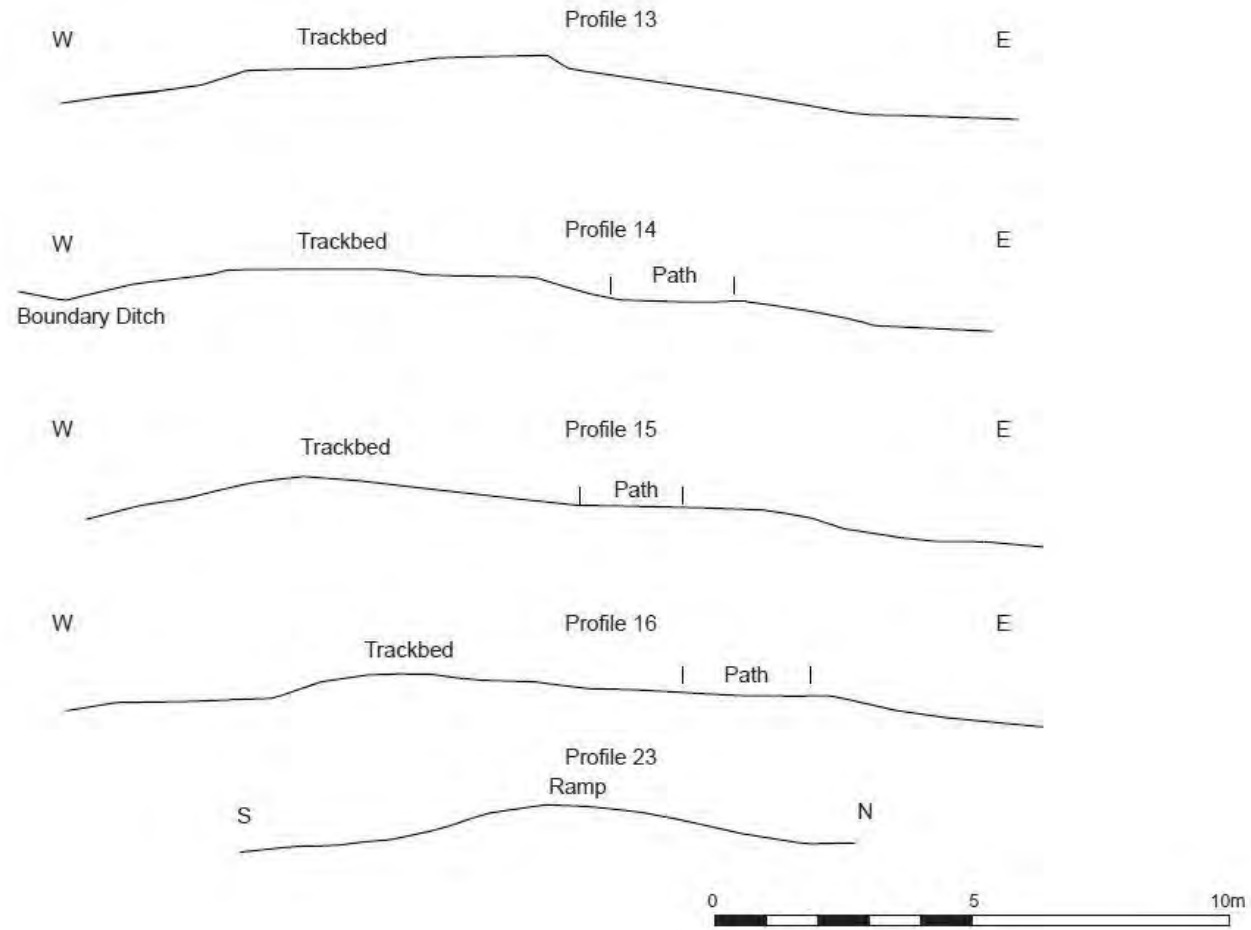


Figure 12. Profiles 13 – 16 and 23. Horizontal scale 