# THE SEARCH FOR STATHERN HALL

REPORT

OCTOBER 2023

## A Summary of Our Findings and Recommendations

The Field Detectives



www.the-field-detectives.com

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## FOREWORD

#### Philip Yorke - Author and Writer

The occupant of Stathern Hall – where the Warrant that condemned Charles I to death was kept between 1649 to 1660 – was a country squire who remains the cause of great anxiety, resentment and anger locally and nationally. But is he misunderstood and misrepresented, or someone deserving of the condemnation that continues to taint his name? One person who will attempt to shed some light on proceedings is the novelist Philip Yorke.

Francis Hacker is a name that continues to evoke deep emotion within anyone who explores the events that unfolded during the bloody and brutal period in British history, spanning almost two decades and known as 'The Protectorate' when Oliver Cromwell ruled supreme and a King lost his head. One of the lesser-known figures of this tumultuous time, Hacker's involvement in some of the most pivotal moments of a chaotic 18-year period (1642-1660) should not be underestimated, for he:

- Was offered a regiment of his own in the Royalist army which he turned down immediately with scorn after his capture at the siege of Leicester in May 1645
- Was intimately involved in the execution of Charles I being one of three men to sign the all-import Execution
  Warrant. He was the man trusted to guard the King throughout his trial at Westminster in January 1649. After
  Charles had been found guilty of high treason, he personally escorted the king to the scaffold, where he remained
  until the king had been beheaded
- Was one of the key military commanders who defeated the Scots at the Battle of Worcester in 1651, which led to
  the collapse of Royalist opposition and ended the third and final War of the Three Kingdoms
- Became one of Cromwell's key lieutenants enforcing Parliamentarian laws throughout the Midlands while, as a
  military leader, continuing to stamp out opposition and potential revolt. This included resorting to becoming one
  of the key figures charged with crushing the Sealed Knot's attempts to destroy the Puritan regime (and kill
  Cromwell) during the 1650s
- Became the leading Colonel of Horse in the New Model Army during the latter part of the republic
- Refused to support the regime headed by Richard Cromwell, which replaced that of his father after his sudden and unexpected death in September 1658. It could be argued that Hacker's reluctance to back Richard indirectly led to his downfall just a year later and was a key (and unintentional) act in smoothing Britain's return to being a monarchy once again in 1660
- Was the only regicide to be spared hanging, drawing and quartering after he was found guilty of High Treason in October 1660,
- Was the holder of the famous Death Warrant, signed by 59 commissioners, that condemned Charles I as a traitor
  to his people. This important document is now kept by the Parliamentary Archives

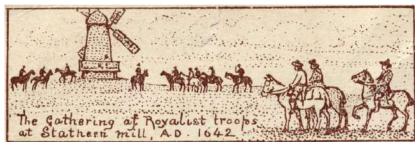
A man of strong faith and convictions, Francis also had a number of encounters with George Fox, founder of the Quaker movement, that were only resolved when Cromwell personally intervened. Fox would frequently leave Francis perplexed, unable to counter his assertions about God. Francis believed Fox to be a blasphemer, and his men arrested the preacher on several occasions, sometimes treating him roughly. Undeterred, Fox remained single-minded, certain his interpretation of Christianity was correct. After Francis's death in October 1660, he became a highly influential figure in the life of Francis's wife, Isabel, who became a Quaker in the years shortly before her own untimely demise.

As well as playing a prominent role in the execution of King Charles, Francis was also involved in the infamous 1650 'death march', which saw 5,000 Scottish prisoners – taken after the Battle of Dunbar (one of Cromwell's most famous and brilliant victories) – forcibly marched to Durham. It is one of the stains on his character. Hacker's regiment had fought in the battle and after it had ended, several companies of his Horse were assigned to escort the large number of prisoners south. The march took seven long and painful days, and by the time the Scots arrived at their final destination, as many as 1,700 had perished after contracting typhus and dysentery. The remainder were sent to America, where they would become slaves. Much like Cromwell's brutal defeat of the Irish Confederates in the latter part of the 1640s, this was an act that illustrated the hatred that existed between the opposing sides, when anger and a thirst for revenge overcame any calls for clemency to be shown to the vanquished.

Despite his flaws and weaknesses, Francis Hacker is a man of significant historical stature – someone whose life should be remembered respectfully, and with a great sense of local and national pride.

## Introduction

On Friday 18th October 2019, The Field Detectives began an investigation into the history of a wooden post mill that once stood on a field to the southeast of Stathern village, opposite Coombs Plantation. One aspect of the investigation involved archival research at the Record Office for Leicestershire, Leicester & Rutland and an examination of the family history timeline of the Stanley family who resided and worked at the mill during the late 18th and early 19th century. It was during this avenue of investigation that we came across a postcard via the Bottesford Heritage Archive, depicting some of the key moments in the history of Stathern Village. Intriguingly, the postcard featured an artistic impression of a mill and a group of 17th-century soldiers on horseback dated AD 1642.



This was our introduction to Colonel Francis Hacker, the lost hall and the death warrant of Charles I.

What made it even more relevant, was that the Hacker family once owned the mill that we had begun to research.

During the early phase of the investigation, we became aware that there was a claim associated with signing the death warrant in the Red Lion public house at Stathern. It turned out that this was not true, but remarkably, there was some truth in the association with the death warrant and Stathern.

In fact, the death warrant was kept by Colonel Francis Hacker at Stathern Hall following the execution of Charles I on Tuesday 30th January 1649, until it was returned to London by Francis's wife, Isabel, on 31st July 1660.

This is why it is historically important to locate the site of the lost hall so that its location can be commemorated as a nationally significant place, where the death warrant of Charles I was kept for over eleven years. It is the only time the death warrant ever left London, and it is now safely held at the Parliamentary Archives (catalogue number: HL/PO/JO/1/297A).



**Note:** Colonel Francis Hacker did not sign the Death Warrant, but he did sign the Execution Order and he was on the platform when Charles I was beheaded.

## **METHODOLOGY**

If we were to find ourselves in the fortunate position of being able to explore the possibilities of commemorating the site where the Death Warrant of Charles I was kept from 1649 to 1660, then we would have to prove without a shadow of doubt the location of Stathern Hall.

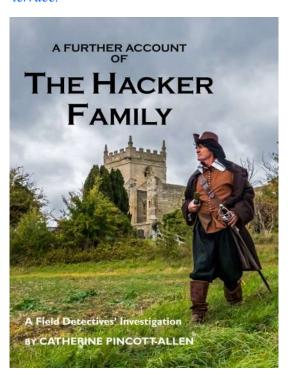
We began the investigation by examining all of the surviving written accounts that we could find pertaining to the location and history of Stathern Hall. If there were any clues that could help us solve this mystery, then this is where we hoped to find them.

Fortunately, Rene Mouraille and the Framland Archaeology Group (FLAG) along with Norman Fahy and P. Roberts carried out a prior investigation into the lost premises of Colonel Francis Hacker which included a set of archaeological reports and accompanying research notes.

Report	Author	Date
The Lost Premises of Colonel Hacker	R.M. Mouraille HND – edited by D.H. Stanley	December 2001
Stathern Hall and Grounds – The Lost Premises of Colonel Sir Francis Hacker (Evaluations Report)	R.M. Mouraille HND	Spring 2005
Research Paper - Leicestershire County Council	P Roberts, Norman Fahy et al.	14 <sup>th</sup> November 1999

Much of the research detailed in these reports relied heavily on the 1941 account by H. Leslie Hubbard 'Colonel Francis Hacker - parliamentarian and regicide', with a landscape focus on an observation he made concerning what appears today as a sunken trackway:

The house in which he lived was to the east of the church, half-way up a fairly steep slope, now known as Mill Hill, and enjoyed a splendid view over the whole of the fertile Vale of Belvoir. The Belvoir woods, much more extensive than now, began two hundred yards or so from the walls enclosing the grounds. The house was destroyed soon after Hacker's execution, but, incorporated in the boundary of one of the present fields on the site, there still remains the buttress of one of the outside walls, with part of the mortar in the interstices of the stones, protected by the hawthorn hedge which continues the boundary of the field; running from the buttress as a boundary is about fifteen yards of a stone wall, whose stones are remarkably even and smooth, save on the top where the wall has collapsed and been rebuilt, a wall which is probably part of that surrounding the grounds of the old hall. At right angles to this is another stone wall forming, with a hedge, the boundary of a field, but this is a rough structure and probably no part of the hall, although stone from it was used in the wall's construction. The field which is the site of the hall still has a number of undulations and mounds covering the foundations of the hall; there can also be discerned the outlines of a terrace



The drive to the hall survives in the form of a cart-road which debouches on to the road half-way up the Mill Hill. The earth in one part of the field has recently been disturbed for the erection of a blockhouse and, in the debris, were numerous fragments of rough pottery, made from local clay and discoloured by the iron-ore in it. An aerial photograph of the site would probably recover the complete ground-plan of the building and gardens.

Although Rene and Norman's archaeological and research examinations proved to be inconclusive, their findings were nevertheless promising, and so therefore, in our opinion, they warranted further investigation.

In addition, Catherine Pincott-Allen carried out research into the genealogy of Colonel Francs Hacker to ensure that the occupant of the hall in question was represented as factually accurate as possible.

It was envisaged that this line of enquiry might also shed some light on the location of Stathern Hall and related property transactions through family wills and estate papers. This line of research was published as a 'Further Account of the Hacker Family'. Historical maps, Google Earth images, lidar images and historical documents were consulted in the hope that they would be able to tell us more about the location of the hall. Even if the main structure of Stathern Hall had been removed shortly after Francis Hacker's execution in 1660, the physical footprint of the hall estate itself should still exist as a ghostly image on the landscape, and we hoped that lidar images might reveal those feint landscape footprints.

Geoff Kimbell, our Lidar and digital mapping colleague, will be analysing our findings, and interpreting them onto a master digital landscape map. It would be this record that will visually present our findings at the end of the investigation.

The Field Detectives would visit the Record Office for Leicestershire, Leicester and Rutland and make contact with Helen Sharp (curator, Leicestershire County Council Museums), Helen Wells (Leicestershire Historic Environment Record) and Peter Liddle (retired museum curator and archaeologist) in the search for any additional information that could assist our investigation. Helen Sharp kindly posted the FLAG reports to us and thanks to the creative intervention of Kevin Winter (National Civil War Centre), we were able to make contact with Rene Mouraille.

One of the key research avenues was the Belvoir Castle archives, however, despite many attempts to gain access to these important estate documents, we were sadly, unable to investigate them. This is a really important research avenue, especially when you take into account that the land belonging to Francis Hacker at Stathern was taken away from the family after his execution by order of Charles II, and passed into the hands of the Duke of York, who would become the future King James II.

The intriguing aspect of this transaction is that the Estate Map of 1792 (see p.7) and the 1799 Enclosure Map (see p.6) clearly show that the land we believe to have belonged to Francis Hacker at the time of his execution is credited to the Duke of Rutland. Rowland Hacker bought back the land taken from Francis in the 1660s from the Duke of York, so this is a transaction that we do need to unpick if we are to understand how the Duke of Rutland was named as the landowner in 1792.

As we were revisiting the original line of investigation, we decided to apply to the landowners for permission to carry out a geophysical re-examination focusing on two areas of interest as featured in Rene's archaeological reports of 2001 and 2005.

Thanks to the assistance of Roger Hawkins and fellow Stathern residents, Jill and John Barlow, the landowners, Sally and Bob Wadsworth and the Leicestershire and Rutland Wildlife Trust, courtesy of Sarah Bedford and her colleagues, kindly gave their permission for the geophysical re-examinations to take place on Saturday 22nd April 2023 and Sunday 13th August 2023.

A community presentation at St. Guthlac's church in Stathern was arranged for Saturday 7th October from 11:00 a.m., where residents from the village, landowners, farmers and interested parties could learn about the investigation's findings and share their thoughts, reflections and suggestions regarding the next phase of the search for Stathern Hall.

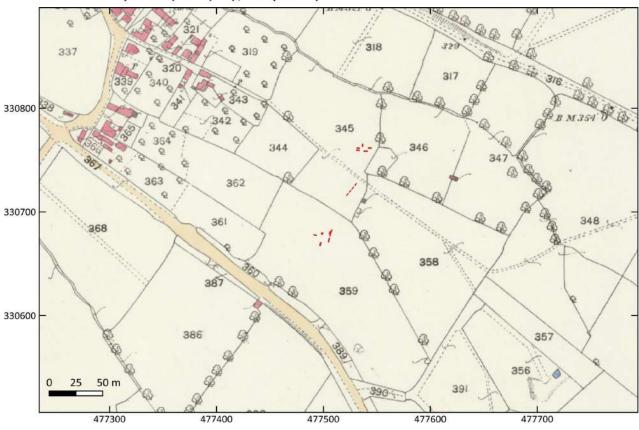


## FLAG TRENCH POSITIONS

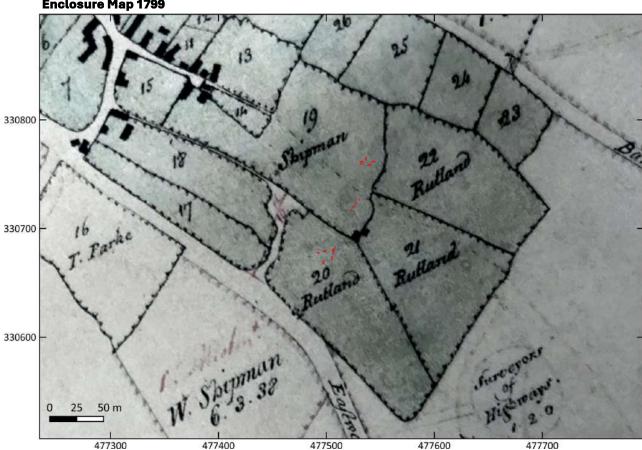
#### SUPERIMPOSED OVER HISTORIC MAPS & GOOGLE SATELLITE IMAGE

Trenches are shown in red showing the suggested location of the FLAG trenches that were featured in Rene Mouraille's archaeological reports.

#### Ordnance Survey 25 inch (1:2500) map, surveyed and published in 1884

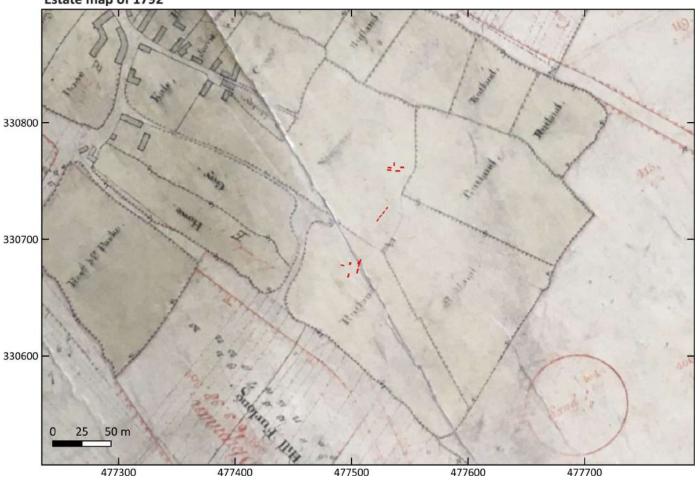


#### **Enclosure Map 1799**



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#### Estate map of 1792



#### Google satellite image



## LIDAR IMAGES

#### SUPERIMPOSED WITH THE POSITION OF THE FLAG TRENCHES

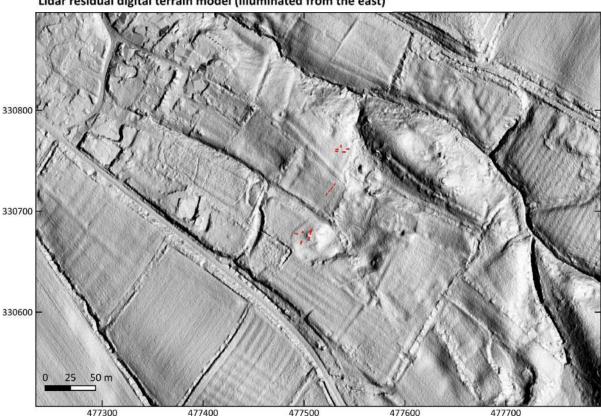
Showing the suggested location of the FLAG trenches that were featured in Rene Mouraille's archaeological reports

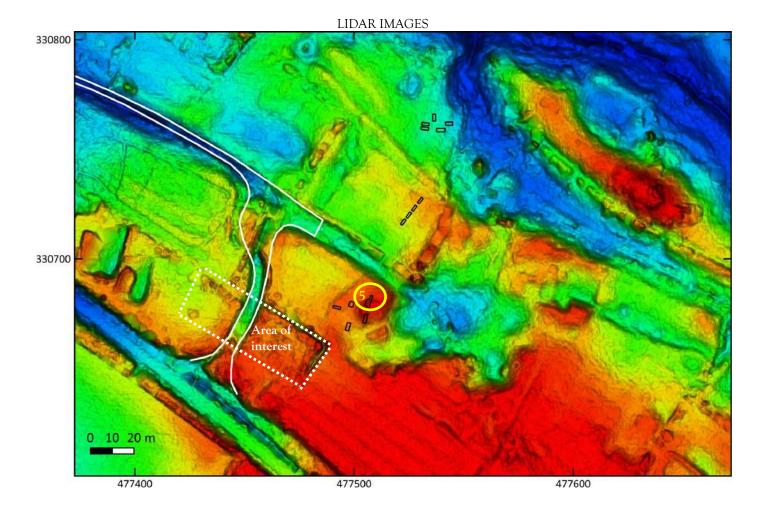
#### Lidar residual digital surface model (illuminated from the east)



**Note:** The Lidar image shown above includes vegetation and buildings, and the one featured below shows the same area with the vegetation and buildings removed

#### Lidar residual digital terrain model (illuminated from the east)





The Lidar image featured above presents a more detailed look at the lidar data in the primary area of interest. Geoff has applied a digital filter to the data and employed colour as well as shading to help accentuate the key characteristics of interest (red indicates higher ground levels).

