Repton Village History Group

Repton's Tithe Barn

The story of tracking down the Repton Priory Tithe Barn.

CONTENTS

INTRODUCTION

When the History Group transcribed and published a portion of William Astbury's diary from 1843[1], a number of mentions of the Tithe Barn were noted. In the forward, Colin Kitching points out one conundrum of special interest; where exactly was the "ancient tithe barn, supposed to be coeval with the monastery"?

The building beside the school entrance arch has long been referred to as the Tithe Barn. Indeed the building incorporates a length of the Priory wall, and the arch it abuts was part of the Priory Gatehouse. On the 1832 map it is labelled as the Priory Barn but in earlier school records it is simply referred to as The Barn. Then, Professor Martin Biddle demonstrated[2] that this building dates from the late 18th or early 19th century based on both its structure and a picture from 1727 showing the arch as a two story gatehouse, but without the barn beside it.

We have now found clues to the location of a real tithe barn in 3 documentary sources – Astbury's diary, the enclosure award of 1766 and in Wyatt's map from 1762[3]. Finally, this was followed up with an archaeological test pit in an endeavour to find evidence of the barn in the ground.

This is the story of our efforts to find the barn.

Andy Austen
January 2016

[1] Published RVHG 2000
[2] Derbyshire Archaeological Society Journal 1993
[3] Samuel Wyatt Map – Staffordshire Record Office.

SUMMARY

The key piece of evidence is the 1762 map from the Staffordshire Record Office where there is a sizeable building amid fieldnames referring to the tithe barn. Using Qgis software we were able to correct any mapping errors in the 1762 map by accurately overlaying it on a modern OS map. This gave us a best possible location which was mainly in the back garden of 22 Milton Road. That this is indeed a tithe barn is confirmed by the Enclosure Award of 1766 when it is involved in a land transfer between the Harpurs and the Burdetts. The award also provides an access route from Milton Road to (H)Avery Flatt, passing the barn. Astbury's walks in 1843 can be traced on footpaths that still exist and which are shown on the 1881 OS map and he describes passing the barn - supposedly contemporary with the Priory. He also describes the barn as having a stone lower level. By 1881 the barn had gone and the stone reused elsewhere. In earlier days and on compacted gravels, foundations may have been minimal but resistivity surveys were conducted and they detected a faint trace that might have been a hard floor. However, an archaeological test pit revealed only debris and an area of clay – which may have been from the building of the modern house or possibly a demolished clay-bonded stone wall or a collapsed wattle and daub wall or some feature such as a dewpond which was later drained and filled in.

CONCLUSION

We can be certain that there was a Tithe Barn in Repton in the 1760's owned by the Harpurs and re-assigned to the Burdetts during the enclosures. We cannot be sure it was THE Priory tithe barn, but Astbury records the local belief that it was, and the Harpurs had certainly acquired land around the Priory soon after dissolution.

We can be very sure that the barn was mainly in the back garden of 22 Milton Road from the mapping work – corroborated by entries in the enclosure award and by the footpaths used by Astbury in 1843 and recorded in his diary. We cannot be certain that we have a completely precise location for the barn – it could be a few metres in any direction and may well protrude into the gardens of 20 and 24 Milton Road but we are very close. A test pit was inconclusive – we may have found clay from the walls but it was always probable that foundation trenches and thus archaeological evidence would have been minimal.

ACKNOWLEDGEMENTS

We are very grateful to a number of people who have made this possible and they are listed here in chronological order of their contribution:

Phillip Heath and Staffordshire Record Office For the 1762 Samuel Wyatt map
Derbyshire County Council for a grant that made possible our digital manipulation of the maps.
Tony Brookes for the training course on using Qgis.
Chris Jerram for allowing us access to the site and for permitting the excavation of a test pit.
Keith Foster for providing the equipment and leading the resistivity surveys and processing the results.
Barbara Foster for leading the test pit dig and writing the archaeological report.

THE EVIDENCE

A) The 1762 map

This map immediately pre-dates the enclosure awards made in 1769 and is thought to have been produced for the Calke estate – probably to be the basis of negotiations. Almost all fields are named and there are three of particular interest. Flatt by Tithe Barn, Tithe Barn Croft and Tithe Barn Closes (actually shown as two fields). Lo and behold, amongst these is a sizeable building.

We could tell from the map that the building was somewhere south of Milton Road and somewhere near the modern Askew Grove. A large scale OS map of about 1960 date was photographed, pasted into MS Word and traced using the drawing tools. A portion of the 1762 map was copied into word and the tracing from the 1960 map laid on top. By use of a text box laundered through MS PowerPoint, we were able to turn and proportionally resize the tracing and position it on the 1762 map. The first attempt put the barn under what became Askew Grove (only the adjoining Crescent is shown on the OS map). However, the general fit between maps was not brilliant and so a second attempt was made with more precision in the manipulation of the tracing. This suggested that the barn was in the area between Askew Grove and Milton Rd and SW of the cinder track. Visits to householders at 18, 20, 22 and 24 Milton Road was encouraging though no one had encountered traces of foundations. We did notice that the properties are raised relative to Milton Road and many have stone walls against the road and on their drives. According to Astbury, the barn had a stone lower level. We also discovered that there had been a field entrance at number 18.

Wyatts map of 1762 – from Staffordshire Record Office.

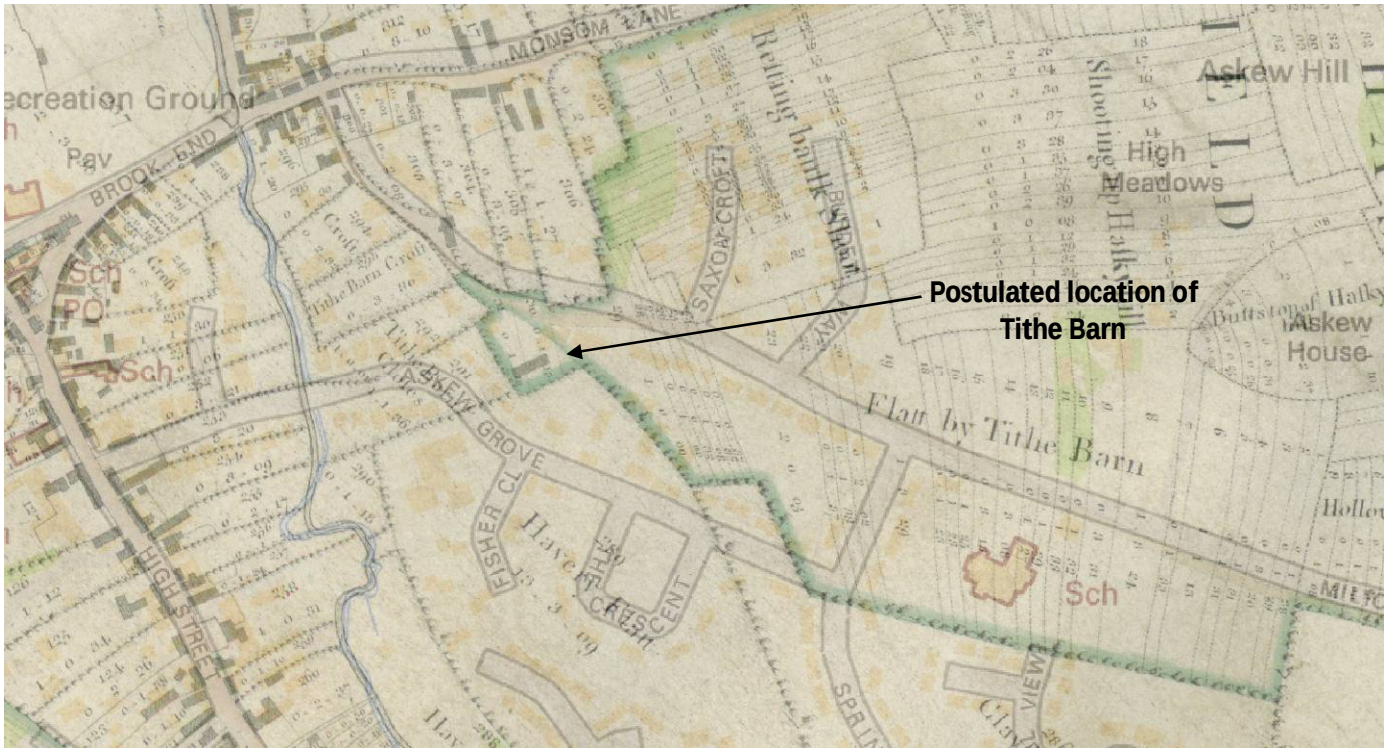
One problem was that the scanned images of the 1762 map are massive and our ageing computer couldn't really cope with manipulating images of that size. Also, with all the manipulation, we could no longer be sure of the accuracy of the tracing.

Meanwhile, we had been in discussion with Trent and Peak Archaeology about establishing a community archaeology group and, as part of that, had intended to create a set of layered maps of everything that has ever been found about Repton. This too would require a capable PC. Through their encouragement we were able to successfully apply to Derbyshire County Council (DCC) for a grant which would provide the IT necessary to support both the layered maps and accurately locate the tithe barn.

We are very grateful for the DCC grant of £2000 which enabled us to get PC Clinic in Ashby to build a PC for us with an i7 processor, 8Gb of RAM - expandable, a separate solid state drive for the operating system, two large screens, MS Office and a back-up drive. We downloaded the free open-source Quantum GIS (now Qgis) software and were delighted to be able to pay for 4 RVHG members to attend a Qgis course organised by Derbyshire Archaeological Society (DAS) and run by Tony Brookes of Derby University - one of their members.

Through a combined effort, Martin Flowerdew, Lesley Holt, Aimee Brooks and Andy Austen grappled with Qgis and MS ICE to download the free OS maps for Repton, join together the appropriate scans of the 1762 map and geolocate the old map on the modern one. This has the effect of adjusting the old map to a best fit on the new one, thus correcting historic mapping inaccuracies.

The geolocation process required us to identify common positions on the maps. More than 10 are needed – the more the better. Some were obvious - such as the Cross, the Square, Brook End Bridge, St Wystan's church, but some needed a bit of thought. There is a bend on Tanners Lane which we eventually recognised on the 1762 map, and another at the top of Monsom lane. There is a curious and very pronounced squiggle in Repton Brook and so on.



Modern OS map overlaid on the 1762 Wyatt map in QGIS

We did the same for photographs of the 1881 23" OS map that the History Group possesses and for parts of a large scale 1901 map. Qgis enables you to adjust the transparency of each layer to see the one beneath. The barn does not appear on the 1881 map.