1:100, vertical scale 1:10

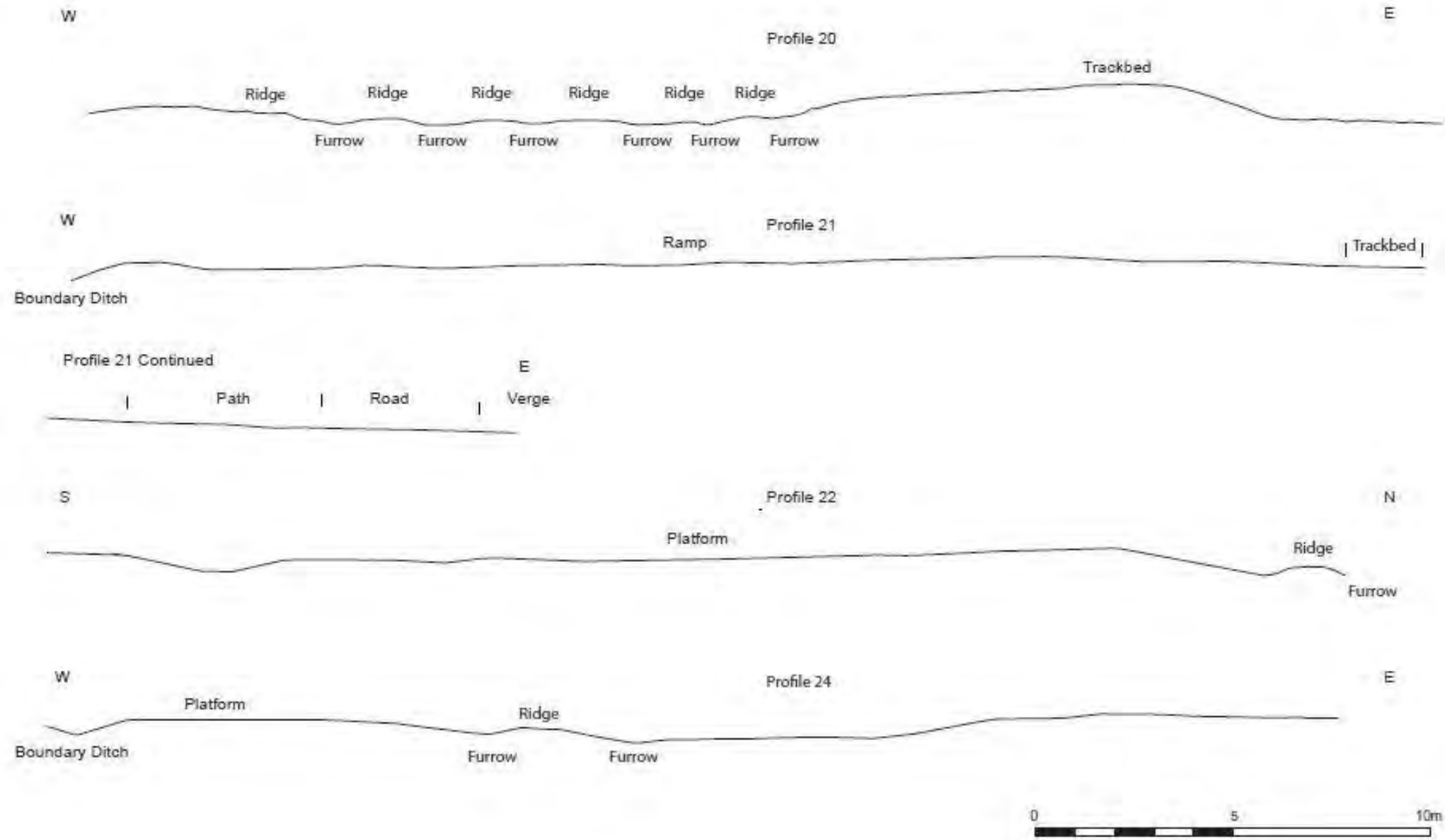
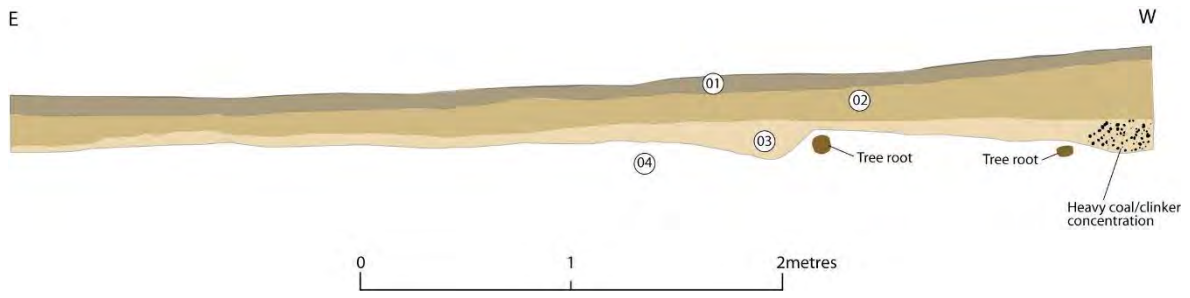