Also included on this image (as a white outline) is the lane leading off Mill Hill and the footpath to the village centre as shown on the 18th-century maps, which demonstrate a most probable point of access to this area in the past.

The lLidar data reveal extensive man-made modification of the landscape in the area accessed (rectilinear features and evidence of excavation). When combined with the foundations discovered in Trench 5 (circled above in yellow) and the 2023 geophysics results, this points to an area of occupation that is at the very least, a prime candidate for the site of Stathern Hall.

The question is how much of the terrain modification relates to the hall itself and how much to later activity - which could include its demolition and subsequent excavations which may have confused evidence relating to it.

An area of interest (shown below) was identified by the Lidar images, and by Aileen and Peter's geophysics survey that warrants further investigation.



As can be seen from the Google image featured left, the area of interest is predominantly a wooded area. So, therefore, this part of the landscape investigation will require an initial access assessment.

This would help to determine what can actually be done regarding the implementation of a landscape survey, to see if we can identify any physical building materials relating to the site where Stathern Hall once stood.

## **INVESTIGATION FINDINGS**

#### SURVIVING WRITTEN ACCOUNTS

The written accounts relating to Stathern Hall which could arguably provide landscape clues to the hall's location can be attributed to the following sources:

- Track (off Mill Hill) referred to as 'Hall Close' by the Reverend Ernest Goodwyn Peirson in his Parish Magazine dated June 1911. "There is nothing left of it now except the old stones that form a low field wall on one side of the site and the broken ground showing where the foundations lie."
- Hubbard, H.L., 1941 'Colonel Francis Hacker, Parliamentarian and Regicide', Trans. Thoroton Soc. (1941), 517

#### PREVIOUS ARCHAEOLOGICAL INVESTIGATION AND RESEARCH

The two archaeological reports produced by the Framland Archaeological Group (FLAG) in 2001 and 2005 identified a trench of interest (trench number 5) that warrants further archaeological investigation.

The FLAG archaeological investigation into the location of Stathern Hall declared that their findings were inconclusive.

Within the body of Hubbard's essay, he identifies a wall and buttress that warrants further archaeological investigation.

#### GENEALOGY STUDY OF THE HACKER FAMILY

The study was not able to identify any written materials that could be used to help locate the site of Stathern Hall.

#### HISTORICAL MAPS, GOOGLE EARTH IMAGES, LIDAR IMAGES

There were no maps that could identify the exact location of where Stathern Hall once stood, but there are a number of maps that identify buildings of some form or purpose on the landscape in question.

Google Earth Pro could not identify the layout of a hall and related outbuildings within the area of interest.

The Lidar images proved to be informative and offered visual landscape anomalies that warrant further investigation.

#### ADDITIONAL RESEARCH

The genealogy study identified two avenues for further investigation:

- The Duke of Rutland Papers (c. 17th Century) Belvoir Castle Archives
- Various documents held at the National Archives relating to the property and possessions of Francis Hacker

#### **GEOPHYSICS SURVEYS**

The two Field Detective's geophysics surveys of 2023 (Appendices 4 & 5) identified the high probability of walls in the area of Trench 5 (see FLAG archaeological investigation reports 2001 & 2005, Appendices 1 & 2), in the east paddock, and at the northeast corner of the area of interest (page 9).

## **DISCUSSION**

#### SURVIVING WRITTEN ACCOUNTS

The only written accounts that we have found to date that could feasibly help us to identify the location where Stathern Hall once stood, come from the Reverend Ernest Goodwyn Peirson (1911) and Harold Leslie Hubbard (1941). Both of these gentlemen were residents of Stathern at the time of their landscape observations, and it would appear that Harold was influenced by Ernest's initial location assessment.

Their shared landscape analysis and resulting location suggestions are based on the physical structure of standing walls, a buttress, mounds, humps and hollows.

Neither one of them could source a credible prior written account detailing the site in question, or a map that shows the location of the hall.

#### PREVIOUS ARCHAEOLOGICAL INVESTIGATION AND RESEARCH

The two archaeological reports produced by the Framland Archaeological Group (FLAG) in 2001 and 2005 that followed their investigation into the location of Stathern Hall declared that their findings were inconclusive.

Trench number 5 as featured in the said reports, does offer an opportunity for further examination. If this trench could be re-opened and the wall followed to reveal the nature of its construction, then this could arguably help us to determine its date and purpose of use. Using the information we glean from this investigation, we can cross reference surviving c. 16th-17th century hall estate plans to see if the structure in question fits into the format of a 17th-century hall estate.

#### GENEALOGY STUDY OF THE HACKER FAMILY

Although the initial study into the genealogy of the Hacker family failed to identify any written materials that could be used to help locate the site of Stathern Hall, we are about to extend our research into the broader branches of the family tree, in the hope that documents relating to the hall can be found down this line of enquiry.

#### HISTORICAL MAPS, GOOGLE EARTH IMAGES, LIDAR IMAGES

A map suggesting the location of a building on the landscape in question is the one produced by Major Colby of the Royal Engineers dated the 1st March 1824 (page 12). It identifies a building of some form and what could be construed to be a trackway leading to it from a site entrance trackway leading off Mill Hill.

The problem here is that the 'site entrance' trackway featured on Major Colby's 1824 map is higher up Mill Hill than the one both Ernest and Harold suggest in their respective accounts.

#### ADDITIONAL RESEARCH

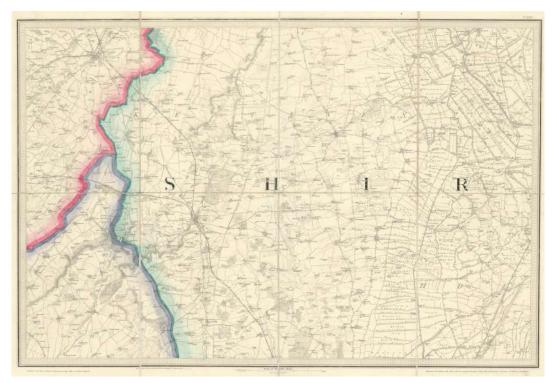
Two avenues of research are still being pursued. The Belvoir Castle archives could hold records relating to the purchase, associated transactions and the location of Stathern Hall. The trail of communication following the execution of Colonel Francis Hacker in 1660, relating to the confiscation and financial transactions of the Stathern Hall estate could provide valuable information.

- The Duke of Rutland Papers (c. 17th Century) Belvoir Castle Archives
- · Associated post 1660 documentation relating to the property and possessions of Francis Hacker

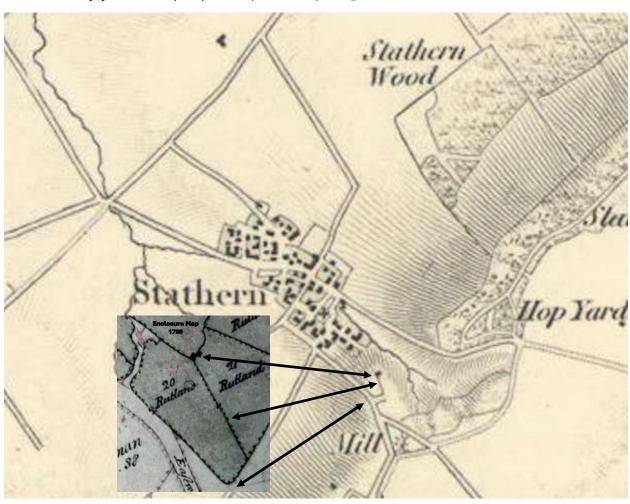
#### **GEOPHYSICS SURVEYS**

The 2023 geophysics surveys conducted by the Field Detectives, re-visited the initial geophysics survey as featured in the two archaeological reports produced by the Framland Archaeological Group (FLAG) in 2001 and 2005.

The surveys were able to identify the possibility of walls and associated building debris that warrant further investigation. The problem here is that these geophysics readings are suggestive and that without an archaeological examination of the anomalies in question, we will not be able to confirm our findings.



Map produced by Major Colby of the Royal Engineers dated the 1st March 1824



A close-up of the Stathern landscape as recorded on Major Colby's map of 1824, shows an access point and trackway leading to a building of some form. The line of this possible trackway and the location of some form of surviving buildings (two) can be identified on both the 1792 and 1799 enclosure maps.

The problem here is that the 'site entrance' trackway featured on Major Colby's 1824 map is higher up Mill Hill than the one both Ernest and Harold suggest in their respective accounts.

## CONCLUSION & RECOMMENDATIONS

We began this investigation with one clear outcome in mind. If we were to find ourselves in the fortunate position of being able to explore the possibilities of commemorating the site where the Death Warrant of Charles I was kept from 1649 to 1660, then we would have to prove without a shadow of doubt the location of Stathern Hall.

After re-visiting the prior research and archaeological examination of the area where the site of Stathern Hall is believed to be, we can be confident in our conclusion that there is enough evidence to warrant further investigation.

From a landscape perspective, we have identified four areas of interest labelled A B C and D on the Lidar map featured on page 14.

- · Area A is informed by the Field Detective's geophysics survey of 2023 (appendix 4). An archaeological investigation to establish the existence of building materials/walls in the paddock featured in the geophysics survey report would provide important information regarding the date and purpose of the structures in question. There is an existing stone wall running along the south and east edges of the paddock, and the east edge of this wall is of particular interest (Area C)
- Area B is informed by the Field Detective's geophysics survey of 2023 (appendix 5). An archaeological investigation to establish the existence of building materials/walls in the area would provide important information regarding the date and purpose of the structures in question. Examining areas A & B would enable us to confirm whether or not, these potential building structures are related
- Area C follows the line of the existing stone wall which potentially, includes the remains of the buttress that Harold Leslie Hubbard identified in his 1941 essay. It is possible that if we can find a brick from this buttress, we can then arrange to have it dated. It will also be useful to investigate whether the line of the wall continues to the north
- · Area D is informed by both the Lidar images and the Field Detective's geophysics survey of 2023. It is a predominantly wooded area. So, therefore, this part of the landscape investigation will require an initial access assessment. This would help to determine what can actually be done regarding the implementation of a landscape survey, to see if we can identify any physical building materials relating to the site where Stathern Hall once stood

Metal Detecting Survey – It would be useful to carry out a comprehensive metal detecting survey of the fields. This would enable the opportunity to record the location of artefacts to further inform our knowledge and understanding in regard to human activity on the landscape during the 17th century. The survey can also include the find locations of artefacts that have been found by other people. All artefacts recovered during a Field Detective's metal detecting field survey will remain with the respective landowners.

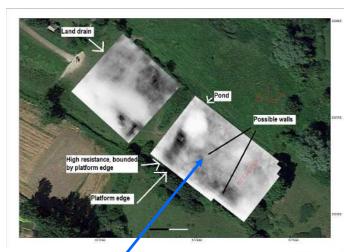
#### From a further research perspective, we have identified the following avenues of investigation:

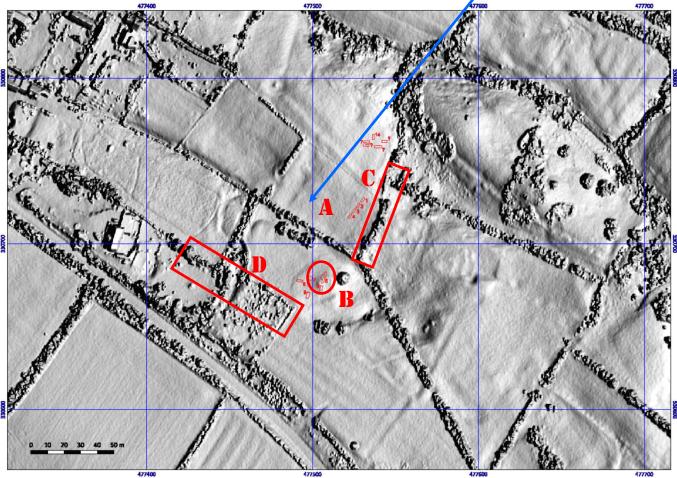
- 1. Resume our efforts to engage with the Belvoir Castle archives to access any surviving records relating to the purchase, associated transactions and the location of Stathern Hall
- 2. Explore any surviving documentation following the execution of Colonel Francis Hacker in 1660, relating to the confiscation and financial transactions of the Stathern Hall estate
- 3. Look into surviving documents relating to Colonel Francis Hacker that could have been archived under the names of the broader family tree (branches of the family)

**Recommendation A** is informed by the Field Detective's geophysics survey of 2023 (appendix 4).

An archaeological investigation to establish the existence of building materials/walls in the paddock as featured right and below would provide important information regarding the date and purpose of the structures in question.

There is an existing stone wall running along the south and east edges of the paddock. The question here is; are these walls related in some way to the potential building structures identified in the geophysics survey?

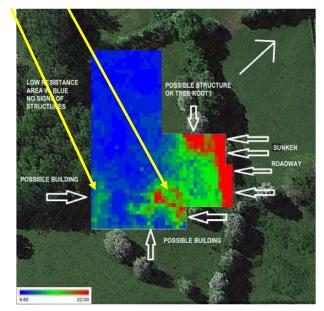




**Recommendation B** is informed by the Field Detective's geophysics survey of 2023 (appendix 5).

An archaeological investigation to establish the existence of building materials/walls in the area as featured right and above would provide important information regarding the date and purpose of the structures in question.

The question we are unable to answer at the moment, is; are these two areas of potential building structures related?



## ACKNOWLEDGEMENTS

As we have found during many of our historic landscape investigations of the last 25 years, it takes a whole collaboration of people from all walks of life to bring answers to the mysteries we continue to uncover. The search for Stathern Hall investigation is no different in that regard.

Without the kind permission, and generosity of support of Sally and Bob Wadsworth and the Leicestershire and Rutland Wildlife Trust, we would not be as close as we are to identifying the unknown location of Stathern Hall.

Geoff Kimbell, Roger and Barbara Hawkins have been the quiet engine drivers of the investigation. Without their enthusiasm, encouragement, advice and guidance our investigation would have been derailed many months ago.

We owe a huge debt of gratitude to the prior research of the Reverend Ernest Goodwyn Peirson, Harold Leslie Hubbard and Norman Fahy, along with the excellent archaeological investigation of the Framland Archaeological Group (FLAG) which was orchestrated and recorded by the fabulous Rene Mouraille.

The staff at the Record Office for Leicestershire, Leicester and Rutland were brilliant, and the ongoing support, advice and guidance from Helen Sharp (curator, Leicestershire County Council Museums), Helen Wells (Leicestershire Historic Environment Record) and Peter Liddle (retired museum curator and archaeologist) has been exemplary.

Glyn Hughes and Kevin Winter from the National Civil War Centre at Newark, Nottinghamshire, continue to offer their invaluable insight, knowledge and experience regarding associated activities and developments of the 17th century, which have helped to inform and shape our understanding of what a 17th-century landscape might have looked like during the English Civil Wars (1642-1651).

In pursuit of the genealogy study of the Hacker family, Catherine enlisted the support, advice and guidance of many. These fabulous people gave up their time and shared buckets of patience and enthusiasm. Their generosity never waned, and Catherine has paid due respect within the body of her book, 'A Further Account of the Hacker Family'.

One man deserves a special mention; Tony Yorke who is the celebrated author (writing under the name of Philip Yorke) of the Hacker Chronicles. He met up with us on many occasions to fuel and furnish our knowledge of the English Civil Wars and in particular, Colonel Francis Hacker's involvement. Tony is a leading light on the character of the man behind the name.

This investigation would not have begun if it had not been for the late councillor Mel Steadman, who was instrumental in bringing to our attention, the mystery of the lost hall of Colonel Francis Hacker. Mel was determined to locate the site of the hall and it is that baton that we now have in our hands.

The above are but a few of the many, and so therefore, in an effort to reduce the number of pages required to list them all, please accept our overarching appreciation to the Field Detectives, our collaboration of heritage sector colleagues, our family of landowners and farmers, and to everyone who has helped along the way.

We could not have done any of this without you.

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## The Field Detectives

## **Historic Landscape Studies**

#### Who We Are & What We Do

www.the-field-detectives.com

The Field Detectives seek opportunities to survey fields that can tell us more about how our historic landscapes evolved - by sharing the stories that we uncover from our field survey activities, we help to inform a better understanding of how our historic landscapes evolved over the centuries. On completion of the field survey activities, a field survey report is produced that precisely records all of the associated survey finds (coins, artefacts, pottery etc.).