The 1762 map and the modern OS map layers gave us a very good location for the barn – mostly in the back garden of 22 Milton Rd. Mrs Jerram very kindly allowed us to look round and to take a visiting archaeologist to have a look. Mrs Jerram's house was built in the 1930s and the land was farm land until Askew Grove was built in the 1960s. One point of concern was that Elaine Fisher remembered that there was a gravel pit in the area that might have compromised the site of the barn. This feature is not on the 1762 map but does appear on the 1881 map and from the Qgis layers, it was clear that it was on the boundary of 22 and 20 Monsom Lane – mainly number 20 - and manifests itself as their road level drive. It did not reach the house at 22 nor the barn site.

B) The Enclosure Awards

In 1766 the process of enclosing the common lands in Repton was completed and the awards finalised into law. The aim of this process was to enable a reform of agriculture to feed a growing population by arranging larger and more efficiently farmed holdings through land exchanges and consolidations. Common land was incorporated into the new holdings and to make up any imbalances in exchanges.

The tithe barn is clearly mentioned[4] in an exchange of land between the Burdetts and the Harpers. The small piece of land (1 perch 6 poles) containing the barn and owned by the Harpers, is transferred to the Burdetts in exchange for other pieces of land nearby. It is clearly defined by the field names around it. Although it is difficult to reconcile the exact acreages mentioned in the award with those on the map.

Also mentioned is the provision of a private access road from Milton Road, passing the tithe barn and into Avery Flatt (Havery Flatt on the 1762 map). If number 18 was indeed the field entrance on Milton Road then the footpaths on the 1881 map and conjectured by the later line across the gardens could well be the remnants of this way.

[4] See Appendix B

C) Astbury's Diary

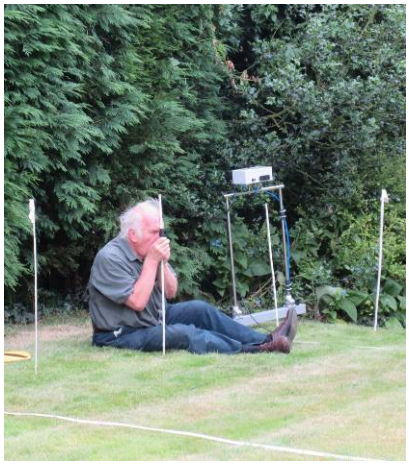
William Astbury spent some 12 weeks in Repton in the summer of 1843. He was a senior official in the London office of the Spode china business and executor to James Bull a farmer in Willington who was gravely ill. He took a keen interest in local affairs, had a growing interest in farming and frequently walked the footpaths of Repton. In his diary he records these walks in some detail and in a number he mentions passing the tithe barn. Since most of the paths still exist – or have only minor diversions, it is possible to work out where he went. They do not enable us to locate the barn, but they do make real sense when considered with the evidence of the 1762 map and help to confirm its location.

As can be seen in Appendix C, the footpaths were clearly marked on the 1881 map. If you extend NW the line of the path (labelled 5) which later ran across the gardens of 22, 24, 26, then it comes out where the field entrance at number 18 once was. In more recent times the footpaths by the barn had moved to start at the end of the gravel pit and locals remember the line being across the back gardens of 22 and 24 as shown. It was diverted for obvious reasons down the side of the gardens of 20 and 22 and across the bottoms of 22 and 24. Later it was formally closed though it can still be seen where it runs down the side of the gardens of 20 and 22.

D) The Archaeology

We know from Astbury's diary that the barn had stone lower levels but it is quite possible that the foundations were minimal and the stone robbed out and re-used at the end of the building's life. So the chances of finding evidence in the ground was acknowledged as slim. However we were delighted to be given permission to carry out a resistivity survey and very grateful to Keith and Barbara Foster of DAS for providing the equipment and the expertise to do so.

The back garden was marked out with a line down each edge marked down their length with 1m spaced pegs. Then lines marked at 1m intervals were stretched across between pairs of pegs to create a grid of 1m squares. These transverse lines were checked to ensure they were square to the longitudinal lines. The resistivity probes were then inserted in the ground at the far end straddling the start of the first transverse line and a reading taken there and on each of the 1m marks and also the mid-point between them. The next measurements were taken between first and second transverse lines. The next set of measurements straddled the second line and so on. This way we completed a half metre grid of the major part of the entire garden.



The weather had been dry, the garden is of sandy gravels and slopes away from the house and has a number of coniferous trees and shrubs and a 20ft Leylandii hedge down the eastern boundary. As a result, the ground was very dry and the resistance values in some areas extremely high. There were also some patches at the top near the NW corner where getting the probe into the ground was difficult. On checking, it was understood that there had been no buildings here in living memory however it is quite close to the aforementioned gravel pit.

The results were digitally recorded and processed off site. The report is included as appendix D. The very high resistances masked variations at the lower ranges and so were dropped out of the sample. This enabled a vaguely rectangular area to be recognised in the area the barn was anticipated. This could have been the end of a hard floor – perhaps the centre section of a tithe barn.

The report recommended two more surveys possibly followed up by one or more test pits. These would be pseudosections which are the resistivity equivalent of digging a long trench to reveal the underlying stratification of a section.

The Jerrams kindly permitted this further activity and Keith and Barbara Foster again led the survey. Two lines were set out down the garden crossing two promising areas, and contact stakes were inserted at 1m intervals. The resistance between neighbouring pins 1-2, 3-4… were measured and recorded. This was repeated measuring resistance between pins 1-3, 2-4, 3-5… and again 1-4, 2-5, 3-6… and so on. The results were processed off-site and confirmed a lens of interesting material that might represent a section through the hard floor. The report is included as appendix E.

Based on this, we were given approval to put in a 1m square test pit with a little flexibility for a small extension if necessary. The aim was to try to find the edge of the possible hard surface. With the weather forecast deteriorating and the house up for sale, we had to move quickly and Barbara Foster agreed to lead the dig. Fortunately, in addition to Barbara we had Aimee Brooks, Lesley and Emily Holt and Rev Martin Flowerdew – all trained in excavation techniques and with some experience.

The day was wet but we were fortunate to have a large event shelter and a gaz stove so we were reasonably comfortable. A promising spot had been identified using the survey results, a 1m grid was centred on it and the ground marked out. Our brand new turfing spade removed nice even rolls of turf and we proceeded to remove a layer of topsoil with trowels but quickly realised that a mattock was a much better approach to the hard-packed gravels. The loosened soil was cleared away and sieved and the surface cleaned up. Finds were retrieved into trays for each layer. In the main we found pieces of brick and broken glass - some very thin - but significant pieces of much thicker green glass. Full details are given in the report in Appendix F but quite a bit of the green glass was reassembled to reveal parts of large bottles with concave domed bases. An attempt to date these is being made. We encountered a clay surface and extended the pit slightly to find its extent. It was too localised and clean to be a much used floor surface. Although Barbara Foster concludes that the clay probably came from building the house in the 1930s and the glass and brick are re-deposited rubbish used to fill a dip in the garden, the possibility remains that the clay was from the fill of the wattle and daub upper parts of the barn walls or that it was the mortar from a clay bonded stone wall where the stone had been subsequently removed, or that it had been a dew pond lining. It was below the green glass tentatively dated to early 19th century. There is no memory of a pond there. We excavated down in one corner of the pit to the depth planned but found nothing of further interest. The report written by Barbara Foster is included as appendix F

With a single metre square pit, there was always the possibility that we would miss any remaining archaeology and there is a real possibility that, with the stone reused elsewhere, there is no trace left in the ground anyway. But the clay is not natural in that spot and so may well be the discarded material from the barn's wall. The best we can say is that the archaeological evidence is inconclusive.

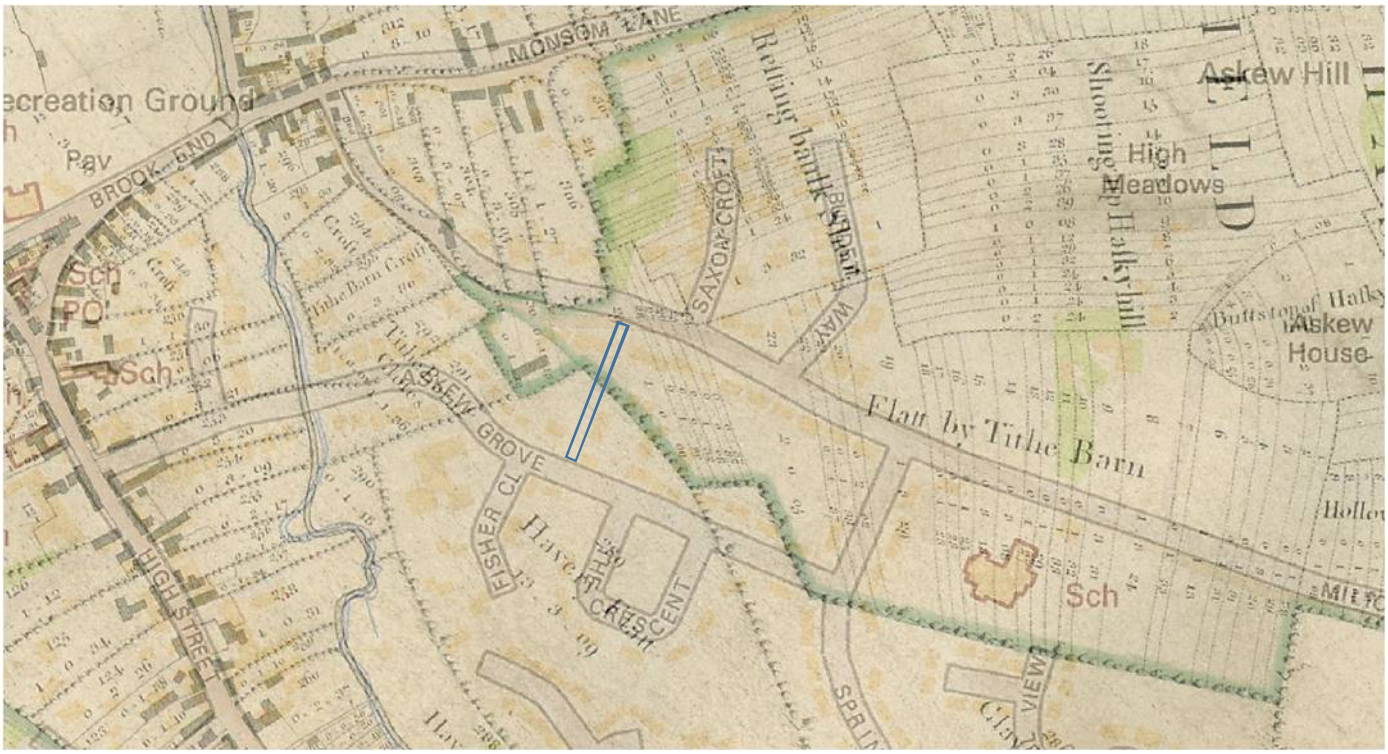
FURTHER WORK

If there are plans to redesign the garden then we may be able to excavate a larger area and also explore some of the high resistance areas near the house. Further documentary research may explain how the barn came to the Harpurs and confirm the locally held belief that it was part of the Priory at the time of dissolution.