Figure 13. Profiles 20 – 22 and 24. Horizontal scale 1:100, vertical scale 1:10



Key
01: Topsoil 02: Red/brown clay 03: Mid-brown soil 04: Yellow clay

Figure 14. Section through Trench A, 2003



Figure 15. Trench A 2003, Gilt button-back



Figure 16: Granite sleeper blocks from the Stockton & Darlington Railway, re-used to construct a double-slipway at Saltburn, Redcar & Cleveland.

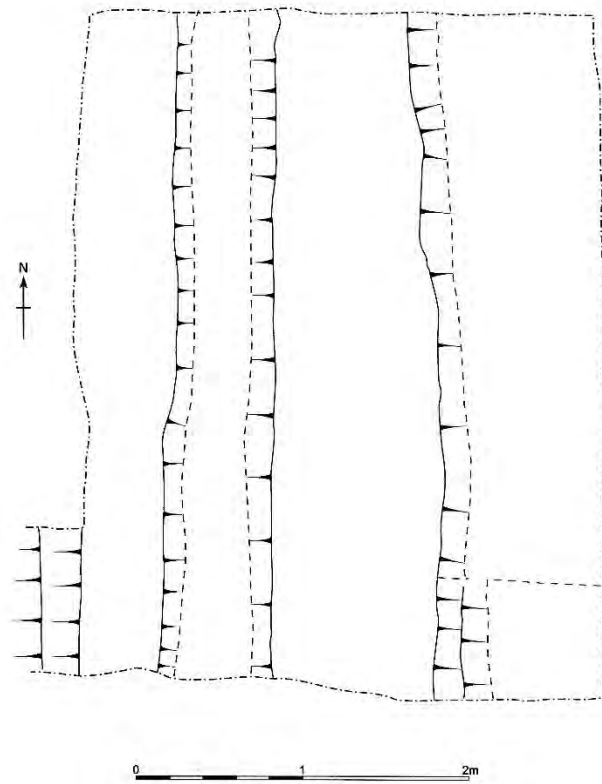


Figure 17. Plan of Trench A, 2005



Figure 18. Poaching between the lines of the track, caused by horses moving over the ground

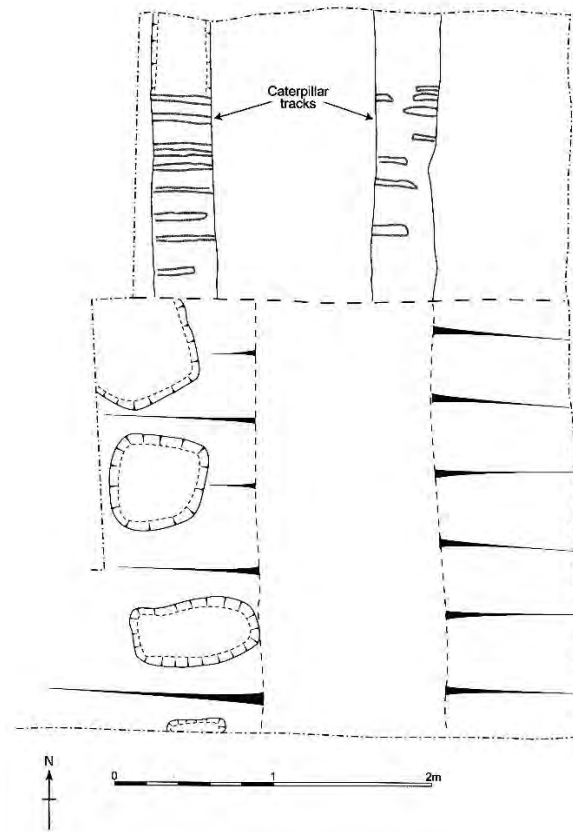


Figure 19. Plan of Trench B, 2005. The top half of the trench was only excavated on to the caterpillar tracks from landscaping, the lower half shows the block holes for the railway sleeper blocks



Figure 20. Trench B, 2005 showing block holes



Figure 21, Marker(?) Post, front, back and detail of top and bottom of front face