Once the field survey reports have been processed, the artefacts are curated as a landowner held Historic Landscape Study Collection where they are safeguarded for further research and study. With landowner approval, a community presentation/display can then be arranged where the information is shared and an opportunity is provided for the local community to get involved in future research activities.

By submitting the completed field survey reports as an exact finds location record, and by working closely with our heritage sector colleagues, we are establishing a growing archive of landscape focused historic studies.

These context-recorded studies, are held in trust by the respective landowners who act as heritage custodians, which in turn, safeguards a unique set of rich historical landscape investigations for further study and learning.

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**Brian Lovett**Farmer & Historic
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**Jill Barlow** Historic Landscape Detective



**John Barlow** Historic Landscape Detective



Tim & Jenson Elsworth Historic Landscape Detectives



Alan & Sylvia Massey Prehistory Consultants & Witch Bottle Experts



Peter Ball Historic Landscape Detective



Aileen Ball
Historic Landscape
Detective



#### FRAMLAND LOCAL ARCHAEOLOGY GROUP

FRAMLAND LOCAL ARCHAEOLOGICAL GROUP

Established 2001

Evaluation Report.

'The Lost Premises of Colonel Hacker'

Stathern. Northeast Leicestershire.

By
R. M. Mouraille HND
Report Editor D. H. Stanley
December 2001

## FRAMLAND LOCAL ARCHAEOLOGY GROUP EVALUATION REPORT

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#### FRAMLAND LOCAL ARCHAEOLOGY GROUP

**Evaluation Report** December 2001 by R M Mouraille HND Report Editor D H Stanley

Site Location

Stathern Hall

'The lost premises of Colonel Hacker' Glen Cottage, Dalliwell, Stathern, Northeast Leicestershire, LE14 4HG

Site Code **CCM Ass No** 

NGR

73SEAN X.A97.2001

SK7750/3070

#### 1. Summary

On the weekend of Saturday 11th August 2001, commencing 8.00 am, the newly formed Framland Local Archaeology Group (FLAG) met at Glen Cottage, Dalliwell, Stathern, Northeast Leicestershire. The group had been invited by their hosts, Mr & Mrs R H Wadsworth, who suspected former occupation had occurred on their land and in a paddock to the Southeast of Glen Cottage. The field of interest centered on grid reference SK7750/3070, believed by the Wadsworths and the other villagers to be the site of a large Hall, attributed to Colonel Francis Hacker, a leading member of the Parliamentary forces in the Civil War.

After examining the results of a resistivity survey(1), carried out on the 14th November 1999, a line of four trenches each measuring 3m x 1m were marked out and excavated by hand on a Northeast - Southwest alignment across the small paddock. Thought to contain little archaeology, the specific area was chosen to provide a training evaluation for the newly formed group.

The evaluation found little evidence to suggest the whereabouts of Colonel Hacker's Hall, however the results were perhaps more interesting. A surprisingly large amount of archaeological information was recovered. The finds from the site dated from the Romano-British period, and continued through to the 15th century AD. The discovery of 5th-7th century Anglo-Saxon pottery that can be identified with archaeological posthole features is particularly unusual and exciting.

The conclusions drawn from the exercise reveal that the origins of Stathern began much earlier than previously suspected.

#### 1. Introduction

#### Background

Stathern is located some 7 miles (12 km) North-northeast of Melton Mowbray, Leicestershire and 9 miles (15 km) Southwest of Grantham, Lincolnshire, (FIG 1 & 2).

The site investigated is situated on the Northwest escarpment of the Vale of Belvoir, at a height just below 100.00m O.D. The paddock overlooks Glen Cottage, the home of the Wadsworth family, who are the current owners of the site. The village of Stathern is located a little further down the hillside and the Trent Valley may be seen in the distance (PLATE 1). The village is situated on a bed of boulder clay but on the hillside, above the village, this clay is covered with a sandy silt colluvium deposit.

#### 2a. Documentation

According to Nichols<sup>(2)</sup>, Stathern is mentioned in ancient writings as Stactedirne or Stachethurne. During the reign of Edward the Confessor the Manor of Stathern, held by Lord Leuric, was of the annual value of 40 shillings. After the Norman Conquest, Robert de Todeni, the Norman Lord of Bottesford, held the Manor and the value had increased to 50 shillings. Later the village came into the hands of the de Borard family who held it by Knight's service to the Albinis, Lords of Belvoir. William de Borard gave the tithes of the village, rated at 6 shillings, to the Priory of Belvoir.

In 1240 Stathern is described as having four plough lands (approximately equal to 640-720 acres depending on condition of land)<sup>(3)</sup> and paid 32 pennies to the Sheriff. Simon de Borard, who at this time held the Manor, gave some of the lands to the Priory of Haversholm in Lincolnshire and the rest to the Abbot and Convent at Croxton Kerrial. In 1275, Joan, the daughter of Simon de Borard, married Thomas de Reignes and the Manor transferred from the Borard family to the Reignes at this time.

In 1541, following the Dissolution of the Monasteries, Henry VIII granted the lands, which had formerly belonged to the Abbey of Croxton and the Priories of Belvoir and Haverholm, to Thomas Earl of Rutland. In 1624 Anne, one of the daughters and coheirs of Richard Reignes, was married to Thomas Low who resided at Stathern. By this time the village was under the ownership of Francis Earl of Rutland.

In 1645, the committee of sequestration fined William Norwich, who lived in the village, £48, for his support of the Royalist cause. Plague hit the village in 1646 resulting in the death of 15 people over a ten-day period. Many more cases followed.

It was during the 1630's that Francis Hacker<sup>(4)</sup> moved to Stathern and in subsequent years became a leading member of the Parliamentary forces in the

Civil War. In 1649 he was guarding the scaffolding used for the execution of Charles I and was prevailed upon to sign the King's execution order. On the restoration of the monarchy under Charles II, Hacker was arrested on a charge of regicide and subsequently executed. His manor at Stathern was then demolished, or fell into decay.

Several Quakers were registered as living in Stathern in 1697.

Nichols<sup>(2)</sup> states that in 1790 Stathern contained around 2000 acres of open field comprising moderate land with a few small enclosures. Wheat, beans and barley were produced. Thirteen cottages had right of pasturage to graze a cow in the common pasture but it was reported "the poor of Stathern were no objects of envy to the poorest in the surrounding villages". A bill was passed in 1792 to enclose the open fields of Stathern.

#### 2b. Previous Archaeology

Prehistoric Stathern Woods occupy an area associated with possible strip lynchets or terraces or multivallate Iron Age defences. These may be located at SK7775/3092 (Dyor,1970, 124–132). Two sites in the area represent Iron Age occupation. A loom weight was recovered during early 20<sup>th</sup> century quarrying at SK784/309 and a second site was discovered by field walking at SK795/320 (Pickering and Hartley,1985). Numerous prehistoric discoveries have been recovered from the Stathern area. These include a group of skeletons with grave goods dating from the Neolithic period (Nottingham Castle Museum, Acc. No. 92–38) and a later Bronze Age cremation in a Deverel/Rimbury urn (University of Nottingham Dept. of Archaeology, Burgess, 1974).

Romano-British Prior to this evaluation, little has been recovered from the Romano-British period and more research is required. A coin hoard was discovered (SMR 73/SE) and aerial photography of the area may indicate a villa site in the close vicinity.

Early Anglo-Saxon A Cruciform Anglo Saxon brooch (Liddle, 1982,82) was recovered by a local metal detector operator at SK775/307. (PLATE 2). The brooch dates between the late 5<sup>th</sup> – early 6<sup>th</sup> century period and has been attributed to forms found along the valleys of the Lark, Nene, Ouse, Welland and Avon rivers. (Howe, 1988, 77 – 80).

In the early 1940's a block house was being built on Mill Hill, some 200m from the site, when "numerous fragments of rough pottery, made from local clay and discoloured by the iron-ore in the debris" were found. (Hubbard H L 1941)<sup>(5)</sup>. No reference has so far been found to assign a period to this pottery.

Somewhere within the site are believed to be the foundations of one of the two medieval Stathern manors and possibly the Hall associated with Colonel Hacker. Manorial sites of this nature are often complex, having not only the manor but also a series of ancillary buildings, such as stables, barns, crew yards, and sometimes mills and associated buildings. Dovecotes, wells and fishponds may also be evident. Although the potential site of Stathern Hall overlooks the village,

only the Anglo-Saxon brooch previously mentioned has been registered from the actual site. It has been rumoured that metal detectorists have recovered other material.

Patrick Roberts of Leicestershire County Council and Norman Fahy et al<sup>(6)</sup>, undertook a resistivity survey of the site on the 14<sup>th</sup> November 1999. (FIG 3)

#### 2c. Field Evidence

The site of enquiry is bounded on the Southwest and Southeast sides by a dry stone wall some 0.75m thick. Within these boundaries the site, although sloping down to the north, is flat, with no evidence of ridge and furrow. Although some undulations lie within the field, there is little to suggest these may relate to building platforms etc. The Northeast boundary of the field consists of a modern wooden fence, on the other side of which is a public footpath on the same alignment.

A holloway, leading from Mill Hill on the Stathern – Eastwell road in a North-easterly direction, approaches the site. On reaching the Southwest boundary wall, this turns Southeast, following a line parallel to and outside the boundary wall.

To the South of the site, the land is higher, with considerable disturbance to the surface. Similar disturbance can be found in a field to the East. Within living memory sand has been quarried in these areas and is the likely cause of the disturbances.

#### 3. Methodology

As the archaeological investigation at Stathern is a long-term project, the intention of the evaluation was to acclimatise the newly formed work team with the local soils prior to taking on more complicated excavation work. The resistivity results of 1999 were carefully studied and an area was chosen for the initial phase which was thought to contain little archaeology.

The trenches were set out by first establishing a point 10m along the wooden fence from the junction with the Northwest boundary wall (FIG 4). At this point a right angle was taken in a Southwest direction and at 5m from the fence the centre point of the Northeast edge of Trench 1 was marked. This trench, as well as Trenches 2, 3, and 4, measured 1m wide and 3m long on a Southwest alignment (PLATE 3). A 1.5m gap separated Trench 1 from Trench 2 but the gap between the other trenches was 1m. A 0.5m line was marked out beyond the Southeast edge of the trenches and along this removed turf was stacked to form a spoil retaining wall. All soil was removed by hand with no machinery being used for this purpose. The different soils were kept separate and the spoil thoroughly checked for dating evidence.

#### 4. Results of evaluation

#### 4a. Trench 1

Consisted of turf layer with underlying colluvium. Little of the hill-wash needed removing before features became visible (PLATE 4).

Fills 006 and 025 belonged to two Northeast-Southwest linear features both containing Romano-British fragments of pottery. Fill 006 (FIG 5) had been truncated to the Southwest by a short Northeast-Southwest linear feature with a singular fill (029). This contained pottery from the Early Anglo-Saxon Period (PLATE 5).

Fill 025 was slightly truncated on its Southeast edge by another Northeast-Southwest linear feature (the fill of which 004 also contained pottery). This comprised one piece of early Anglo-Saxon and several pieces of early medieval including a fragment of Stamford ware (PLATE 6).

#### 4b. Trench 2

This trench comprised a turf layer and underlying colluvium but contained little that could be called archaeological evidence. Therefore, a sondage was cut into the plan of the trench to determine the depth of the natural boulder clay. The colluvium at this point measured on average 1.0m in depth. Amorphous features seen in plan before the cutting of the sondage, (FIG 6) were similar to tree boles and are believed to be of a recent natural origin (PLATES 7 and 8).

#### 4c. Trench 3

As with Trenches 1 and 2, the morphology was similar, however the archaeology was more complex with at least six post-holes being visible (PLATE 9). No artefacts were recovered from the fills 012 and 031 (FIG 7). In fill 020 pottery finds consisted as follows: one fragment from the early Anglo-Saxon period; two

from the medieval (13th-14th centuries); and three from the later medieval 14th -15<sup>th</sup> centuries.

Early 5th-7th century Anglo-Saxon pottery came from fill 010 and early medieval pottery from the primary fill 014, with later medieval from the tertiary fills 015. In the Southwest corner of Trench 3, fill 008 produced early medieval fragments. Fill 016 is thought to be a natural deposit resulting from animal burrowing.

#### 4d. Trench 4

Morphology similar to the other trenches extended into Trench 4 with marks becoming visible close to the surface (PLATE 10). Three distinct features are seen on (FIG 8).

O22 contained a rim fragment of Stamford ware. The fill of cut 024 contained 4 fragments of Early Anglo-Saxon pottery and one early medieval. Also found in this fill were remnants of burnt stone which had been used as post packing. Fill 028 contained two fragments of Anglo-Saxon pottery, again with burnt stone used for post packing.

#### 4e. Finds from the Spoil

These comprise mainly pottery fragments which have a wide dating range, but the majority of finds came from the early medieval (20), followed by Anglo-Saxon (10), Medieval (5) and Romano-British (4).

Other finds recovered from the spoil were an iron penknife, flints, nails and CBM.

#### 4f. Other Notable Evidence

A Cruciform Anglo Saxon brooch (**PLATE 2**) (Liddle, 1982, p 82) was recovered by a local metal detector operator at SK775/307. The brooch dates between the late  $5^{th}$  – early  $6^{th}$  century period and has been attributed to forms found along the valleys of the Lark, Nene, Ouse, Welland and Avon rivers. (Howe, 1988, pgs 77-80).

The brooch was recovered in the close proximity of Trenches 1 and 2...

#### 5. Discussion

#### **Features**

- <u>5a. Trench 1</u> (FIG 5) (PLATE 6) contained the oldest features of the evaluation. Cuts 005 and 026 are Romano-British and appear to be of non-military origin. These may form some kind of property or field boundary/drainage ditches. Although extremely silted, it is debatable whether the ditches were partially functional during the early Anglo-Saxon period and perhaps utilised at this time to perform different functions.
- <u>5b. Trench 2</u> (FIG 6) (PLATE 7) All features in this trench appeared to be of natural origin and relatively undisturbed, suggesting that the field had never been ploughed. Within living memory, people remember an orchard being on site. The stratigraphy in the other trenches would tend to back up this evidence as nothing resembling the score marks from ploughing has been found.
- 5c. Trench 3 & 4 (FIGS 7 & 8), (PLATES 8 and 9) A number of postholes within these two trenches appear to be on the same alignment. Postholes 011, 019, and 018 alone may resemble some kind of structure continuing into Trench 4 with 021. Perhaps a recut occurred through an earlier Anglo-Saxon feature 023. 007 may represent a right-angled partition. There may be a connection between these features and ditch cut 003 in Trench 1. If there is a relationship here they may be of a structural nature, which would date to the Early-Mid Medieval i.e. 950AD-IIOOAD. These postholes are substantial suggesting a structural origin. Early Anglo-Saxon structures with postholes 009 and 027 and ditch cut 030 are of a contemporary period. Had occupation been the main function within the paddock this may suggest the reason why the land was never ploughed. Evidence from the spoil indicates that occupation has occurred on site since at

Evidence from the spoil indicates that occupation has occurred on site since at least the Romano-British period, perhaps until medieval times. The building of a new Hall on higher ground may indicate a time when this site reverted back to

fallow land. The answer may lie beneath the surface of the turf in the form of either large foundations or demolition material from earlier buildings. An orchard may well have been the only way in which the land could continue to function.

#### 6. Conclusion

This small evaluation at Stathern has been significant in providing evidence for early occupation within the parish boundaries. It has given some indication of what has occurred on the site over the past 2,000 years.

The evaluation may also indicate the close proximity of Romano-British and Early Anglo-Saxon settlements along with early to late medieval structures.

The reason for the demise of occupation within the paddock area may well relate to the time when a new Hall was constructed, which has connections to Colonel Francis Hacker.

#### 7. Acknowledgements

The Framland Local Archaeological Group would like to thank the following people for making the evaluation possible.

Mr & Mrs R Wadsworth (Land Owners), Richard Pollard, Peter Liddle, Richard Knox (Leicestershire County Council Archaeology Section Museums Service), Jim and Trish Robinson (Red Lion, Stathern). Barbara Hawkins (Local Historian), Doug Clinton & Richard Hayes (WEA Melton Mowbray), Norman Fahy, former Local Archaeologist. The evaluation team consisted of Sue Brigham FARI, Stuart Murray FARI, Ann Mouraille (Independent), Wayne Liffsey (Supervisor Independent), René Mouraille Site Director FLAG/FARI, and the following FLAG members: Matthew Bradwell, Nigel Burton, Clive Davenport, Angela Heathcote, Amanda Jennings, Jane Lee, Roy Perkins, Alison Price, Adam Smith, Bob Sparham and David Stanley.

Our thanks are extended to the Farndon Archaeological Research Institute for the loan of equipment, which has contributed towards making the evaluation possible.

#### 8. References

- 1 Roberts P 14 November 1999, Leicestershire County Council, Norman Fahy et al.
- Nichols J. 1795. Volume 2. part 1. Histories & Antiquities of the County of Leicestershire.
- Wood Michael, 1986 Domesday- A Search for the Roots of England, BBC Publication p123
- 4 Brown C. 1882 Lives of Nottinghamshire Worthies and the Celebrated and Remarkable of the County.
- Hubbard H L 1941, Colonel Francis Hacker, Parliamentarian and Regicide. Transactions of Thoroton Society, Nottingham.
- 6 Fahy N. October 2000. The Search for Stathern Hall.