Astbury passed the barn on his walks in 1843, yet the 1829 map does not show it. There is a very small building shown nearby which is repeated on the 1881 map. Could this be the remnants of the barn? Work with Qgis may provide a good location and further clues.

Appendix A – The 1762 map and the QGIS evidence.

The core of Repton village from the 1762 Staffordshire Records Office's map by Samuel Wyatt in.



Modern OS map overlaid on the 1762 Wyatt map in QGIS

This shows the tithe barn south of Milton Road, west of the cinder track north of Askew Grove and in the back garden of number 22. The fit of Milton Road between the two maps is not brilliant but adequate. This is true of all the maps we overlaid on the 1762 map. One problem is the lack of common reference points to the north east to

geo-reference the maps. In this case it may also be because we are using the OS free maps. If we used a Master Map we might have a better fit. However there is also the possibility that Milton Rd has changed course slightly over the years as it widened from a track into a proper built up and paved road.

This shows the gravel pit on the 1881 map and that the pit is north of the barn. It also shows the footpaths that were present in living memory starting at the pit but originally the line may well have been extended to the field entrance at what is now number 18: = = = =

Appendix B: The Enclosure Awards

On page 49 of the Enclosure award is the following:

"And we do hereby assign etc Unto and for the said Sir Robert Burdett one undivided inclosure called Tythe Barn Close containing one rood and six perches with the hedges and fences thereto belonging and the barn therein erected heretofore belonging to the Sir Henry Harpur and now allotted to the said Sir Robert Burdett in exchange for other lands bounded on the east by the last described allotment to the said Sir Robert Burdett on the south by the said Avary Flatt, on the west and north by part of the two crofts called Tythe Barn Crofts ..."

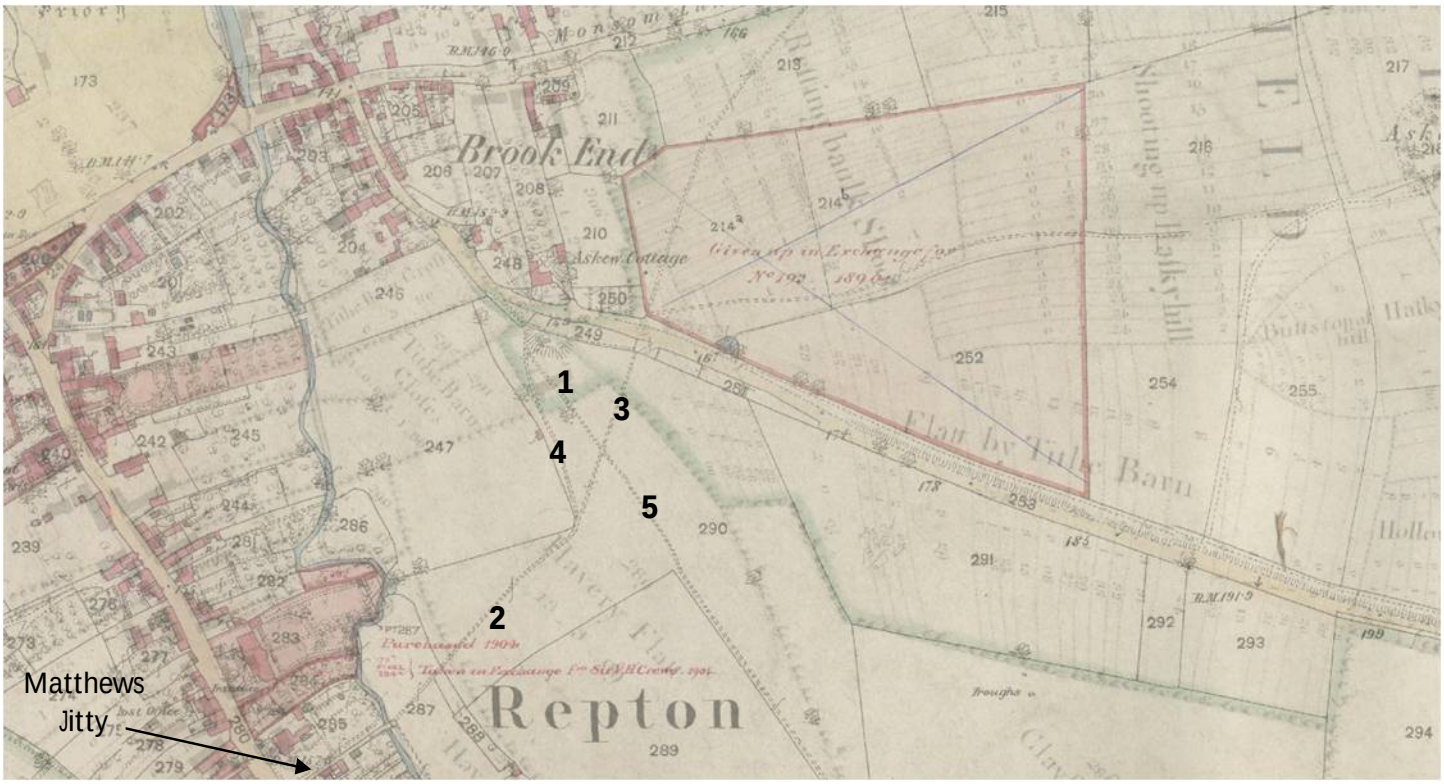
As the map is drawn, it is difficult to work out exactly the shape and area of the land containing the barn which was conveyed to the Burdetts because the text does not match the field names completely and an area of 1 rood and 6 perches is not obvious. But undoubtedly the barn is in Tithe Barn Close as the text says and (H)Avery Flatt is immediately to the south of the barn, tithe barn croft is to the north. So there can be little doubt that the building marked was the barn.

On pages 22/23

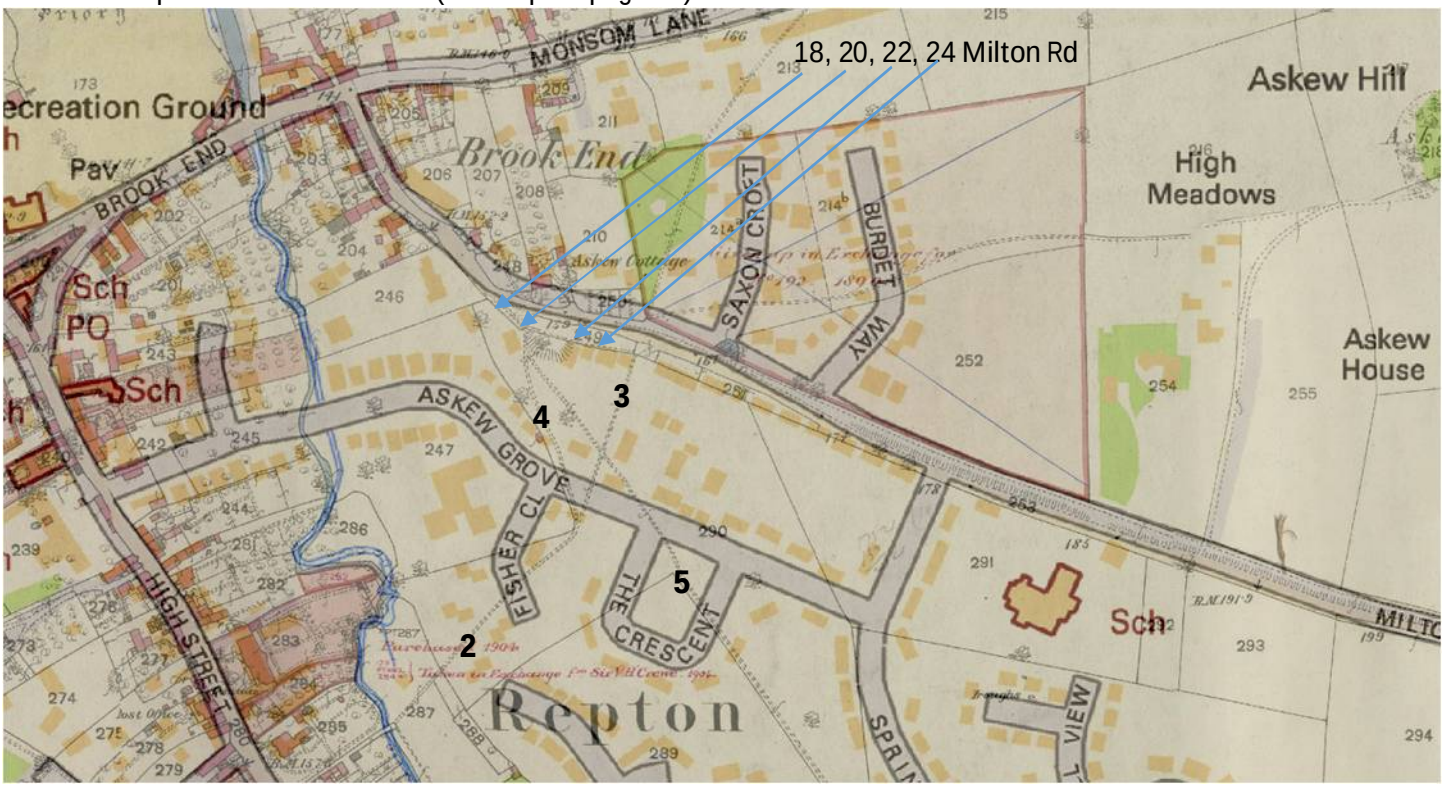
"and also one other private cart carriage and drift road leading out of the said Milton Road opposite to the south end of an antient croft of the said Sir Harpur now in the possession of William Gilbert and over the second allotment hereinafter made to the said Sir Robert Burdett in the said Haskey Field into an undivided inclosure hereinafter allotted to the said Sir Robert Burdett called Tythe Barn Close and over the said close between the Tythe barn and Avery Flatt Close belonging to the said Sir Robert Burdett into a part of an inclosure called also Tythe Barn Close heretofore belonging to the said Thomas Fisher and hereinafter allotted to the said Sir Robert Burdett in exchange for other lands as hereinafter me3ntioned into other part of the said Tythe barn Close belonging to the said Thomas Fisher and...."