#### FRAMLAND LOCAL ARCHAEOLOGY GROUP

#### Appendix 1

Specification of fieldwork R M Mouraille HND Site Co-ordinator

Specification for Archaeological Evaluation

Place: Stathern Hall

'The lost premises of Colonel Hacker'. Glen Cottage Dalliwell, Stathern, Northeast Leicestershire LE14 4HG

Site code: 73SEAN CCM Ass No X.A 97.2001 NGR: SK 7750/3070

#### Non technical summary

1:1 In the past, the Framland region of Leicestershire has had little attention in research terms and may be found to contain rich archaeological resources. The Framland Local Archaeological Group has aims to undertake this research and to identify as many archaeological sites as possible. The collected information may then be added to the Sites and Monuments Register.

Through their class tutor, Rene Mouraille, the Workers Educational Association has been conducting courses based on practical archaeology. These courses are designed to improve standards for local volunteer groups and aid in the recovery of detailed information before it is lost to either intensive farming or encroaching modern development schemes.

As a way of achieving this, the newly formed Northeast Leicestershire Framland Local Archaeological Group (FLAG) has been engaged in a series of these courses and are now ready to carry out limited fieldwork.

Each member of FLAG has, through the WEA (Workers Education Association) undertaken courses relating to non-intrusive methods of site detection.

In addition to this, each member holds a certificate having participated and passed a MOLAS recording system course.

As a new group, FLAG are keen to put their newly found skills to practice and to address the differences between classroom instruction and the challenges that archaeological evaluation has to offer.

Little is known of Colonel Hacker's residence. Despite recent resistivity and dowsing surveys carried out on the suspected site on 14 November 1999, (which served to highlight areas containing interesting anomalies), no physical proof exists to determine if these features relate to the lost Hall.

One of the key questions raised is; did Hacker and his new bride move into an existing hall and if so, to which time period did the Hall belong?

- 1:2 The specification is designed to make sure that all parties involved in this operation are informed of the technicalities.
- 1:3 Colonel Francis Hacker is thought to have been born around 1618 at East Bridgford and was the eldest of numerous children. He inherited property and land in Colston Bassett and Stathern and on his marriage to Isabell Brunts of East Bridgford, the couple chose to live at Stathern Hall.

During the English Civil War, Colonel Francis Hacker was a prominent Leicestershire Parliamentarian. Following the arrest of Charles I, he was responsible for guarding the King during the trial.

Although Hacker never signed the death warrant, which, he later kept at his home at 'Stathern Hall', he did sign the execution order and supervised the proceedings on 30 January 1649.

When the Commonwealth ended and Charles II was crowned, Francis Hacker was thrown into The Tower of London and accused of being responsible for the death of Charles I.

In the hope of diverting the charge, the King's death warrant was retrieved from Stathern Hall. Unfortunately, the signed execution order was sufficient evidence to convict the Colonel and on 19 October 1660 he was sent to the gallows. The final resting-place of his remains is still a mystery, although there is a persistent rumour that his body is interred at St Guthlac's Church, Stathern.

The eighteenth-century antiquarian, John Nichols, drew together many early documents relating to Stathern and concluded that during the Norman Conquest, Stathern was confiscated from the Saxon thane Leofric and awarded to Robert de Todeni. The village was in turn granted to the family de Bosco Borad in return for knights' service. William Nemore or de Bosco is recorded as giving tithes to Belvoir Priory, which he derived from his demesne at Stathern. Nichols also informs us that: 'It appears also that the family *Reignes* (who afterwards obtained the whole manor) had a considerable interest in its very antiently'. The joining of two manors is described thus: 'Joan, the daughter and heir of Simon de Borad was married, about 1275, to Thomas de Reignes, or Reines, to whom she brought this manor, and those of Clifton, co. Bucks and Okeley co. Bedford<sup>1</sup>.

Nichols, however, goes on to say that during the process of enclosure, in response to the act of 1792, Stathern is described as containing two manors.

#### Location and description

2:1 Colonel Hacker's house is believed to be situated on a slight hillside in the Vale of Belvoir. Rolling countryside partially encompasses the land with the Northwest edge of the vale overlooking the present owners' premises 'Glen Cottage'. The village of Stathern is seen a little further down the hill and the Trent Valley may be seen in the distance.

2:2 The site at Stathern is located on a bed of local boulder clays intermixed with sand inclusions.

#### Landscape context

#### **PREHISTORIC**

3:1 Stathern Woods occupies an area associated with possible strip lynchets/terracing or multivallate Iron Age defences. These may be located at grid reference, SK777513092 (Dyor 1970: 124-132). Iron Age occupation is represented by two sites in the area, SK784/309 on which a loom weight was recovered during early 20<sup>th</sup> Century quarrying, and SK795/320 (Pickering and Hartley 1985) discovered by a field walking exercise.

Numerous prehistoric discoveries have been recovered from the Stathern area. A group of skeletons with grave goods dating to the Neolithic period, Nottingham Castle Museum acc no 92.38 and a later Bronze Age cremation comprising a Deverel-Rimbury Urn (University of Nottingham Dept of Archaeology Burgess 1974).

#### ROMANO-BRITISH

Little has been recovered from this period and more research is required, however a coin hoard has previously been recovered (SMR 73.SE), and aerial photography of the area may indicate the presence of a villa site in the close vicinity.

#### EARLY MEDIEVAL

At SK7751307 a local metal detector recovered an Anglo-Saxon brooch, which has been classified as a trefoil-headed small long variety (Liddle 1982:82). This dates between the late 5<sup>th</sup> and early 6<sup>th</sup> Centuries. It has been attributed to forms frequently found along the valleys of the Lark, Nene, Ouse, Welland and Avon. (Howe 1988:77-80).

3:2 Manorial sites are sometimes complex having not only the Manor but a series of ancillary buildings such as stables, barns, crew yards and sometimes mills and associated buildings. Dovecotes, wells and fishponds may also be evident. The potential site of Stathern Hall is located on the side of a hill overlooking the village. Few finds to date have been recovered from the area of investigation.

#### Archaeological requirement

It is proposed to put a single line of trenches spanning the width of the suspected lost Hall, each trench will measure 6m long x 1 m wide and a 1 m gap between each trench. The turf layer will then be removed, a single wall of this material placed 0.5 m away from the Southeast edge of the trench. Topsoil will be systematically removed and checked thoroughly for finds. Any subsoil will also be removed using the same sequence, however, both layers will be kept separate of each other. A single context system will be maintained using a system recognised and used by the Museum of London Archaeological services.

It is hoped to excavate, as many as eight trenches that will be relative to the amount of labour available.

Excavation will commence 0800 hrs Saturday 11 August and close Sunday 12 August 2001.

#### Proposed Methodology

#### Site team

The site team will consist of the following personnel:

Bradwell, Matthew FLAG Burton, Nigel **FLAG** Davenport, Clive **FLAG** Heathcote, Angela FLAG Jennings, Amanda FLAG Lee, Jane FLAG Perkins, Rov **FLAG** Price, Alison FLAG Smith, Adam **FLAG** Sparham, Bob **FLAG** Stanley, David FLAG Mouraille, Ann Independent Brigham, Sue **FARI** Smith, Chris **FARI** Ablewight, Diane **FARI** 

Murray, Stuart FARI
Liffsey, Wayne. Pro/Supervisor Independent
Mouraille, Rene. Ex-Pro, Site Director FARI/FLAG

Investigation at the Stathern Hall site will be of evaluation status only.

The main emphasis put on the recovery of sufficient evidence to determine and locate the building identified by geophysics on 14 November 1999. Hopefully, enough dating evidence will be retrieved from various features to gain some idea of the origins of the building and to what significance it had within the surrounding landscape.

All removal of soil will be carried out by hand and no machinery other than hand tools will be included.

Scaled drawings of 1:10 will be carried out and a comprehensive scaled photographic record kept.

Soil samples are to be taken, where deemed necessary.

#### Post fieldwork

#### 5:2:1 Finds

Following completion of fieldwork, all artifacts will be carefully cleaned and marked before bagging. The finds will then be forwarded to Richard Pollard for specialist attention.

#### Site report and post excavation methodology

## On completion of fieldwork the following will be prepared for the County Archives

Maps and Scales

Trench plans and sections. Scales, location and orientation of features. Individual plans and sections cross-referred to main site plans.

A comprehensive field register and cross-referred context sheets.

A Harris matrix.

Specialist assessments.

Colour and B/W Plates.

#### Site Records and finds

A full archive of site records will be deposited at the County Archives, with a completed site report.

Copies of the Report and its findings will be forwarded to the owners of the property Mr and Mrs Wadsworth; to Melton and Leicestershire libraries; Peter Liddle and Richard Pollard of Leicestershire County Council Archaeological section respectively. The SMR will also be included to receive a copy of the Autumn Report.

#### References

Fahy N. October 2000. The Search for Stathern Hall 

<sup>1</sup>Nichols J 1795 Vol2 part 1 Histories & Antiquities of the County of Leicestershire, 
Appendices

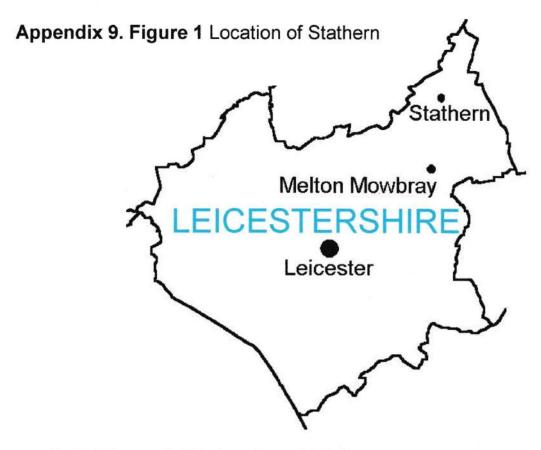
#### Additional information

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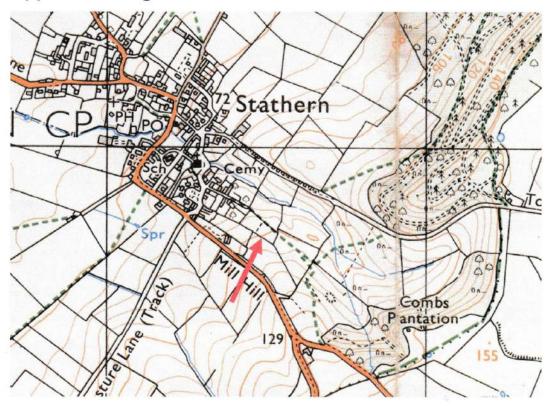
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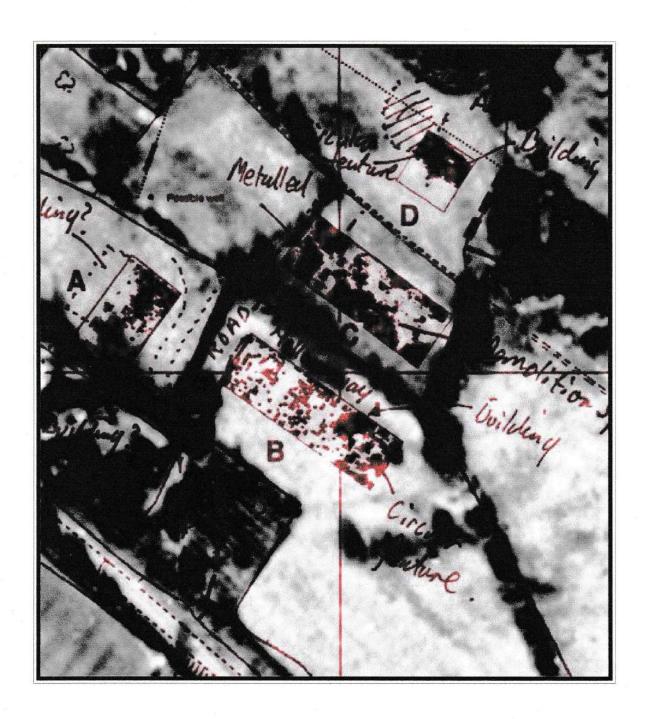
Fieldwork will commence 8.00 am on each day and will finish at set times as convenient to excavation.

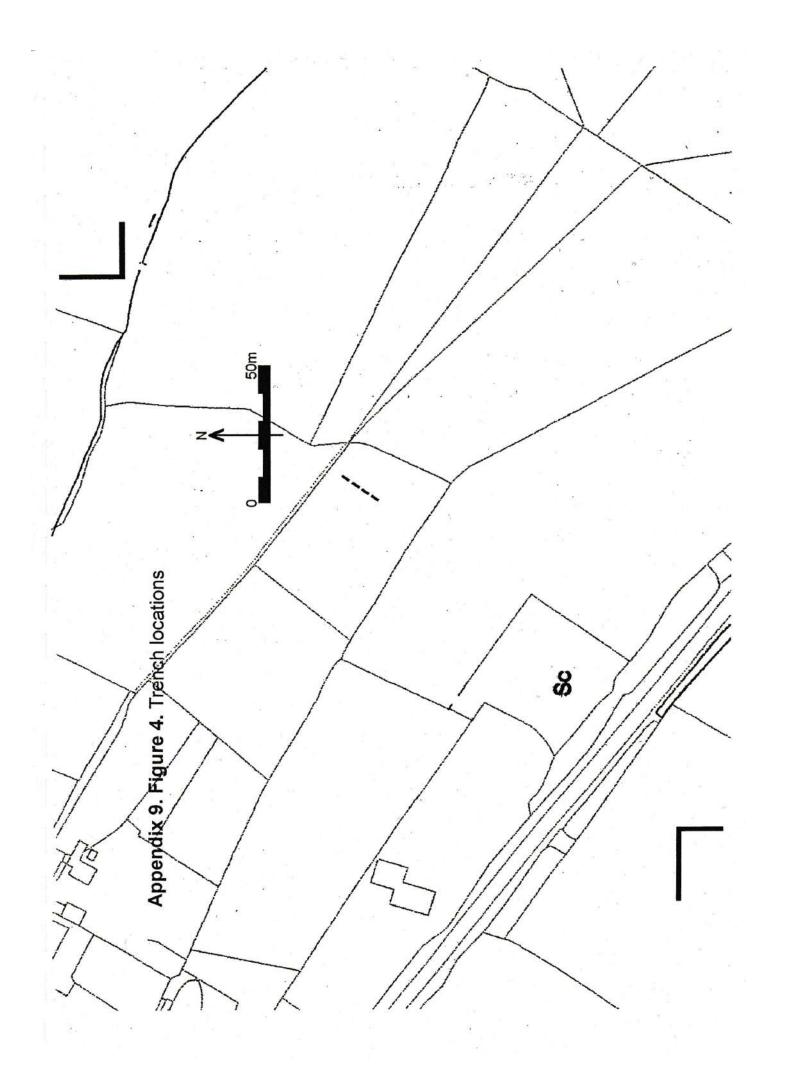


Appendix 9. Figure 2. Site location at Stathern



Appendix 9. Figure 3 Resistivity results, Stathern 1999.





### Appendix 9. Figure 5 Drawings TRENCH 1.

#### FRAMLAND LOCAL ARCHAEOLOGICAL GROUP

STATHERN EVALUATION AT HACKERS HALL SITE CODE: 73-SEAN LCC MUSEUMS ACCESSION No X.A.97 2001-11-28

FIGURE 5: Diagnostic drawing of Trench 1.

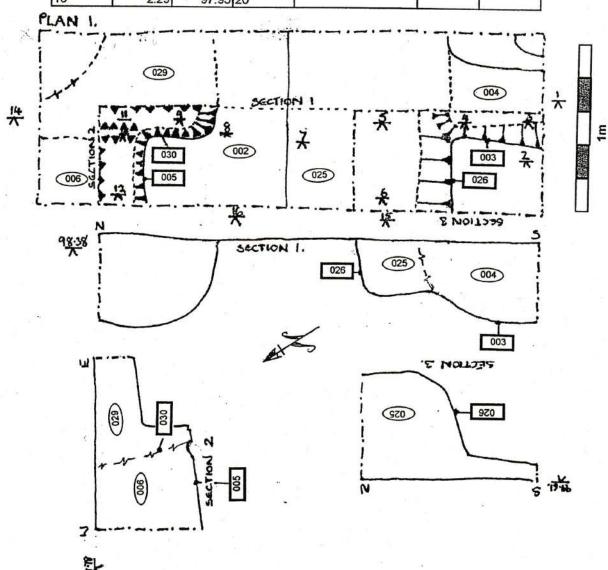
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I/H F/S

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2	179	98.45	12	2.33	
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4	2.03	98.21	14	1.73	
5	2.12	98.12	15	1.55	98.69
6	2.16	98.08	16	1.58	
7	1.82	95.92	17		
8	1.33	98.91	18		
9	2.31	97.93	19		
10	2.29	97.95	20		



## Appendix 9. Figure 6 Drawings TRENCH 2.

## FRAMLAND LOCAL ARCHAEOLOGICAL GROUP STATHERN EVALUATION AT HACKERS HALL

SITE CODE: 73-SEAN LCC MUSEUMS ACCESSION No X.A.97 2001-11-28

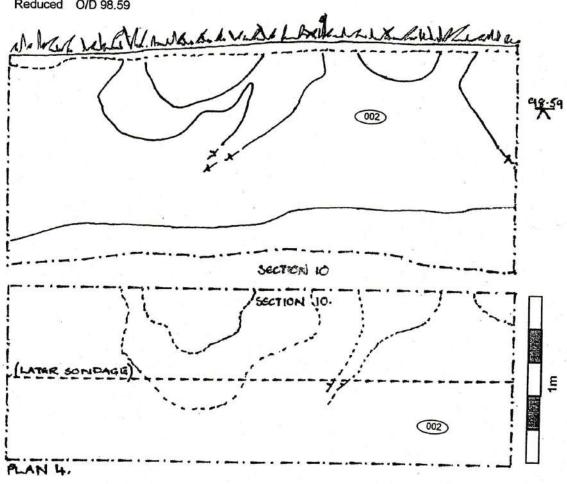
FIGURE 6: Diagnostic drawing of Trench 2.