Again it is not easy to make clear sense on the map – field names do not really quite match, but there seems to have been a track provided for running from Milton Road, crossing either/both Tithe Barn Croft and Tithe Barn Close(s) into Avery Flatt. Again it adds credence to this building being the Tithe barn.

Appendix C: The Footpaths of Repton and Astbury's walks.



This is the 1762 map overlaid on the 1881/1901 map. The tithe barn is at 1 and footpaths are numbered thus:
2 Matthews Jitty to "Fisher close"
3 Cinder track
4 Path now built over.
5 path to Mount Pleasant remembered by Elaine Fisher as the route home from school
6 brook side path from Pinfold Lane (see map on page 12)

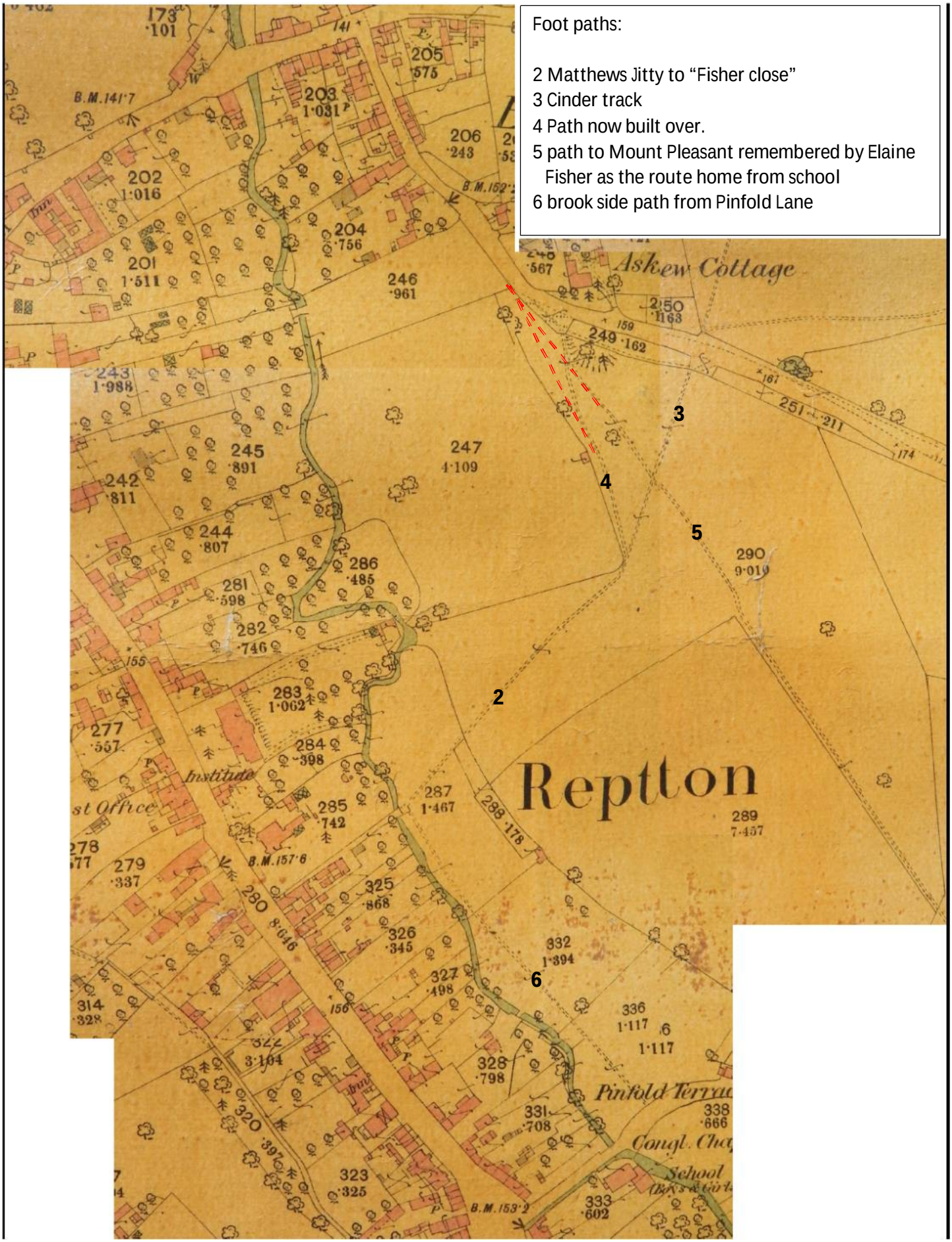


This is the 1881/1901 map overlaid on the modern OS map. Footpath 5 ran from Milton Road between the gardens of 20 and 22 and then across the gardens of 22, 24 and 26 until it was later diverted to run around the gardens en-route to the Crescent and Mount Pleasant. On the 1881/1762 map below, extending paths 4 and 5 NW in a direct line brings them out at the field gate that was at number 18 until the house was built which may well respect the line of the route provided in the enclosure awards.

Astbury's walks passed the tithe barn: (see map overleaf)

Tuesday, July 18: *Rose 7.15. Diligently revised a draft of a petition to the Governors of Repton School praying that an improved and comprehensive system of education might be adopted, with facility of admission to the boys of the town and its vicinity.*
Afternoon: Wrote a long letter to Hannah for today's post. Relaxed. Read a large portion of the Magnet newspaper. I took a pleasant walk, the rain having ceased, along the town, turned to the left by the house occupied by Mr Heap, across the brook and by the ancient tithe barn [where was this?], supposed to be coeval with the monastery, built on a foundation of the same description of stone, up to gate opposite Greaves' house, turned back again into town and past the Independent Chapel [now the URC] a short way along that road, returned by the Wesleyan Chapel and in front of the Rev. Mr Jones' house, which is on an elevation round by the fields.

Astbury headed south down High St and left into Matthews Jitty, crossed the brook and up the hill (footpath 2) and then either footpath 4 or NW on footpath 5 passed the tithe barn to the field gate at number 18 Milton Road. Returned the same way but picked up footpath 6 at the brook and came back via Pinfold lane and the chapel, crossed into Well lane by the Methodist chapel and right along the footpath behind the Bulls Head.



Photographs of the 1881 map joined together.

Saturday, July 29: *Forenoon: Took a leisurely meditative walk round by bridge [at Pinfold Lane] by Independent Chapel, turned to the left and by the brook meadow, to the ancient tithe barn and up to Askew Hill - about 9.15 to 11.15*

Astbury walked down High St to the Square and left into Pinfold Lane, then left alongside the brook (footpath 6) to the end of Matthews Jitty. Right up the hill (footpath 2) then footpath 3 (Cinder Track) to the path onto Askew Hill.

Saturday, August 12: *Do everything quickly - promptly, calmly and quickly at the time, with alacrity, attention and assiduity: Accuracy, expedition and despatch.*
Forenoon: Took a walk, called and saw Mrs and Miss Measham, Mr Richard Measham, Mrs Ward, Mrs Beckett and 2 girls. On to Mr George Smith, who has had several apoplectic attacks, occasional by habitual and excessive drinking. He is cousin to Rev. John Smith. On by the tithe barn to the lower end of town again, called and gave instructions to Mr Ratcliffe, bootmaker. Went a little further and turned along a valley into the fields;

Astbury probably set off via Brook End. The censuses have not proved very helpful in tracing the families mentioned but the Meashams and some of the Wards were certainly in that area. Then up Milton Road, to footpath 4 passing the tithe barn, then footpath 2 to the bridge. Given the rest of the entry, and the reference to lower Repton, he may have followed footpath 6 to bottom Repton and over Pinfold Lane towards the mill.

Monday, August 14: *Forenoon: Took a walk by Brook End to rear Milton; returned by tithe barn and brook, over bridge by Independent Chapel and back of town west.*

This time Astbury clearly set off via Brook End, and then up Milton Road, to footpath 4 passing the tithe barn, then footpath 2 to the bridge and left onto the brook side path (6) to Pinfold lane and back via Well Lane and the path behind the Bulls Head.

Appendix D: Resistivity Grid Survey Report – Keith Foster

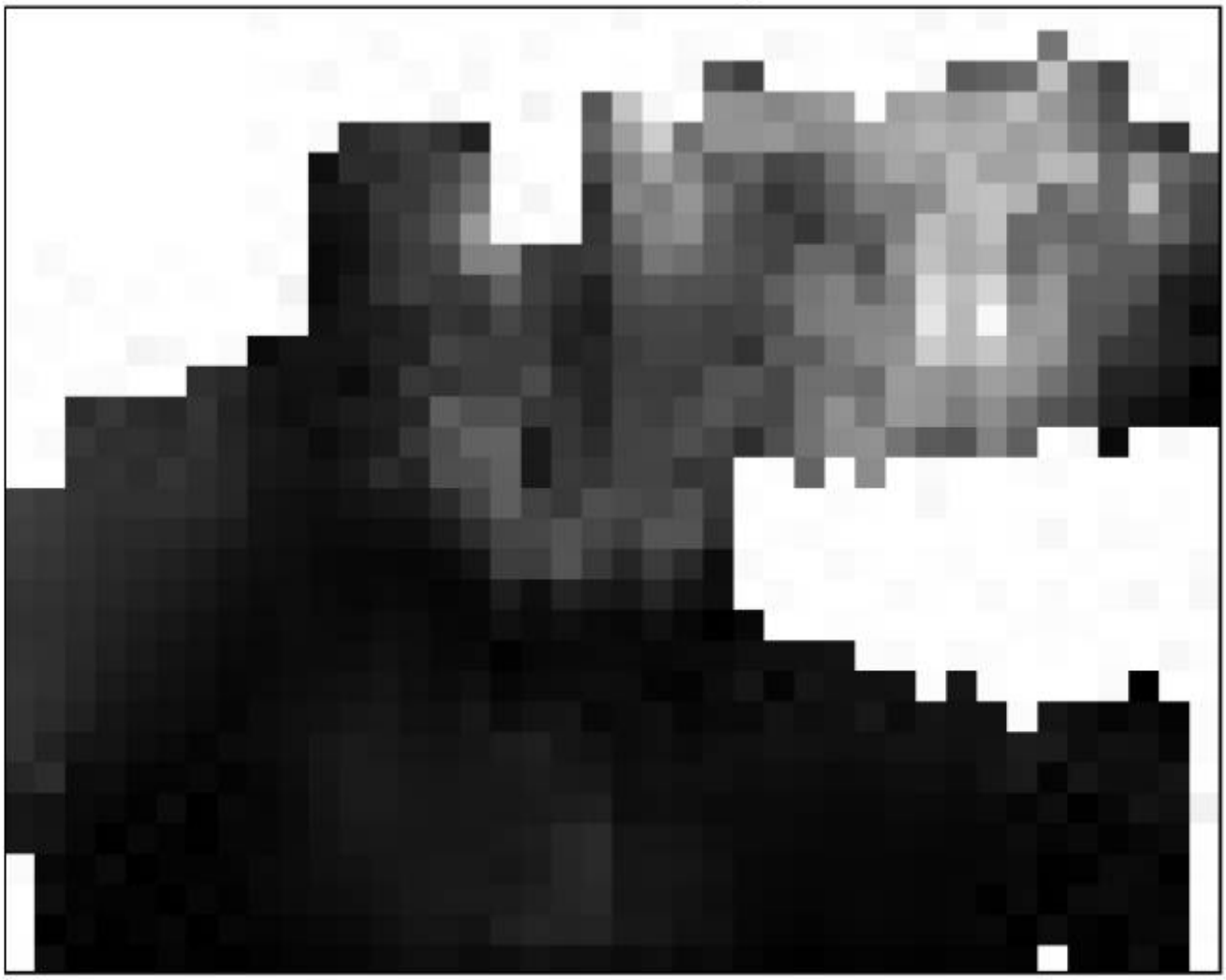
Repton—22 Milton Road. Friday 10/7/15

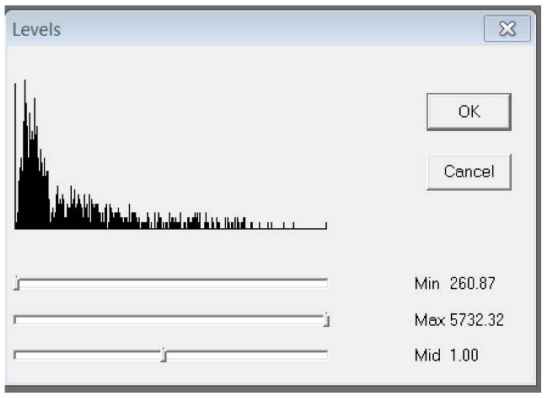
Original Survey Data

No processing.

Survey area 20m * 20m at 0.5m intervals in both directions.

Values 260—5730 ohm-m measured. White is high resistance and black low.

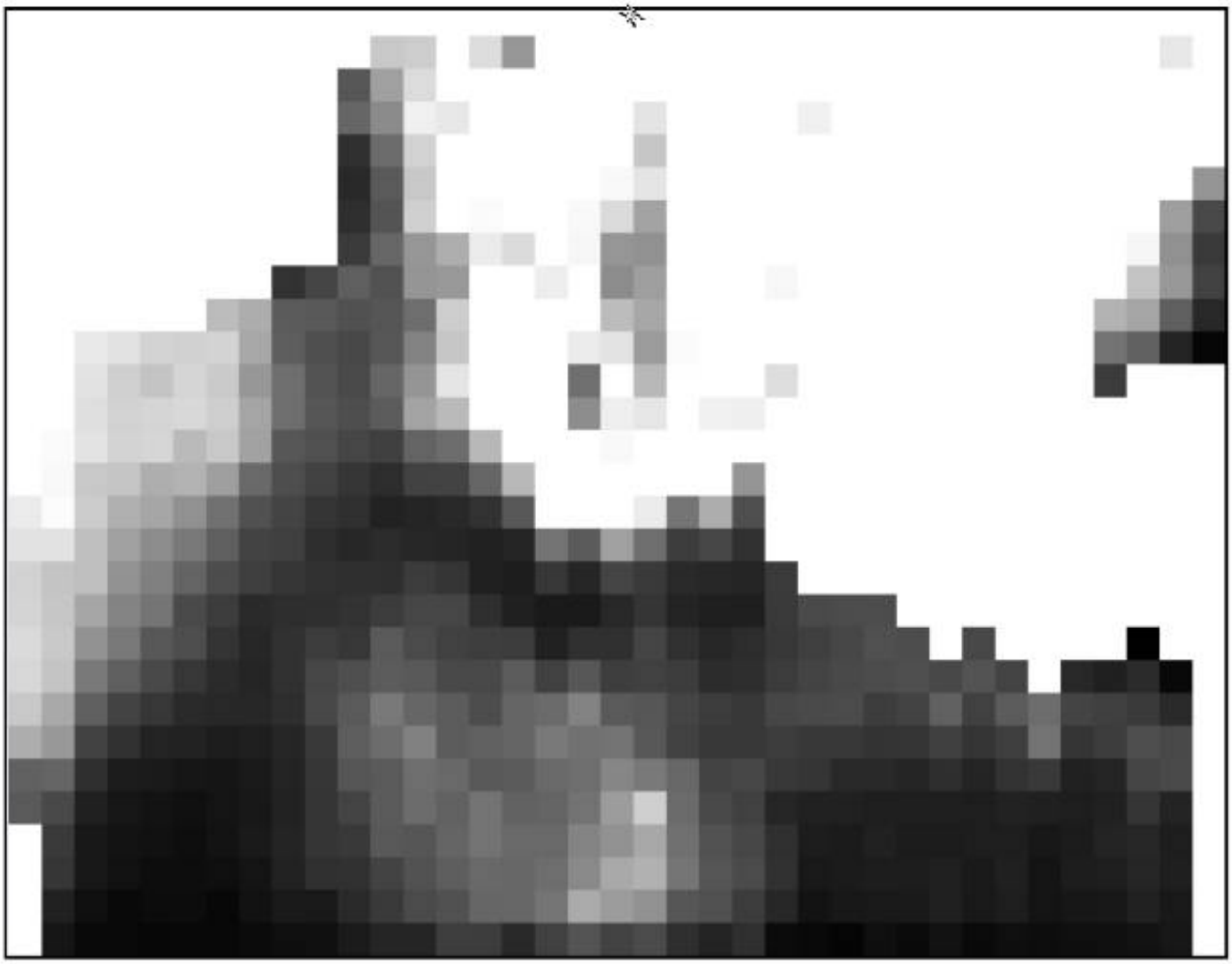


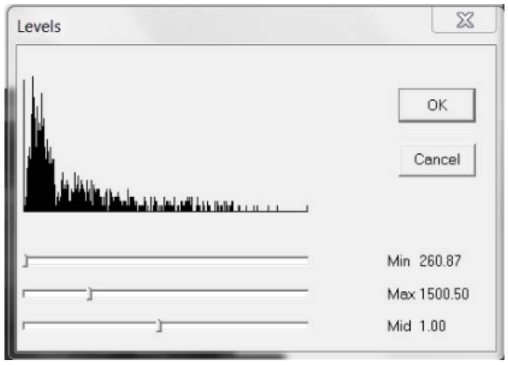


The area of interest was understood to be on the lower half of the above plot. No obvious anomaly can be seen but this is to be expected with the huge range of readings. A normal range expected for this situation would be 300—1500.

Processed Survey Data

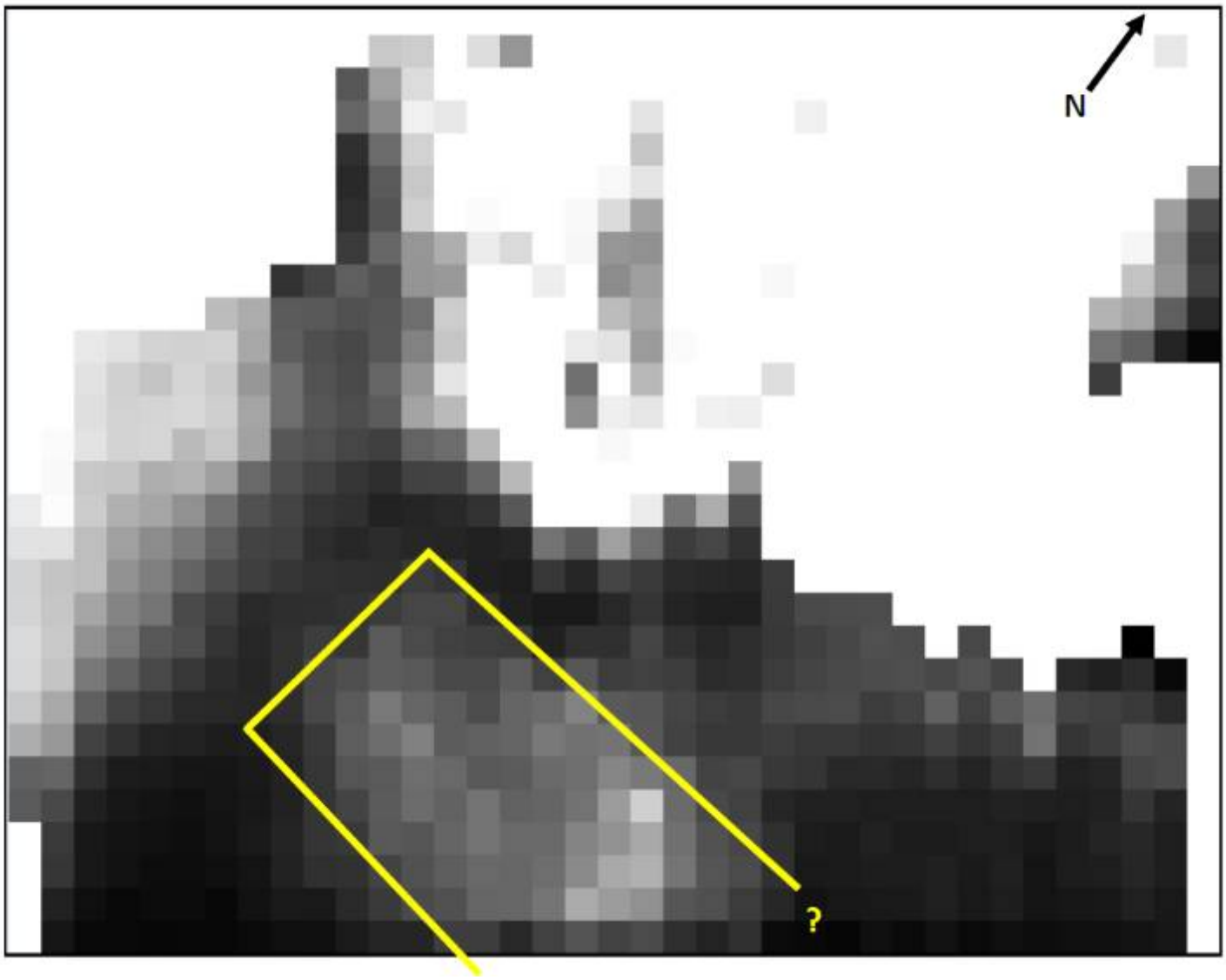
Given that the range of values surveyed is way outside the norm it was decided to filter the original data to between 260 and 1500 ohm-m. The results are plotted below.