SCALE: 1:20

Drawn by Sue Brigham

Date: 12-8-2001

TBM		98.75
BS	38	1.49
VH .		100.24
F/S		1.66
Dadwood	0/	00.50



# Appendix 9. Figure 7 Drawings TRENCH 3.

FRAMLAND LOCAL ARCHAEOLOGICAL GROUP STATHERN EVALUATION AT HACKERS HALL

SITE CODE: 73-SEAN

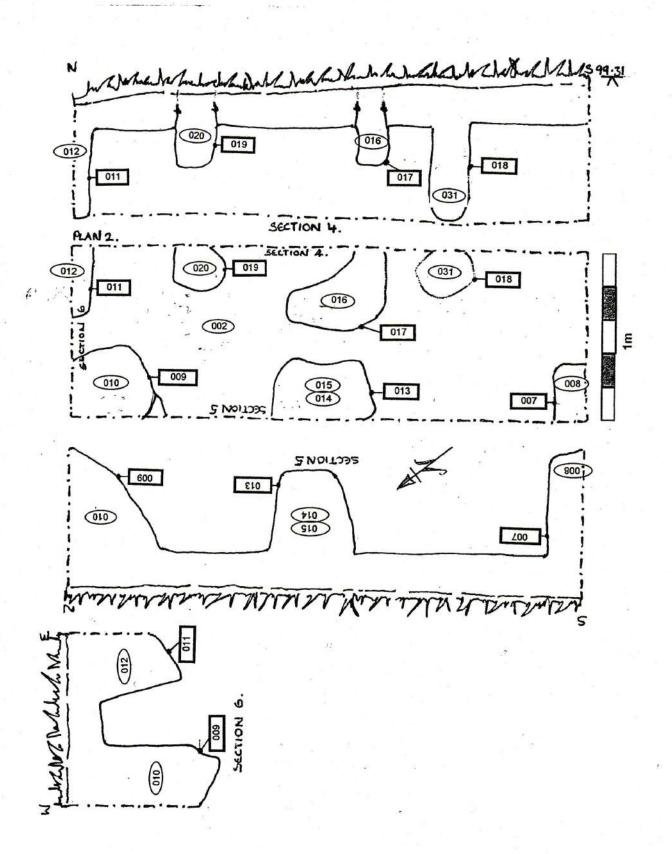
LCC MUSEUMS ACCESSION No X.A.97 2001-11-28

FIGURE 7: Diagnostic drawing of Trench 3.

SCALE: 1:20

Drawn by Amanda Jennings

Date: 12-8-2001



# Appendix 9. Figure 8 Drawings TRENCH 4.

FRAMLAND LOCAL ARCHAEOLOGICAL GROUP STATHERN EVALUATION AT HACKERS HALL

SITE CODE: 73-SEAN

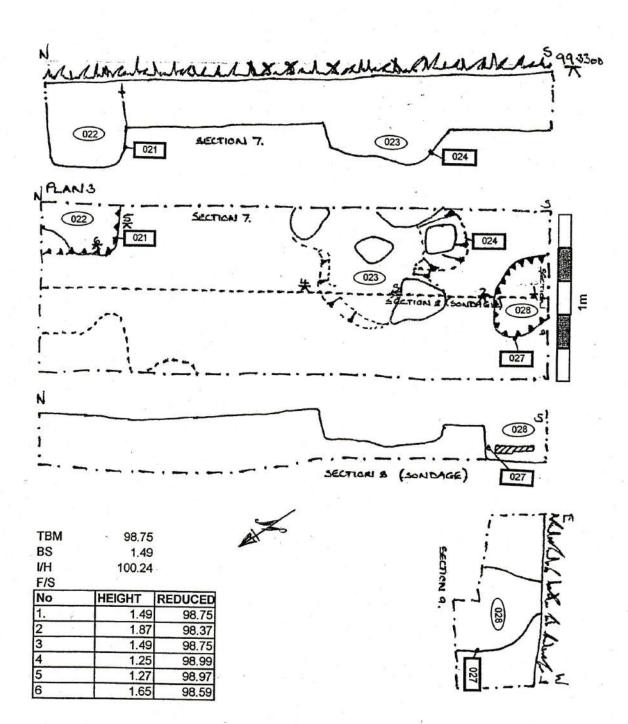
LCC MUSEUMS ACCESSION No X.A.97 2001-11-28

FIGURE 8: Diagnostic drawing of Trench 4.

SCALE: 1:20

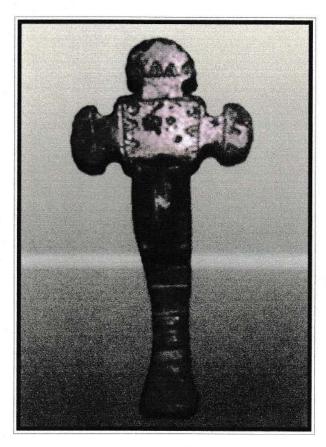
Drawn by David Stanley

Date: 12-8-2001





Appendix 9. Plate 1. Location of site overlooking the Trent Valley



**Appendix 9. Plate 2.** Anglo-Saxon Cruciform brooch. 5th-6th centuries

Appendix 9. Plate 3. Location of site site trenches

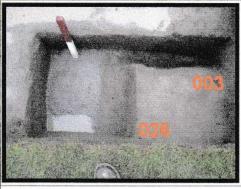


# Appendix 9. Plate 4 TRENCH 1.

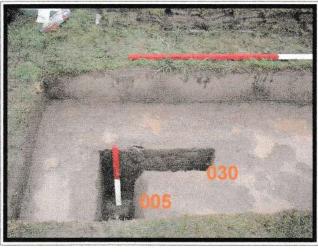




Appendix 9. Plate 6



Appendix 9. Plate 7

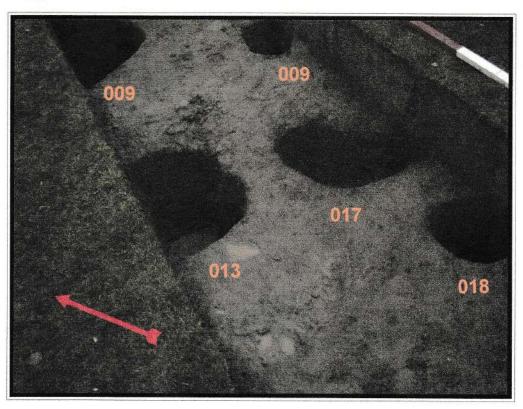


Appendix 9. Plate 5.

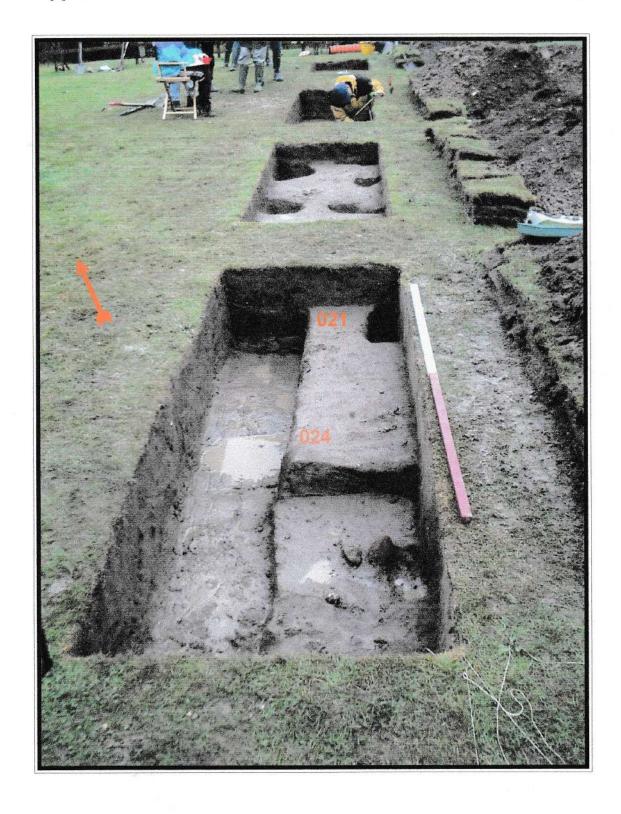
Appendix 9. Plate 8 TRENCH 2.



Appendix 9. Plate 9 TRENCH 3.



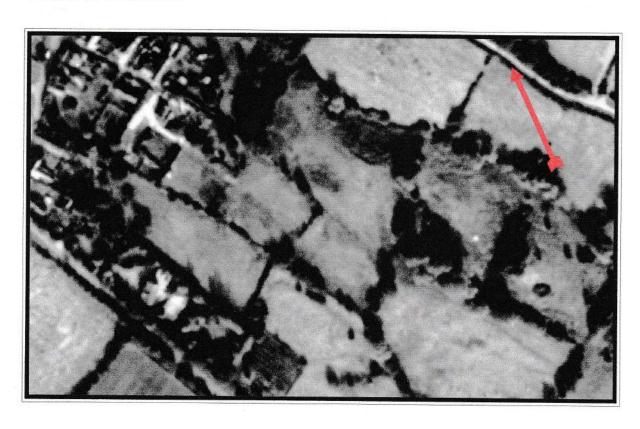
# Appendix 9. Plate 10 TRENCH 4



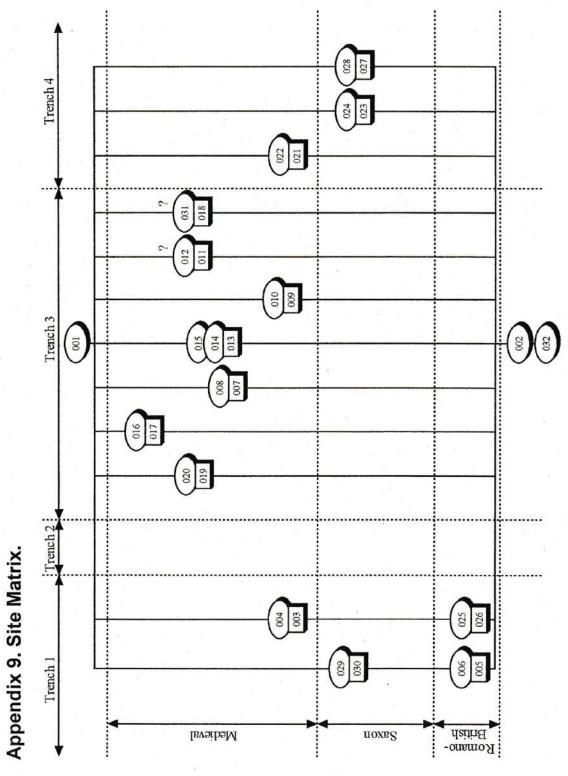
Appendix 9. Plate 11. Aerial of Stathern.



Appendix 9. Plate 12. Aerial of Stathern.







# Appendix 2

FLAG REPORT 2005



# Framland Local ArchÆology Group

**Evaluations Report** 

SPRING 2005

by R M Mouraille HND

Site Location: Stathern Hall and Grounds
'The lost premises of Colonel Sir Francis Hacker'



# Framland Local ArchÆology Group

Evaluations Report SPRING 2005 By R M Mouraille HND

Site Location: Stathern Hall and Grounds

'The lost premises of Colonel Sir Francis Hacker'

Phase 1.

Site Code: CCM Accn No.

National Grid Reference

Land belonging to

73SEAN

X.A97.2001 SK 7750 3070

Mr & Mrs Robert Wadsworth, Glen Cottage, Dalliwell, Stathern, Northeast Leicestershire, LE14 4HG

Phase 2.

Site Code CCM Accn No.

National Grid Reference Land belonging to

M Accn No. X.A97.2001 ional Grid Reference SK 7750 3069

Leicestershire & Rutland Branch,

Farming & Wildlife Advisory Group Ltd,

(FWAG), c/o Mr Michael Harrison,

Mole Cottage, Brooksby, Melton Mowbray.

LE14 2LJ

73SEAN

Phase 3.

CCM Accn. No

National Grid reference

Land belonging to

X.A152.2002

SK 775039 307080

Mr & Mrs Robert Wadsworth, Glen Cottage, Dalliwell, Stathern, Northeast Leicestershire, LE14 4HG

# CONTENTS

#### SUMMARY

The Framland Local Archaeology Group was established following a series of WEA courses in practical archaeology. The group is based at Stathern, Northeast Leicestershire and is advised and directed by their former tutor and professional archaeologist René Mouraille.

As well as non-intrusive methods of site detection, FLAG also wanted to be involved in intrusive methods of research. A site was needed to provide field training for the group, allowing their newly acquired skills to be tested.

David Stanley, the chairman of FLAG, mentioned that for many years, local people had been intrigued by the whereabouts of a 'lost Hall' once belonging to Colonel Sir Francis Hacker, a leading Parliamentarian who was later involved in Regicide after the end of the English Civil War.

David Stanley informed the group that a geophysical survey had been carried out on the side of a hill overlooking the village of Stathern. Patrick Roberts of Leicestershire County Council and Norman Fahy had carried out this survey, on the 14<sup>th</sup> November 1999. (PLATE 1).

Although the geophysics survey had favourable results no further work had been carried out to clarify the various recorded features.

When rumour circulated around Stathern that archaeological work was about to commence there was great enthusiasm from local historians. For many years they had suspected where the site was but had lacked the physical evidence to support their theories

All that was needed was to evaluate the site and clarify the geophysics data.

All work to date has been conducted on a voluntary basis over a two-year period, with evaluations being carried out over a series of weekends.

Having previously being granted permission to excavate by the owners of the property, Mr & Mrs R H Wadsworth, Phase 1 began on Saturday 11<sup>th</sup> August 2001.

When the evaluation team met at Glen Cottage, Stathern, FLAG's intention was to carry out an investigation on land in a paddock to the Southeast of the Wadsworth residence, centered on grid reference SK7750/3070, (PLATE 2).

After a careful study of the resistivity survey it was decided to put a line of four trenches across the paddock.

Each of the trenches measured 3m x 1m and wAS marked out and excavated on a Northeast – Southwest alignment (PLATE ...)

It was assumed the trenches would contain little archaeology and would not prove too difficult for the newly formed group,

As predicted, the evaluation found little evidence to suggest the whereabouts of Colonel Hacker's Hall, however the results were surprisingly interesting with a fair amount of archaeological information being recovered. The finds and features from phase 1, dated from the Romano-British period, and continued through to the 15<sup>th</sup> century AD. The discovery of 5<sup>th</sup>-7<sup>th</sup> century Anglo-Saxon pottery associated with posthole features was particularly exciting.

The conclusions drawn from the exercise reveal that the origins of Stathern, as with most villages, began much earlier than previously suspected.

#### Background

The picturesque village of Stathern is located some 7 miles (12 km) North-north-east of Melton Mowbray, Leicestershire and around 9 miles (15 km) Southwest of Grantham, Lincolnshire, (PLATE 2). Within the village the site is situated on the Northwest escarpment of the Vale of Belvoir, at a height just under 100.00 m O.D. (PLATE 3).

The Wadsworth's paddock overlooks the village of Stathern, which is located a little further down the hillside and on clear days the Trent Valley can be seen in the distance.

Although the village is positioned on boulder clay, on the overlooking hillside, the clay is covered with a sandy silt Colluvium deposit.

#### Documentation

According to the antiquarian Nichols, 'Stathern is mentioned in ancient writing as Stactedirne or Stachethurne'.

During the reign of Edward the Confessor the Manor of Stathern was held by Lord Leuric, with an annual value of 40 shillings. After the Norman Conquest, Robert de Todeni, the Norman Lord of Bottesford, was granted the Manor and the value had increased to 50 shillings. Later the village came into the possession of the de Borard family. It had been given by the King for Knight's service to the Albinis. who were the Lords of Belvoir.

William de Borard gave the tithes of the village, rated at 6 shillings, to the local Priory.

(Nichols fails to mention that the Albini connection with the Belvoir Estates ends in 1216 following a rebellion in support of the French Dauphin Louis. King John retook the Castle whereby the Belvoir Estate was passed by way of marriage to Robert de Roos).