A slightly higher resistance rectangular area can be clearly observed in the centre of the bottom of the page (see over). This would be expected inside a building that presumably had a hard floor—possibly compacted earth or clay. The anomaly certainly has the same orientation, size and location of the Tithe Barn from QGIS.

These results are preliminary and subject to minor change if further processing is positive (Unlikely to change much though).



Grid base follows S hedge (left) of garden. The House is to the right of the survey. Yellow—possible Tithe Barn.

Conclusions.

The top RH corner is a very high resistance. This could be a solid floor immediately underneath the turf or a gravel / solid rock bank.

Recommendations

Initially one pseudosection from bottom left to top right (S-N) and one along the hedge line is recommended which may further identify these anomalies. Final proof would require two small test pits.

Appendix E: Resistivity Pseudosection Report – Keith Foster

REPTON TITHE BARN SURVEY—DAY 2

Attachments
Plot 1. Pseudosection 1 and 2
Plot 2. As above but mirrored for ease of interpretation.
Plot 3. Pseudosection on original survey.

NB

a) The two sections have been modified so they are approx. the same scale—both length and depth. The second section was spaced at 1m therefore gives a deeper penetration.

b) Software used is an evaluation version of RES2DVINV from http://www.geotomosoft.com/.

c) Plot 2 has been included (it is purely a mirror of plot 1) to make interpretation easier when comparing with original survey.

d) Survey taken with the TR/CIA Mk1 resistivity meter.

RESULTS (Using Plot 1 values only)

Pseudosection 1. Left is close to house. Probably pure geology over most of section. Certainly appears to be either dry sand or a clay lens from 8m onwards at 0.5 m and deeper. Could this be the compressed (clay) floor of the original Barn? — Certainly ties in with the original QGIS survey. At the base of the section a possible water table from 0m to about 8m is just visible. The area on the right from 15m to 19m down to 0.6m is probably infill and possibly damp soil.

Section 2. Left is close to house. The area from 1.5m to about 8.5 is a stone or a rubble infill below which is damp sand from about 2m in depth to base of section at 3m plus. The sand ends abruptly at about 14m. I have seen a section like this very similar to a section across the infilled Swarkestone canal—although in this case probably an infilled valley or cut—possibly seen in Pseudosection 1 at 16m but not so obvious (shallower depth?).

Unfortunately the sections show no conclusive evidence of any actual wall features of the Tithe Barn but of course any possible foundation stones would have been robbed out.

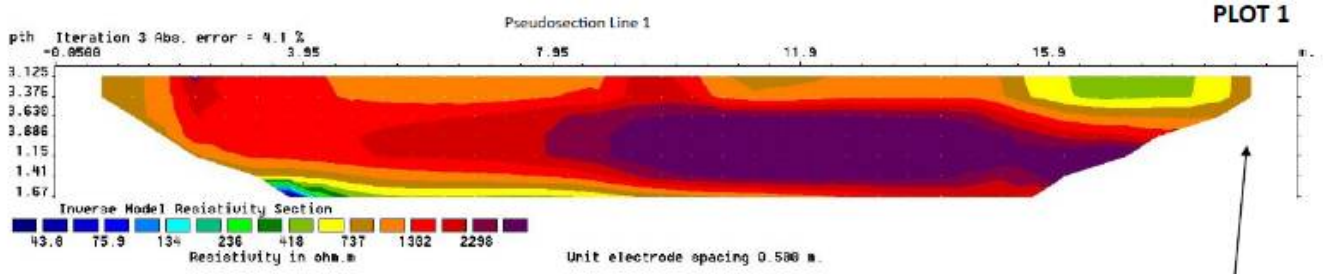
TO CONSIDER

1. An area on Pseudosection 1 between 10 and 14.5m show a distinct layer from about 0.6m in depth. This is in the area where the previous survey and the QGIS interpretation indicated where the barn might possibly be. A small pit 1m * 1m at this point could possibly indicate what feature is.

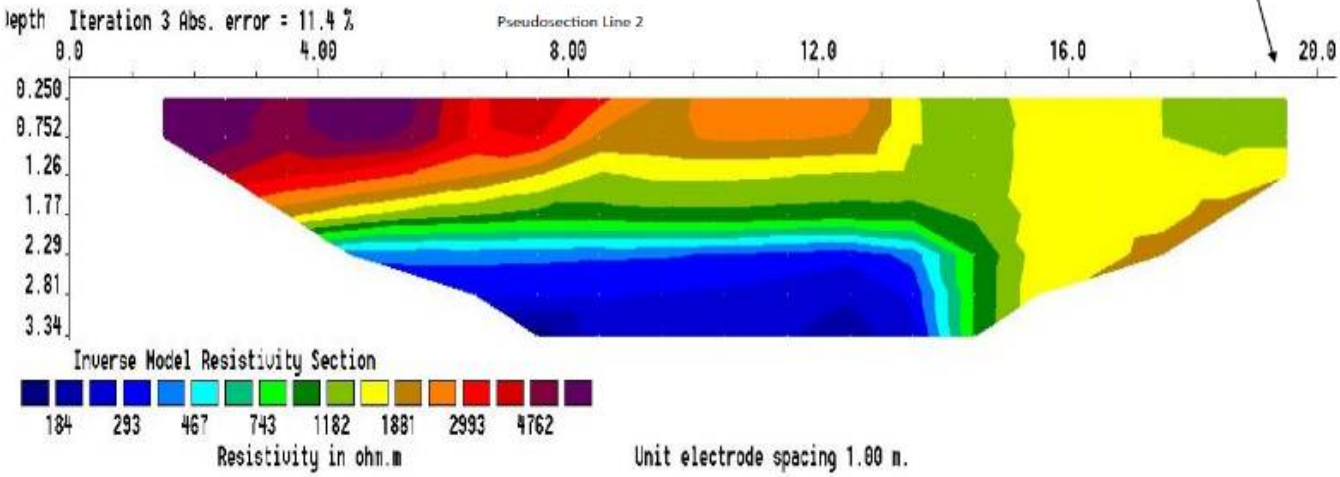
2. Could it be possible that the ? Stone / rubble infill ? Is part of the remains of the Tithe Barn?

Keith Foster
1/10/2015

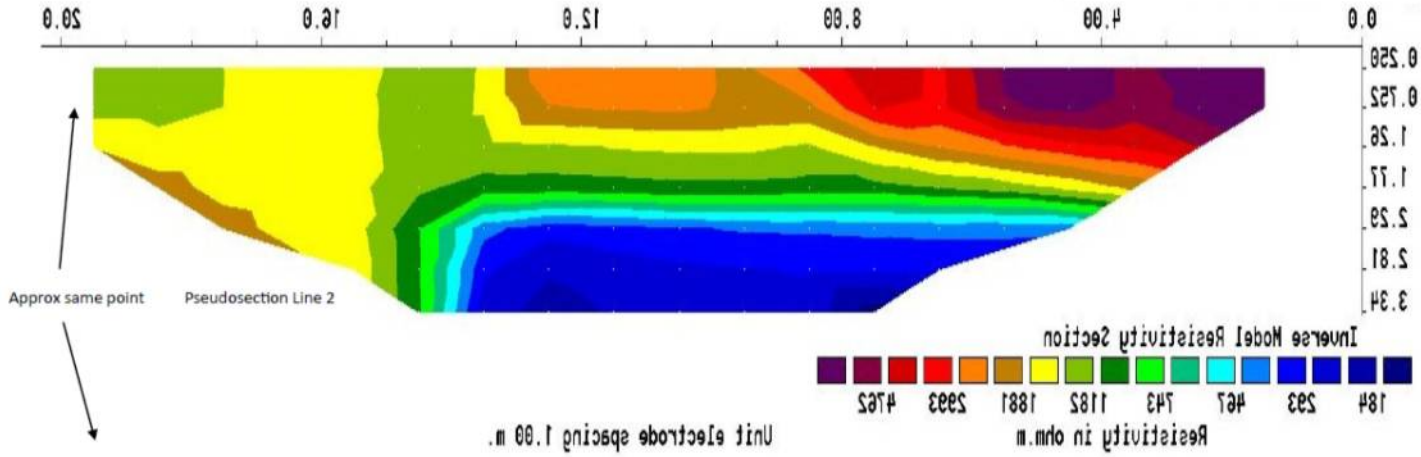
PLOT 1

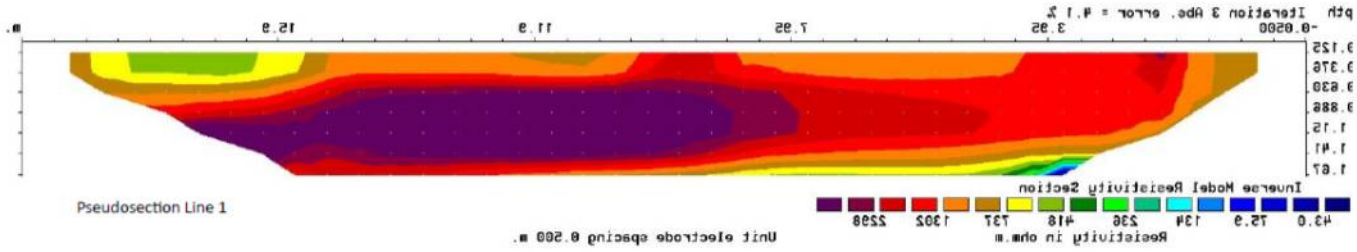


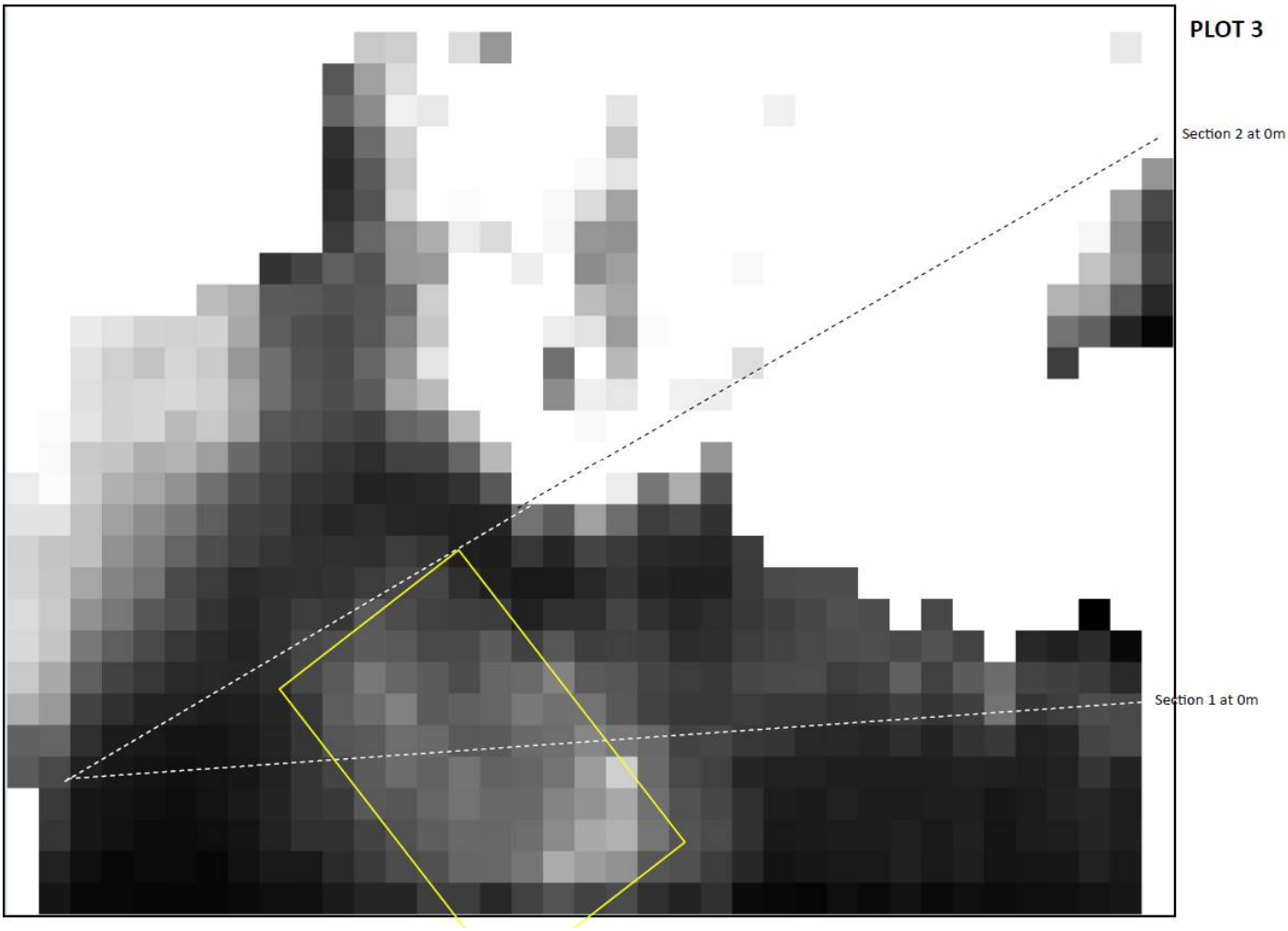
Approx same point



PLOT 2






PLOT 3
Section 2 at 0m
Section 1 at 0m

Appendix F: Repton Tithe Barn Test Pit report – Barbara Foster

EVALUATION TEST PIT

22 MILTON ROAD
REPTON DE65 6FZ
OCTOBER 24TH 2015
OS GRID SK307269

REPORT

BACKGROUND

In the course of their research the Repton Village History Group identified the possible site of a Tithe Barn off Milton Road. Using an 1881 OS map, a 1762 parish map by Samuel Wyatt [1] and the published diary of William Asbury, a visitor to Repton in 1843[2] the site was thought to be partially in the garden of 22 Milton Road in the village. The old maps were compared and overlain with a modern map using QGIS software. The barn is understood to have been demolished in the mid 19th century.

The group is grateful to Mr Chris Jerram, for permission to conduct a resistivity survey and based on the results, a test pit in the garden to see if anything could be found.

Google Earth 2009

SITE DESCRIPTION

Prior to housing development in the 1930s the larger site in 1881 and 1920 appears as a close of land, crisscrossed by footpaths and with a gravel pit in the northwest corner. There appears to be a narrow length of "intake" land on the north and abutting Milton Road.

The aerial photo shows the rather parched garden in 2009 that lies approximately NNE. The black rectangle indicates the position of the test pit. Essentially the garden was laid to lawn with a rockery in the centre and bounded by high hedging. The very dry areas to the left of the garden gave exceptionally high readings on the resistivity survey and it is thought that this maybe infill after gravel extraction to level the garden. The rest of the garden gave mostly very low resistance readings apart from the area of the test pit which showed a degree of variability in the readings.

References

1 Staffs Record Office D615/M/8/16 Samuel Wyatt Map Repton 1762

2 William Astbury's Repton Diary Summer 1843. Published by Repton Village History Group 2000/

GEOLOGY

The bedrock is interbedded sandstone and conglomerate (Kidderminster formation) and formed in the Triassic period some 250 million years ago. This formation is associated with rivers depositing sand and gravel in channels which ultimately form river terraces.

About 3 million years ago in the Quaternary period the superficial deposits were formed by deposits of clay, silt sand and gravel coming down the slopes caused by for instance landslides, mudslides, soil creep or periglacial activity. 3

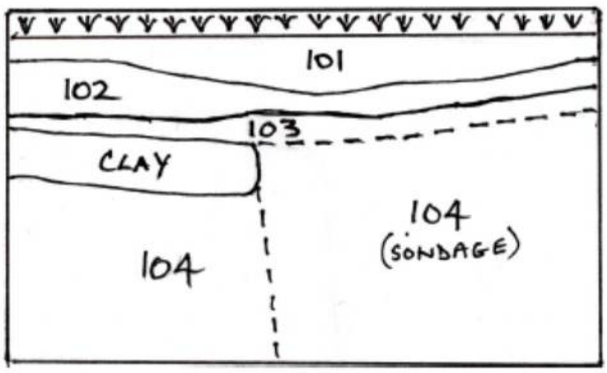
AIMS AND METHOD

- The aim was to find some indication of the presence of a Tithe Barn on the site
- Using data from an earth resistivity survey (both grid and pseudosection) a 1m x 1m test pit was dug on the putative edge of such a feature. This was subsequently increased by 0.5 x 0.5 m around the NE corner.

DESCRIPTION

The trench was positioned at an angle to reflect the assumed angle of the barn and centred on a point marking a high and lower resistance. Some 60mm of turf was removed.

101 - a layer of damp midbrown sandy loam to 90 mm on east and west sections and 140mm and 130mm from the surface on the north and south respectively and was almost stone/pebble free. Two small pieces of glass were found. The soil was penetrated by turf roots and some lateral roots from nearby (2m) leylandii hedge.



Section north face of original 1x 1 m test pit. 1:10 cm

102 - a rather paler shade of soil and perhaps the same as above but drier. More roots from hedge together with several chunks of brick and a greater number of glass sherds. What was thought to be a gravel layer began to appear on the north and south side on the pit at 160 to 170mm. It yielded 1.2 kilos of very thick green glass of various shades and of these 15 sherds weighing 569 grams were large pieces averaging 45.5 g. Five unidentifiable chunks of brick and several fragments were also found plus two tiny pieces of what could be 19th century white ware.

103 - At a depth from surface 160/170 mm there was a gravel layer (50 mm) over a more solid reddish clay surface in the central area. A much smaller amount of glass was found (335g) but of a similar type to those found in 102. As the clay appeared to be an irregular shape, a sondage was dug in the South East corner to determine the edge and depth of the clay surface.

104 - .(50 x 60mm) the sondage - this proved to be entirely sand and gravel, apparently undisturbed and containing no artefacts It was bounded on its north side by the clay bearing section. It was decided to extend the trench by 0.5 m on both sides of the northeast corner of the original test pit.

Finally the four corners of the extended trench were dug out revealing the extent of the clay lens within. It proved to be of an irregular shape with evidence that parts of it had been dug out - there were clean edges at the south and west of the feature, a possible indication the use of a spade. The clay would appear to extend to the south and east and possibly the west. It appeared pristine with no inclusions beyond a smattering of gravel on its top surface.

The areas around the feature were dug to a depth of 300 to 400 mm with finds unearthed in the equivalent of contexts 101—103 (to 250mm). A small area of darkened soil at 150mm on the north side with pieces of scorched wood suggested a fire. See Appendix 1 for finds. Surrounding and below the bottom level of the clay was undisturbed sand and gravel.

N

The extended trench.

The feature appears to have been neatly squared off and cut out.

The circular feature bottom left may have been the excess dropped from a spade full.

DISCUSSION

It seems unlikely that the feature is the floor of the Tithe Barn, given its unworn and pristine condition with no inclusions. It is not a hard wearing material and a stone or tile floor would have been more durable but it is of course possible that a simple compacted earth floor was used. Indeed recent excavations the at Thornton Abbey in Lincolnshire demonstrated that a vast medieval tithe barn had an earthen floor—it also had stone walls some 600 mm thick [3]

As noted above, there could be a geological explanation for the feature but as we do not know the overall extent of the deposit and it does appear quite shallow in depth this remains an open question.