In 1240 Stathern is described as having four plough lands (approximately equal to 640-720 acres depending on condition of land) it paid 32 pennies to the Sheriff. Simon de Borard, who, at this time, held the Manor. He gave some of the lands to the Priory of Havershom in Lincolnshire and the rest to the Abbot and Convent at Croxton Kerrial.

In 1275, Joan, the daughter of Simon de Borard, married Thomas de Reignes and the Manor transferred from the de Borard's, to the Reignes family.

Following the Dissolution of the Monasteries in 1541 Henry VIII granted the lands, formerly belonging to the Abbey of Croxton, the Priories of Belvoir and Haverholm, to Thomas Earl of Rutland.

In 1624 Anne, one of the daughters and coheirs of Richard Reignes, was married to Thomas Low who resided at Stathern. By this time the village was under the ownership of Francis Earl of Rutland.

In 1645 the committee of sequestration, fined William Norwich, who lived in the village, £48, for his support of the Royalist cause. The following year plague hit the village and in just ten days resulted in the death of 15 people... many more cases followed.

The Hacker connection began during the 1630s. Francis Hacker married and moved to his new residence at Stathern. In subsequent years he became a leading member of the parliamentary forces both during and after the Civil War.

In 1649 Hacker was in charge of guarding the scaffold used for the execution of Charles I, having been prevailed upon to sign the King's execution order. On the restoration of the monarchy under Charles II, Francis Hacker was arrested on a charge of regicide and executed. It is believed that his manor at Stathern eventually fell into disrepair and was subsequently demolished.

As a point of interest Nichols also mentions that several Quakers are registered as living in Stathern in 1697.

Nichols mentions that in 1790 Stathern contained around 2000 acres of open field comprising moderate land with a few small enclosures. Wheat, beans and barley were produced. Thirteen cottages had right of pasturage to graze a cow in the common pasture but it was reported that "the poor of Stathern were no objects of envy to the poorest in the surrounding villages". A bill was passed in 1792 to enclose the open fields of Stathern.

#### Previous Archaeology

#### Prehistoric

Stathern Woods occupies an area associated with possible strip lynchets or terraces or multivallate Iron Age defences. These may be located at SK7775/3092 (Dyor,1970, 124–132). Two sites in the area represent Iron Age occupation. A loom weight was recovered during early 20<sup>th</sup> century quarrying at SK784/309 and a second site was discovered by field walking at SK795/320 (Pickering and Hartley,1985). Numerous prehistoric discoveries have been recovered from the Stathern area. These include a group of skeletons with grave goods dating from the Neolithic period (Nottingham Castle Museum, Acc. No. 92–38) and a later Bronze Age cremation in a Deverel/Rimbury urn (University of Nottingham Dept. of Archaeology, Burgess, 1974).

#### Romano - British.

Prior to FLAGs evaluations at Stathern, little had been recovered from the Romano-British period and more research is still required. A Romano-British coin hoard was discovered (SMR 73/SE) and aerial photography of the area might indicate a villa site in the close vicinity.

# Early Anglo-Saxon.

A Cruciform Anglo Saxon brooch (Liddle, 1982,82), (PLATE 9), was recovered by a local metal detector operator at SK775/307. This brooch dates between the late  $5^{th}$  – early  $6^{th}$  century period and has been attributed to forms found along the valleys of the Lark, Nene, Ouse, Welland and Avon rivers. (Howe, 1988, 77 – 80).

In the early 1940s during the Second World War, a block house was being built on Mill Hill. When the footings were being dug, numerous fragments of rough pottery were found which had been made from local clay. The fragments had been discoloured by iron-ore contaminates within the soil (Hubbard H L 1941).

No reference has so far been found to assign a period to this pottery. (Flag has made several attempts to locate these finds with the intent of having them dated, however it is now suspected that the fragments have been lost).

#### Medieval

Prior to the evaluations and somewhere within the site were believed to be the foundations of one of the two medieval manors located in Stathern and possibly the later Hall associated with Colonel Hacker. Manorial sites of this nature are often complex, having not only the manor house but also a series of ancillary buildings.

Stables, barns, crew yards, and sometimes mills and associated buildings, dovecotes, wells and fishponds may also be evident.

Although the potential site of Stathern Hall overlooked the village, prior to FLAG's evaluations, only the Anglo-Saxon brooch previously mentioned had been registered from the actual site. It has been rumoured that metal detectorists have recovered other material.

#### **Field Evidence**

The site of Hacker's Hall and Grounds, although sloping down to the north, is moderately flat, with no visible evidence of ridges and furrows. There are many undulations over the site, but little to suggest these may relate to building platforms etc.

Although the full extent of Hacker's estate boundary remains unclear, a Holloway, leading from Mill Hill on the Stathern – Eastwell road, approaches and enters the present area of evaluation, before reaching a stone boundary wall, it changes direction to the Southeast running adjacent to the wall before terminating.

A field to the Southeast of the site contains considerable disturbance. Within living memory sand was quarried here.

FLAG's Phase 1 enquiry is bounded on the Southwest and Southeast sides by a dry stone wall some 0.75m thick. The Northeast boundary of the field consists of a modern wooden fence, on the other side of which is a public footpath running on the same alignment.

#### Methodology

The resistivity results of 1999 were carefully studied and areas chosen for the different phases of the investigation. The evaluation commenced with Phase 1 and started in a small paddock centred on grid reference SK7750/3070.

A line of four trenches, measuring 1m wide and 3m long and southwest aligned. All had a gap of 1 m between them, with the exception of Trenches 1 and 2, the gap here measured 1.5m. A 0.5m line was marked out beyond the southeast edge of the trenches and along this, turf was stacked to form a spoil retaining wall. Soil on all the evaluations to date have been removed by hand without the use of machinery.

In each case the different soils were kept separate and the spoil thoroughly checked for dating evidence. (PLATE 4).

### Results of Phase 1 evaluation

# Trench 1 (PLATE 5 FIG 1)

This consisted of a turf layer with underlying Colluvium. Little of the hill-wash needed removing before features became visible. Four features were evident in this trench. The fills of cuts 005 and 026 has pottery of Romano-British origin Cut 026 is also of further interest as it contained a right angle coming off it. At a later date the fills of both 005 & 026 had been truncated by later Anglo-Saxon features 030 the fill of which contained pottery comprising one piece of early Anglo-Saxon and several pieces of early medieval including a fragment of Stamford ware. In 003 the fill contained pottery comprising one piece of early Anglo-Saxon and several pieces of early medieval including a fragment of Stamford ware

# Trench 2. (PLATE 6 FIG 2)

This trench comprised a turf layer and underlying colluvium but contained little in the respect of archaeological evidence. As this trench was barren a sondage was cut into the plan of the trench to determine the depth of the natural boulder clay. The colluvium at this point measured on average 1.0m in depth. Amorphous features seen in plan before the cutting of the sondage, were similar to tree boles and are believed to be of recent natural origin.

# Trench 3 (PLATE 7 FIG 3)

In Trench 3, the morphology was similar to trenches 1 and 2, however the archaeology was more complex with at least six post-holes being visible. .

No artefacts were recovered from the fills of cut 011 and cut 018. In the fill of cut 019 pottery finds consisted of one fragment from the early Anglo-Saxon period; two from the medieval 13<sup>th</sup>-14<sup>th</sup> centuries); and three from the later medieval 14<sup>th</sup> -15<sup>th</sup> centuries.

Early 5<sup>th</sup>-7<sup>th</sup> century Anglo-Saxon pottery came from the fill of 009 and early medieval pottery from the primary fill 013, with later medieval from the tertiary fill of 013. In the Southwest corner of trench 3, fill 008 produced early medieval fragments. The fill of cut 017 is thought to be a natural deposit resulting from animal burrowing.

#### Trench 4 (PLATE 8 FIG 4)

A morphology similar to the other trenches extended into Trench 4 with marks becoming visible close to the surface.

These are O22, which contained a rim fragment of Stamford ware. The fill of cut 024 contained 4 fragments of Early Anglo-Saxon pottery and one early medieval. Also found in this fill were remnants of burnt stone which is thought to have been used as post packing.

Fill 028 contained two fragments of Anglo-Saxon pottery, again with burnt stone indicating a possibility of post packing.

# Finds from the Spoil

These comprise mainly pottery fragments which have a wide dating range, but the majority of finds came from the early medieval (20 pieces), followed by Anglo-Saxon (10 pieces), Medieval (5 pieces) and Romano-British (4 pieces). Other finds recovered from the spoil were an iron penknife, flints, nails and composite building materials.

#### Other Notable Evidence

A local metal detector operator at SK775/307 recovered a Cruciform Anglo Saxon brooch (PLATE) previously mentioned and seen in the summary. The brooch dates from between the late  $5^{th}$  – early  $6^{th}$  century period and has been attributed to forms found along the valleys of the Lark, Nene, Ouse, Welland and Avon rivers. (Howe, 1988, pgs 77 – 80).

The brooch was recovered in the close proximity of Trenches 1 and 2. (PLATE 4).

# Results of Phase 2 evaluation (PLATE 7).

Having gently initiated FLAG to the site, the next phase of the evaluation was to try to find the whereabouts of the Hacker property.

The evaluation commenced at 8.30am on the morning of the 16<sup>th</sup> of March 2002. Unlike the first evaluation, the trenches had been marked out on the

previous Friday evening. Although the Saturday was fine for of the day rain set in and it was quite wet for the rest of that weekend. In all, three trenches were marked out in alignment each measuring the standard 3mL X 1mW and each having a gap of 1m between each trench. This placement was an attempt to locate the presence of foundation walls as seen on the geophysics survey A further three other trenches were laid out as satellite trenches to detect internal structures. (PLATE 10).

# Trench 5. ( PLATE 11,12,13. FIG 5)

Trench 5 (PLATE 3) was very rich in archaeological remains. The first feature, which became evident, was a foundation wall 106=113 comprising large stones randomly laid out and measuring at least 1m in width and at least 7m long. Over 106=113 another linear stone built feature 116 was noted. This was comprised of smaller stones from which one fragment of medieval pottery 13<sup>th</sup>-14<sup>th</sup> centuries) was recovered

The feature was at least 1.45m in width. Surmounting both the earlier features, a relatively small foundation wall 112=114=115 measuring 0.62m in width and 2m long before taking a 90-degree angle toward the north-east. In places this feature was at least 3 courses high of dressed stone.

# Trench 6 (FIG 6)

Trench 6 had the remains of a robbed out wall 111 and its shallow foundation trench was also visible 110. Several interesting pieces of pottery were recovered such as find 105 a rim and body pottery shard from the late 16<sup>th</sup>-18<sup>th</sup> Centuries plus a pipe bowl and stems of the same period These finds were recovered from the top of wall feature 111.

# Trench 7 (FIG 7)

This trench 2mx2m proved to be largely barren with only a modern day bore hole to be found in the south corner. Once photographed, drawn and recorded it was quickly back filled.

# Trench 8 (FIG 8)

Measuring 1m wide and 1.95m long this trench had what is believed to be a linear feature [108] aligned north-east/south-west. Unfortunately no finds to give dating evidence were recovered and further investigation is required.

# Trench 9 (FIG 9)

A rather complicated trench measuring 1m wide X 3m long. The base once excavated and cleaned comprised a stone deposit in which a distinct feature alignment (117) on an east west alignment can be seen. It appears to be on the same alignment as (116) in trench 5. At present it is believed to be a large boundary wall surrounding earlier premises.

# Results of Phase 3 evaluation

This phase of the evaluation began on the weekend commencing 4<sup>th</sup> of October 2002, with the various trenches being marked out and de-turfed on the previous Friday evening. This evaluation was to clarify areas of 'noise' seen on the resistivity survey in area D. Of all the evaluations to date, this area proved to be the most difficult with little to differentiate between features and their fills. Colluvium deposits here were deep with various features cut into the relative soil. Great care was taken to collect accurate information.

# Trench 10 ( PLATE 14 FIG 12)

Two features were recorded comprising gullies cut 203 aligned northeast-southwest, which contained no pottery was found. The second gully cut 205 also bore no dating evidence It is thought to be the same gully as gully cut 207 in trench two.

To the east side of this gully, the remnants of a small gold wire object was found and is thought have been part of a finger ring.

# Trench 11 ( PLATE 15 FIG 11)

There were two large gullies noted within this trench comprising cut 207, which appeared to have a right angle at each end of it. Slightly to the east a posthole cut 209 was investigated. A little further to the Northwest another gully cut 213 also with a right angle was investigated. This gully also appears to have a posthole feature cut 211 associated with it. Unfortunately, no dating evidence was recovered from this trench. It is suspected that the features found within it are of a structural nature and possibly associated with ancillary buildings.

The topsoil contained a blade core, thumbnail scraper, and six pieces of building fragments.

#### Trench 12

This trench proved to be barren of archaeology and was closed down and back filled on the Saturday.

It is worth noting that the topsoil 201 produced a fragment of the base of 9<sup>th</sup>-13<sup>th</sup> century early medieval cooking pot, several fragments of daub and a 17<sup>th</sup>-19<sup>th</sup> century Pancheon ware fragment.

# Trench 13 ( PLATE 16 FIG 10)

Although originally measuring 3m long x 1m wide it was decided to extend the trench to 4.40m

In the south end of the trench a gully cut 217 similar to those found in trench 11 was noted and dug. At the east edge of cut 217 two large post holes cuts 215 & 219 were also noted and dealt with. In the north edge of the trench another small gully cut 221 was found, however it is thought that this feature

had been truncated on its east edge by animal burrowing, In the Northwest corner of trench 13 another large post hole cut 223 was investigated

Trench 13 was perhaps the most lucrative of all the trenches in phase 3. In the fill of cut 217, assortments of finds were recovered including a flake blade and 10<sup>th</sup>-11<sup>th</sup> century Stamford ware. Along with this 10<sup>th</sup>-14<sup>th</sup> century reduced ware fragments and 10<sup>th</sup>-13<sup>th</sup> century late Saxon early medieval ware plus one piece of Roman or medieval grey pot. A fragment of slag was also found. The fill of cut 221 also provided dating evidence with a 13<sup>th</sup>-14<sup>th</sup> Shelley calcite ware fragment from the same vessel as another fragment found in the fill of cut 217. Another piece of iron ore slag was also recovered. A 17<sup>th</sup>-19<sup>th</sup> century fragment of Pancheon ware is thought to have imported into the fill of cut 221 by animal activity.

# Trench 14 ( PLATES 17,18,19))

Having lifted the topsoil this trench turned out to be puzzling to say the least. At its base was a deposit of iron ore 224, which technically according to geologists should not be there. Samples of this material have been taken and further work will be necessary to determine if this is a redeposited substance. The topsoil contained 10<sup>th</sup>-11<sup>th</sup> & 10<sup>th</sup>-13<sup>th</sup> century Stamford ware and also 10<sup>th</sup>-13<sup>th</sup> Shelley ware. A very heavily abraded Cistercian shard was also recovered along with several fragments of building material and iron nails.

#### Discussion:

From the recovered evidence it would appear that occupation commenced in the area of phase 1. during the Roman occupation of Britain.

The same part of the site developed further in the early Anglo-Saxon period and was certainly still active during late Medieval times, however, during the 10th-14th centuries the area known as phase 3 developed with suspected structures being built. Evidence of iron slag found (albeit little) in trench 13 and a large deposit of iron ore in trench 14 may indicate the possibility of iron working in the immediate vicinity. Site 2 (Phase 2) the Manor House developed in several stages on site two and was probably last part of the overall site to be developed. This is the most likely location for the premises belonging to Sir Francis Hacker. More recent pottery and clay pipes found here dating between the 16th-18th century may indicate both renovation and later demolition of the property.

#### Conclusion:

The ongoing evaluations at Stathern have been of great significance.

They have provided physical evidence for early occupation within the parish boundaries. The digs have given indication of what has occurred in this part of the village over the past 2,000 years.

Evidence of cuts 005 and 026 suggest the close proximity of a Romano-British farm or villa.

The early Anglo-Saxon settlement on the Wadsworth premises Cuts 003, 009, 024, 027, 130, (Phase 1) display a gradual build up of occupation and perhaps relate to the remains of building work which might be associated to the establishment of metal working on site. Cuts 007, 011, 018, didn't bare any finds but have been allocated as a possibility of belonging to this period by way of similar characteristic this occupation would appear to carry on into the late Saxon period with cuts 013 & 021.

At this stage the development of the site appears to extend a little further up the ridge into an area now owned by the Farming and Wildlife Advisory Group I to

Features 106, 113, 111, 204 & cut 217, are most likely the early phase of Norman Manor and cuts 109 & 217 represent later additions with perhaps the Hacker premises relating to features 112, 114, 115. An acute lack of finds from the post Hacker period would indicate the end of occupation within the evaluation area shortly after the execution of Colonel Sir Francis Hacker when the estate appears to fall into disrepair and the material from the buildings robbed and put to other use.

The overall success of the evaluation has served the local community of Stathern and provided great enthusiasm for ongoing research.

#### Acknowledgements

The Framland Local Archaeological Group would like to thank the following people for making the evaluation possible. Mr & Mrs R Wadsworth (Land Owners), & Mr Michael Harrison of the Farming and Wildlife Advisory Group Itd (FWAG). Richard Pollard, Peter Liddle, Richard Knox (Leicestershire County Council Archaeology Section Museums Service), Jim and Trish Robinson (Red Lion, Stathern). Barbara Hawkins, (Local Historian), Doug Clinton & Richard Hayes, (WEA Melton Mowbray), Norman Fahy, former Local Archaeologist.

The evaluation team over the three stages to date comprised Wayne Liffsey (Supervisor), René Mouraille Site Director, Ann Mouraille, Matthew Bradwell, Nigel Burton, Clive Davenport, Angela Heathcote, Amanda Jennings, Jane Lee, Roy Perkins, Alison Price, Adam Smith, Bob Sparham, David Stanley, Barry Gillard, Cathy Lawrence, Julian Swingler, Sue Brigham, Stuart Murray, Tania Hammond, Jenny?, Wendy Booth, Dr Alan Massey, R Stanley

#### References

Roberts P 14 November 1999, Leicestershire County Council, Norman Fahy et al.

Nichols J. 1795. Volume 2. part 1. Histories & Antiquities of the County of Leicestershire.

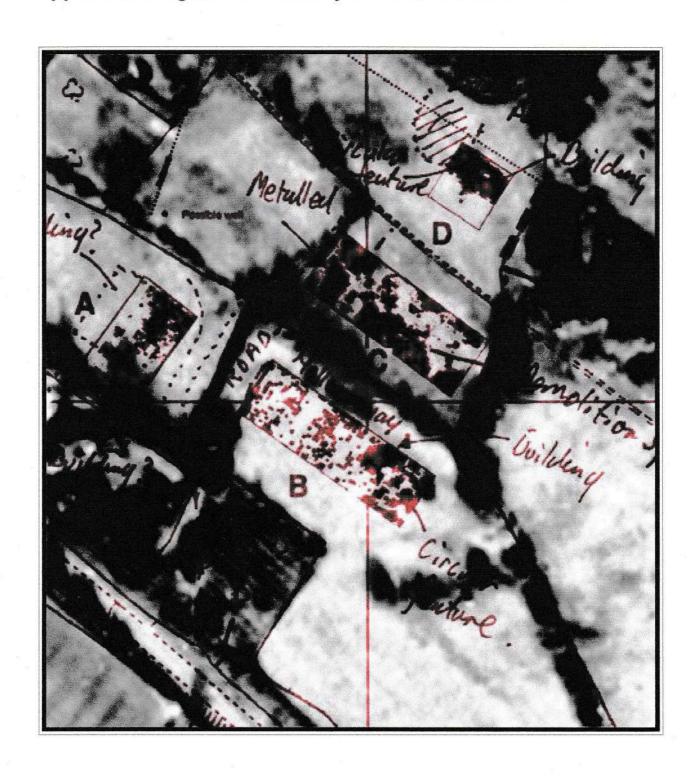
Wood Michael, 1986 Domesday- A Search for the Roots of England, BBC Publication p123

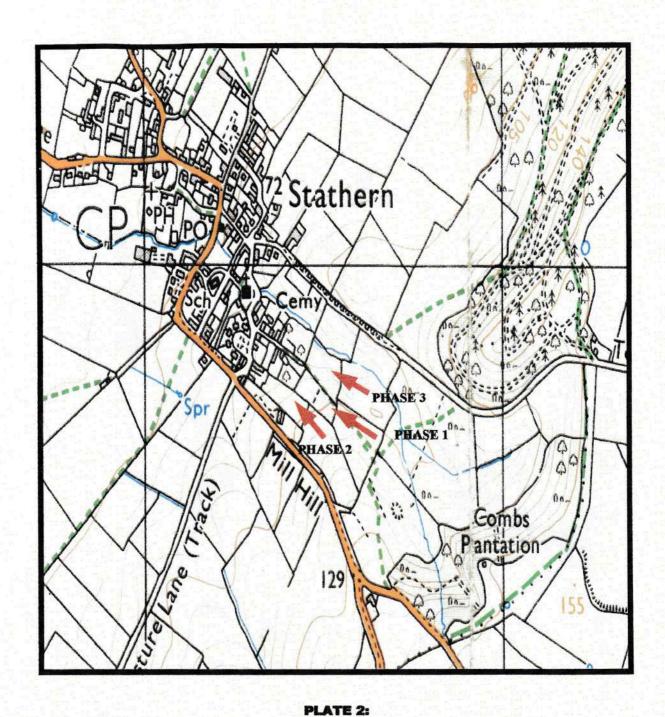
Brown C. 1882 Lives of Nottinghamshire Worthies and the Celebrated and Remarkable of the County.

Hubbard H L 1941, Colonel Francis Hacker, Parliamentarian and Regicide. Transactions of Thoroton Society, Nottingham.

Fahy N. October 2000. The Search for Stathern Hall.

Appendix 9. Figure 3 Resistivity results, Stathern 1999.





GENERAL LOCATION MAP OF STATHERN IN NORTHEAST LEICESTERSHIRE.

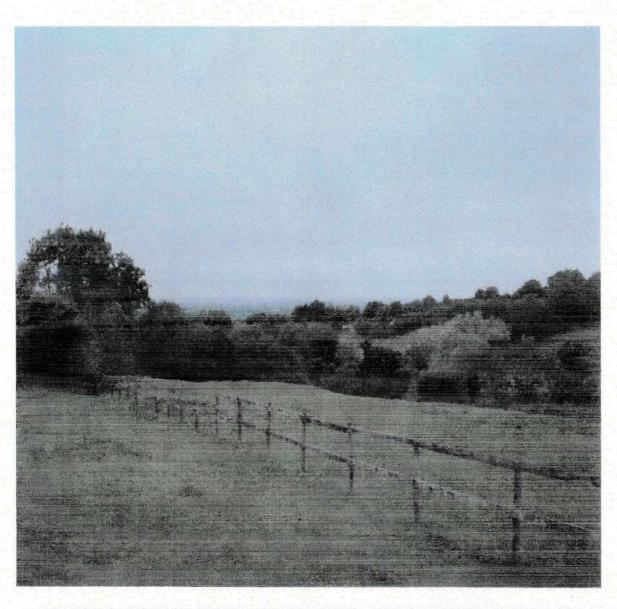


PLATE 3: OVERLOOKING STATHERN AND THE TRENT VALLEY.

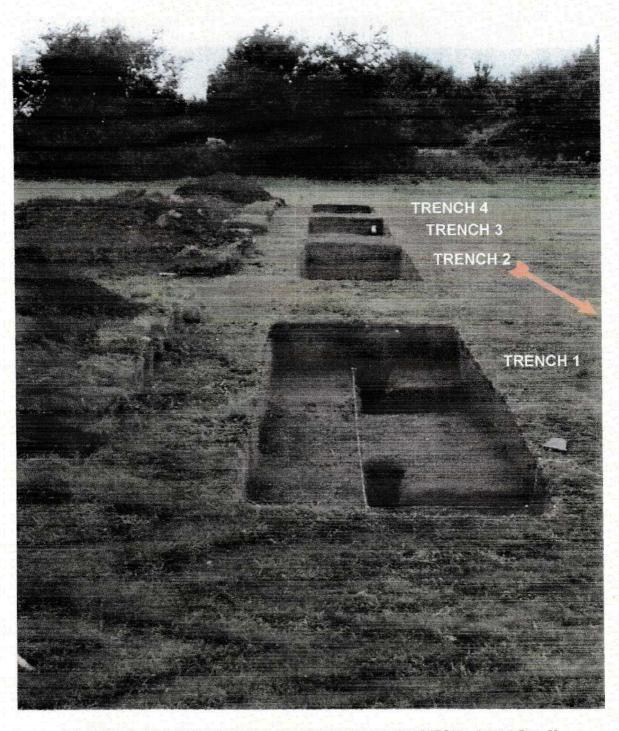


PLATE 4: TRENCHES 1-4 FACING SOUTH-WEST. (PHASE 1)



PLATE 5: TRENCH 1, FACING NORTH WEST PHASE 1

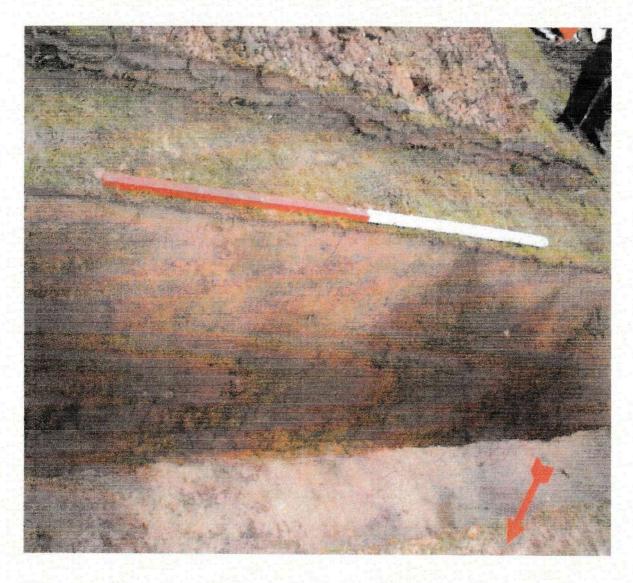


PLATE 6: TRENCH 2 (PHASE 1)

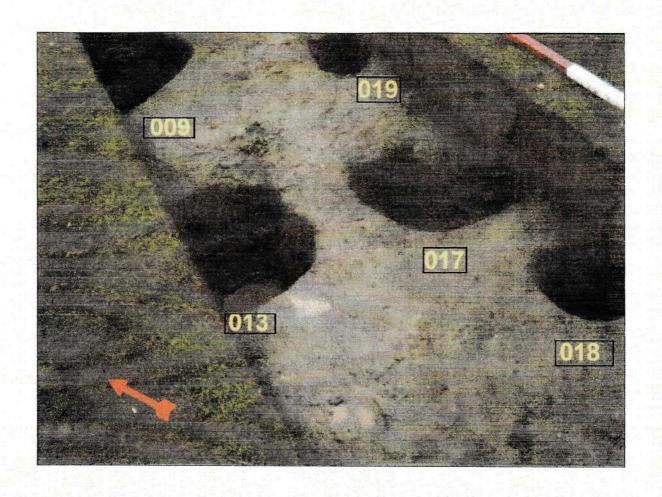


PLATE 7: TRENCH 3 FACING NORTHEAST (PHASE 1).



PLATE 8: TRENCH 4 FACING SOUTH-EAST (PHASE 1).

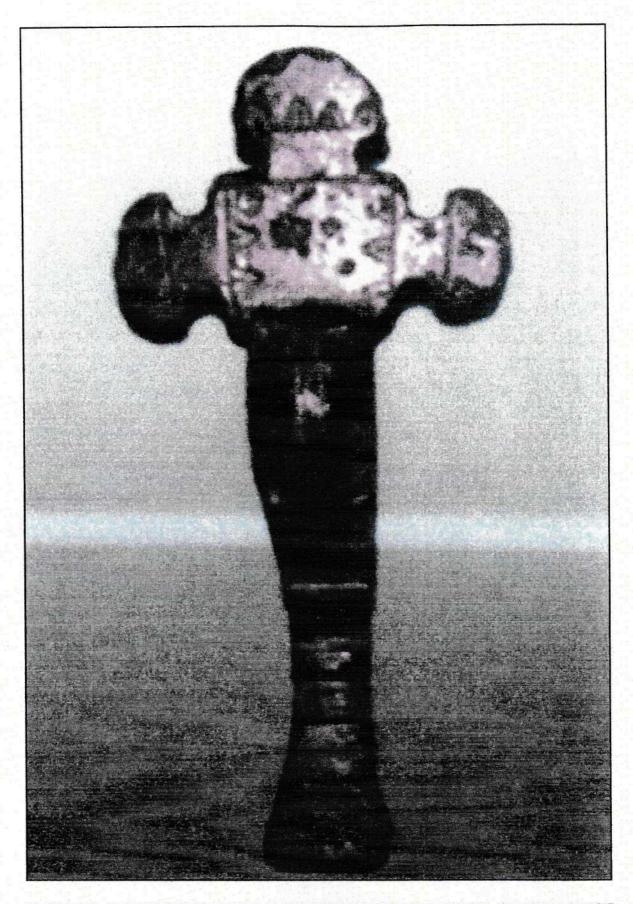
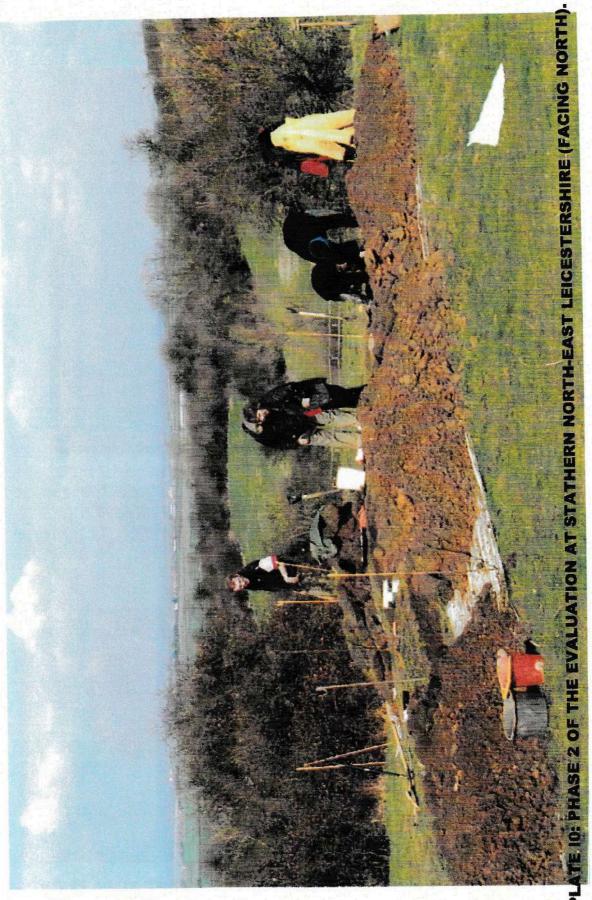
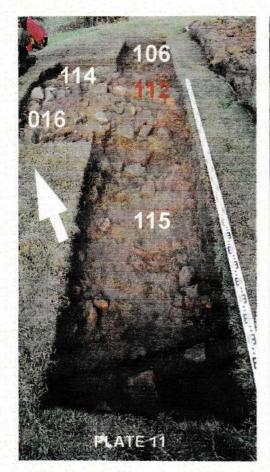
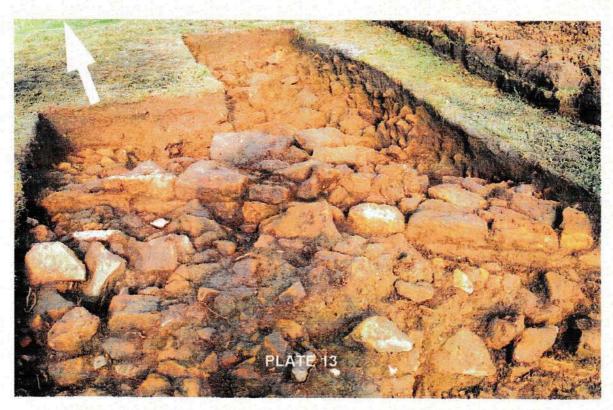