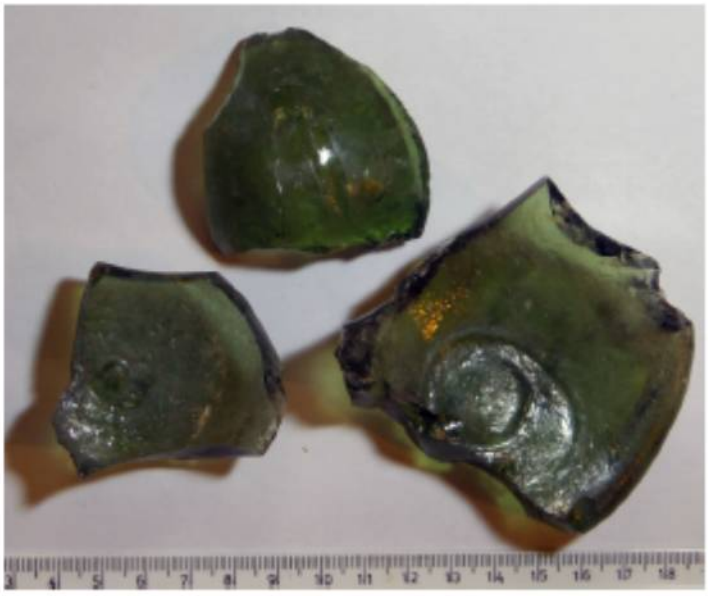
More likely is an imported load of clay for some unspecified purpose but possibly for the wattle and daub walls of a 16th/17th century building or some purpose associated with the new build in the 1930s such as puddling a garden pond. It certainly has been cut by a spade at some point. The material may well have come from the nearby Clay Pits field.

Wyatt's 1762 map of the site courtesy Staffordshire Record Office

There was no sign of any large building stone and merely one small (7 x 7cm sq) chunk of sandstone within the pit and nor was there any sign of where any stone foundation may have been bedded in. It was always assumed that the stones would have been robbed out. The "hot spot" on the resistance survey, which otherwise showed an unrelieved area of low resistance around the putative barn site, may have reflected the presence of the clump of rubbish found, particularly the chunks of brick and glass. The resistivity survey and the pit site can be found in Appendix 2.

The finds were found between 90mm and 160mm below the surface and above the clay deposit and the undisturbed gravel. The discovery of tiny fragments of thin South Derbyshire yellow ware and some plain white glazed pottery suggests a date after the demolition of the barn and probably the 19th century. The larger pieces of glass were more of an enigma.

Examples of the thick green glass



"Pontil" scar on raised base of possible "push up" base of wine bottle indicating blown glass. see www.sha.org /spirit /liquor

It was eventually determined that they were from three wine or spirit bottles with different sized "domed" or "push up" bases, hand blown and seemingly old but there do not to be enough pieces to make at least three bottles! However it is noted that such bases are not particularly helpful in dating such artefacts with "push ups" as they are *"found on bottles dating from at least the*

early 17th century unto the present day with machine made champagne and wine bottles."[4] Another source identifies the size of the "push up" and thickness of glass as early 18th century but the base diameter of the published example is much wider than the one found.[5] The shape of the Repton bottle below would appear to be early 19th century!?!

Left - partial reconstruction of a "push up" based bottle showing partial dome rising. Diameter 8.5cm. Side glass 1 cm thick at base tapering to 0.8 cm as it rises. Dome 1 cm. No pontil mark but central piece missing. Weight 290g (10oz) Complete +/- 500g (1lb2oz)

Right - base with partial internal dome—for strength and stability!

In general they all appear to be hand blown - a light green bottle has a pontil mark indicating a "free blown" vessel as opposed to the other two which have no such marks—but a vital piece of the "push up" shown above is missing and the base is not a perfect circle. Bottle moulds were apparently in use from the 1730s [6] but the irregular base and the very close proximity of the raised base and the bottle wall would appear to rule out the use of a mould and that the indentation was hand made. Further research is being pursued to try and find definitive dates for the bottles

As the chunks of brick that were found were much abraded with no consistency in shape or depth nothing could be determined as to brick size and therefore age. They did appear to be handmade but with few inclusions.

All this presents certain difficulties with dating the deposits. They appear to be very concentrated in the original 1x1m pit and largely in context 102 with a lesser amount in 103 and what amounts to a scatter in the pit extensions. Whether there are other deposits in the surrounding area is unknown.

The condition of the ground itself at the time of the house building in the 1930s is uncertain. Prior to this there was a gravel pit that extended into the western half of the garden and it is assumed that the remainder was the original rough pasture. Map evidence suggests that the gravel workings were in use in 1881/2 (OS) and although it was not marked on the 1899 OS map it is referred to as "Old Gravel Pit" in 1924. Several years elapsed before the new house was built:, an exercise that would appear to have involved the infilling the encroachments of the

gravel pit with material that gave "off the scale" high readings on the resistivity survey. Thereafter a lawn was lain or sown which presumably required some preparation including the removal of the rough grass and weeds and some levelling - how this was accomplished in the 1930s is uncertain given that even tractors were rare round here in the pre-war period and JCB et al hadn't been founded. A tractor certainly would have disturbed the shallow clay deposit (at 6.5 inches) if it had been laid by then—but it could account for the extraordinary damage to such solid bottles. It may be the case picked up and put on one side by the curious householder as the lawn was being prepared and ultimately used as part of the filling in a dip in the ground.

CONCLUSIONS

- We missed the tithe barn.
- The dates of the glass bottles has not yet been determined.
- It is most likely that the clay was imported around the time of the house building or as part of the garden design (a pond perhaps).
- The bottle bits and bricks were a redeposit c 1930 from material found elsewhere
- The bones possibly a redeposit or maybe the result of some scavenging animal. Not a pet burial.

Appendix 1 - Finds

101	Glass	12 g 2 sherds	
	Pot	<1 g 1	
	Coal	5g 1	
102	Glass	1202g 139 sherds	Of which large pieces
	Brick	5 chunks (unident)	thick green
	Pot	224 g 30 sherds	569 g 15 sherds
		2g 4	Av 45.5 g .95% of remainder small shards from bottle
103	Glass	335 g 65 sherds	White
	Brick	1 chunk	Small animal
	Pot	43g 13	
	Bone	<1 1	
	Nail	4g	
		5g 1	
Clay			
101 –102 extension	Glass	84g 9 sherds	Extension both sides
	Brick	2g 1 + 4chunks	
	Pot	8 g 2	SD yellow
Coal		7g 3	
Bone	50g 2		Small animal but not as above
104	Burnt wood	230g 2	101
	Golf Tee	1	101 just below surface
	Sand and gravel	No finds	

Appendix 2

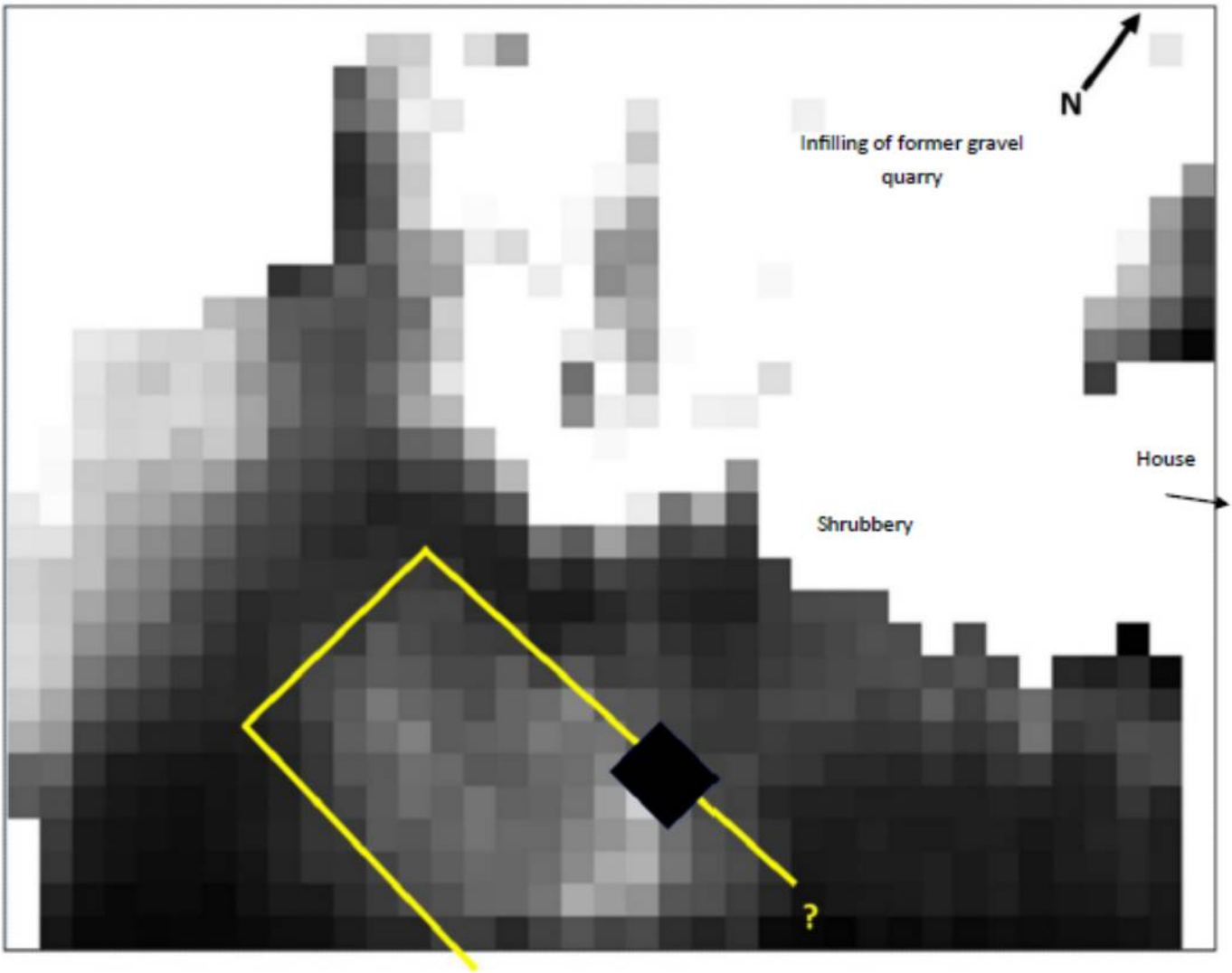
Resistivity Survey 24 October 2015

TRI/CIA resistivity meter.

Grid 20x20m with 0.5 m readings.

White = high resistivity Black = low resistivity

The yellow lines reflects the suggested position of the Tithe Barn using old maps and QGIS software. Black square is the position of the test pit.



Grid base follows S hedge (left) of garden. The House is to the right of the survey. Yellow – possible Tithe Barn