PLATE 9: CRUCIFORM ANGLO-SAXON BROOCH FOUND AT SK775/307

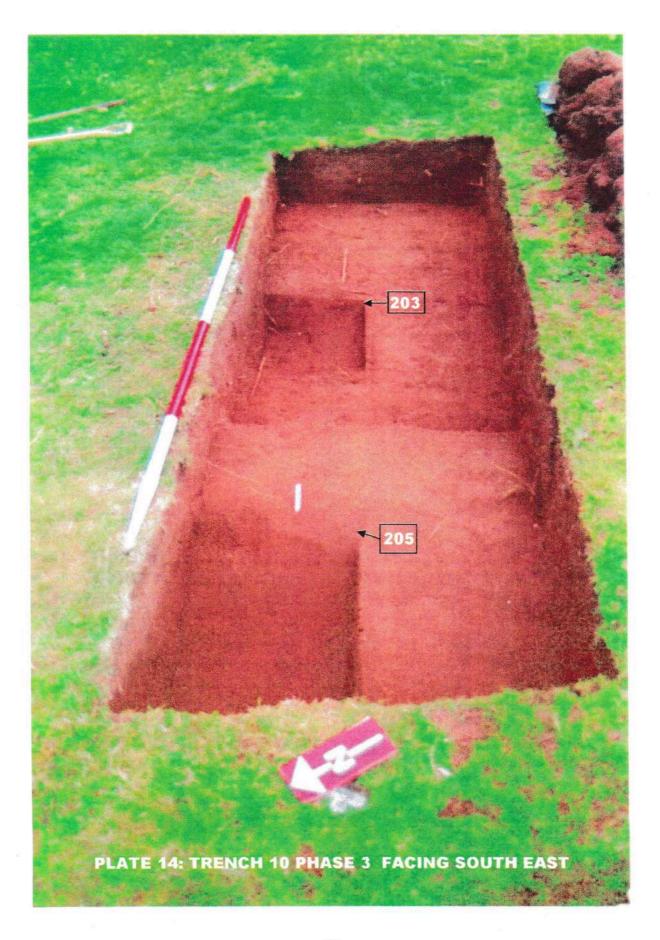




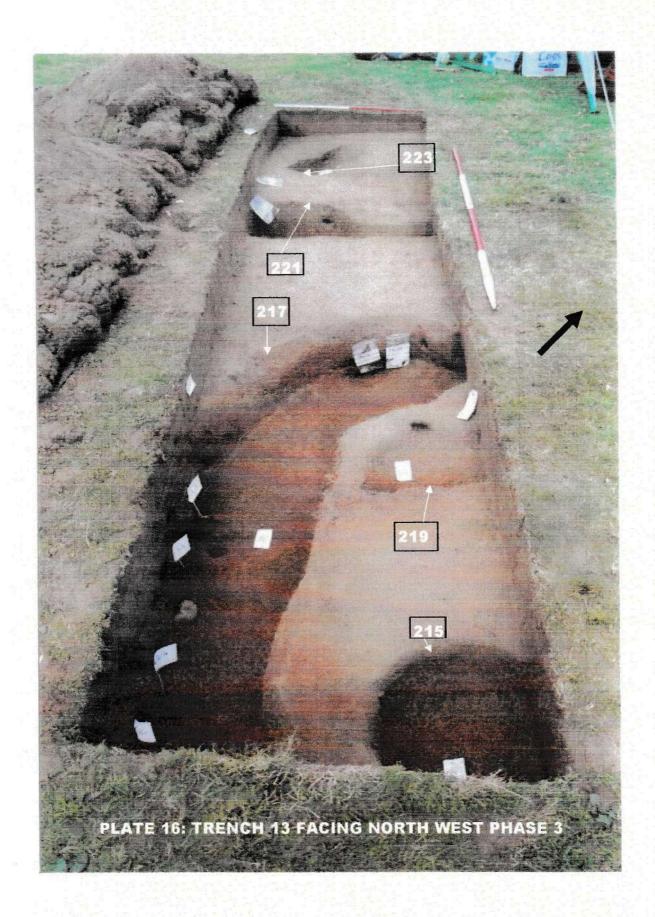


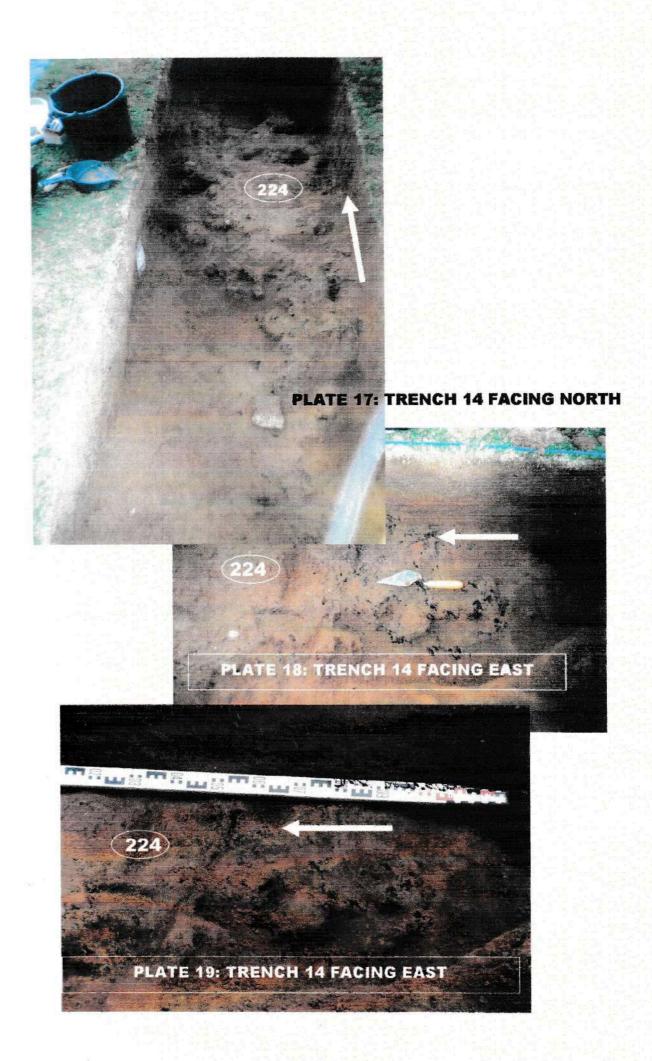


PLATES 11,12,13 TRENCH 5 SHOWING VARIOUS PHASES OF FOUNDATIONS









# FRAMLAND LOCAL ARCHAEOLOGICAL GROUP

STATHERN EVALUATION AT HACKERS HALL

SITE CODE 73-SEAN

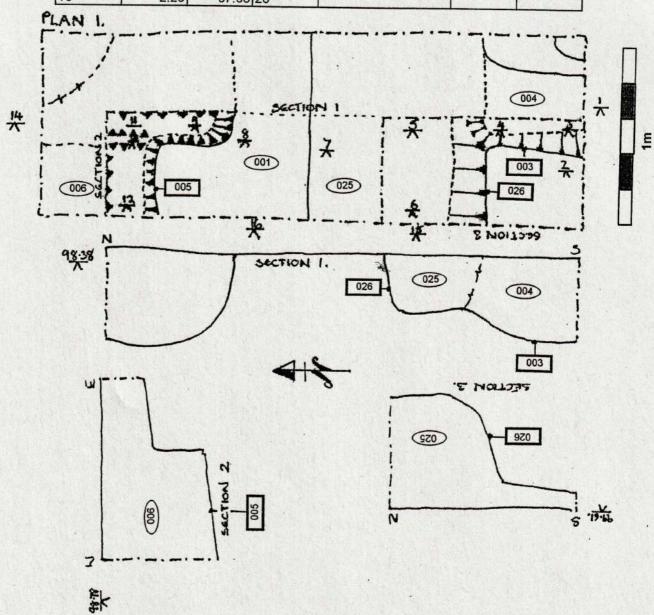
L.C.C. MUSEUMS ACCESSION No X.A.97.2001 FIGURE 1: Diagramatic drawing of Trench 1

Scale: 1:20

Drawn by: Jane Lee On the: 12-8-2001

ТВМ	98.75
BS	1.49
I/H	100.24
F/S	

No	HEIGHT	REDUCED	No	HEIGHT	REDUCED TO O/D
1.	1.46	98.78	11	2.33	
2	179	98.45	12	2.33	The second secon
3	2.25	96.66	13	1.88	
4	2.03	98.21	14	1.73	
5	2.12	98.12	15	1.55	
6	2.16	98.08	16	1.58	
7	1.82	95.92	17	NA STATE STATES IN THE STATE OF	
8	1.33	98.91	18		
9	2.31	97.93	19	NE DECEMBER OF THE PARTY.	
10	2.29	97.95	20		



#### FRAMLAND LOCAL ARCHAEOLOGICAL GROUP

STATHERN EVALUATION AT HACKERS HALL

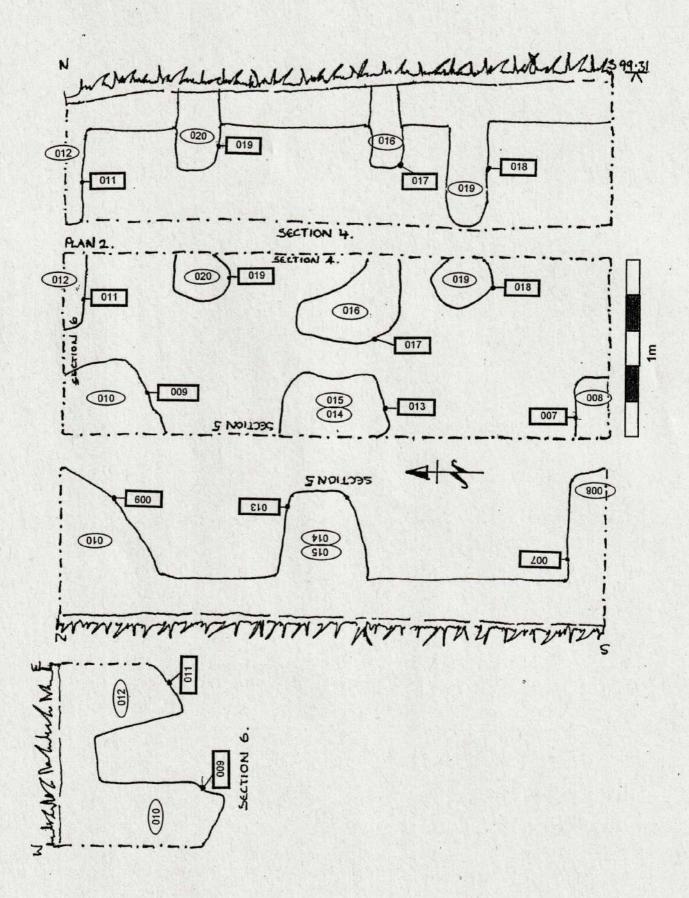
SITE CODE 73-SEAN

L.C.C. MUSEUMS ACCESSION No X.A.97.2001 FIGURE 2: Diagramatic drawing of Trench 3

Scale: 1:20

Drawn by: Amanda Jennings

On the: 12-8-2001



# FRAMLAND LOCAL ARCHAEOLOGICAL GROUP

STATHERN EVALUATION AT HACKERS HALL

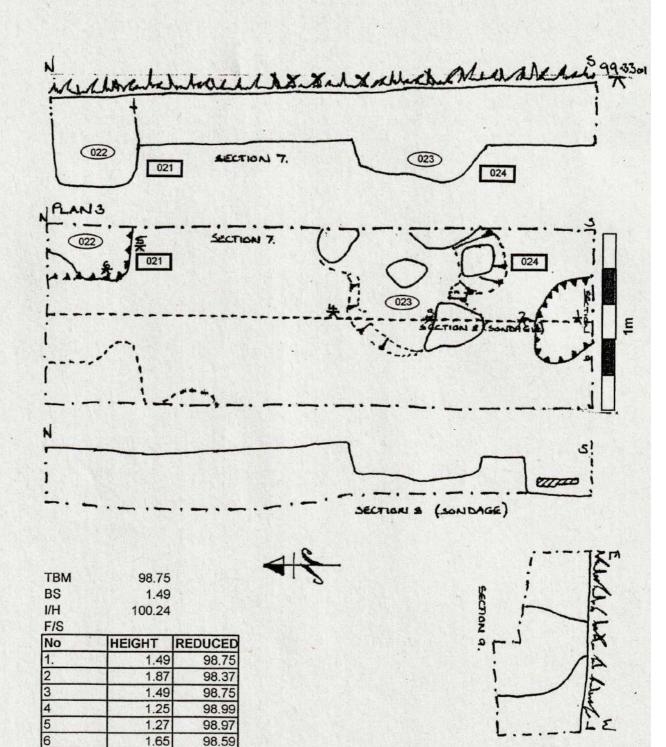
SITE CODE 73-SEAN

L.C.C. MUSEUMS ACCESSION No X.A.97.2001 FIGURE 3: Diagramatic drawing of Trench 4

Scale: 1:20

Drawn by: David Stanley

On the: 12-8-2001



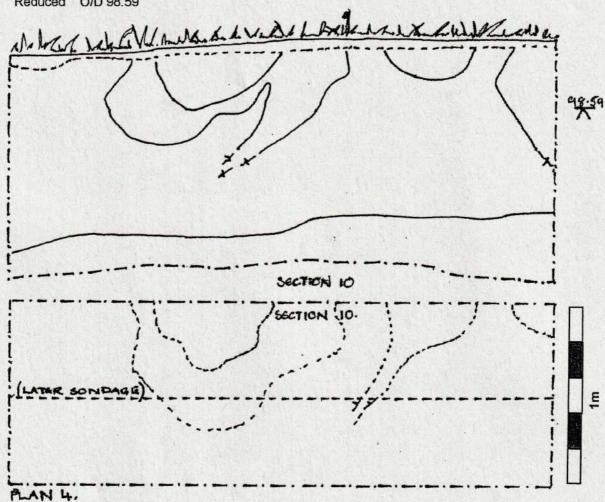
STATHERN EVALUATION AT HACKERS HALL SITE CODE 73-SEAN

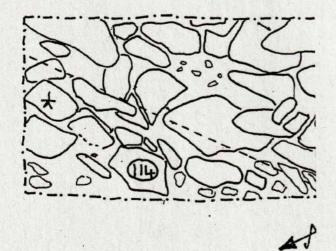
L.C.C. MUSEUMS ACCESSION No X.A.97.2001 FIGURE 4: Diagramatic drawing of Trench 2

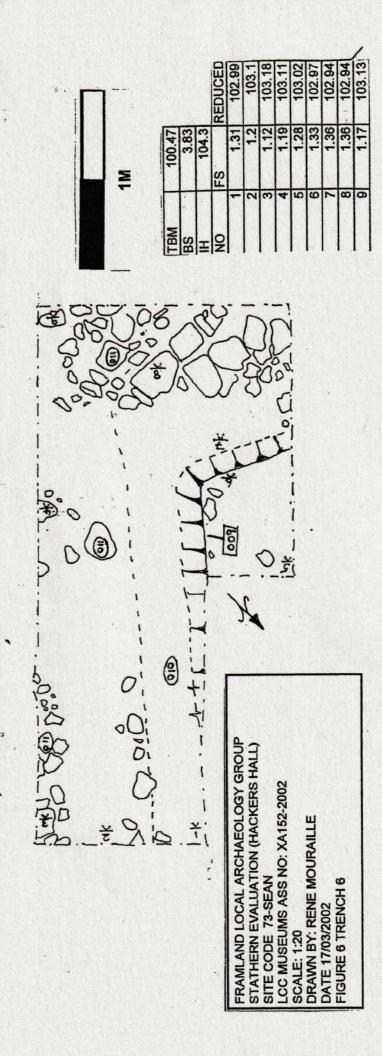
Scale: 1:20

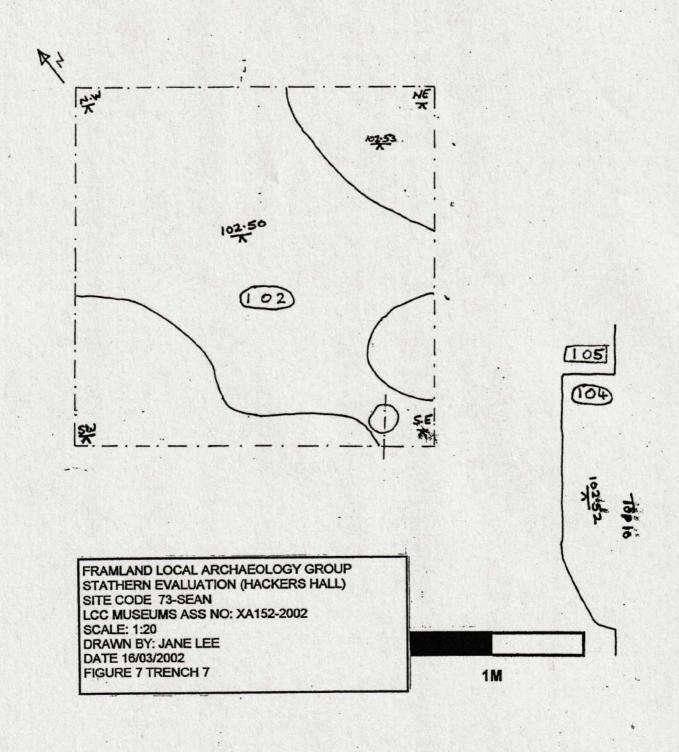
Drawn by: Sue Brigham On the: 12-8-2001

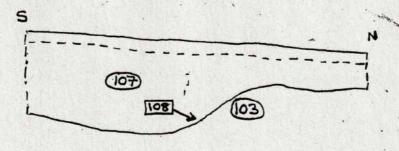
TBM 98.75 BS 1.49 I/H 100.24 F/S 1.66 Reduced O/D 98.59

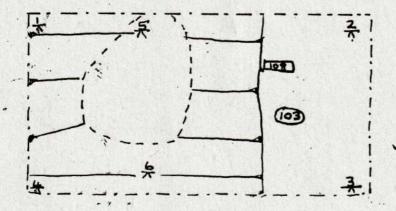










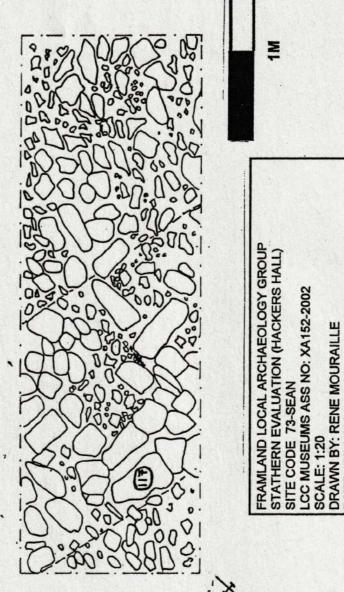


FRAMLAND LOCAL ARCHAEOLOGY GROUP STATHERN EVALUATION (HACKERS HALL) SITE CODE 73-SEAN LCC MUSEUMS ASS NO: XA152-2002

SCALE: 1:20 DRAWN BY: JANE LEE DATE 17/03/2002 FIGURE 8 TRENCH 8

TBM	100.47	
BS	3.84	
IH	104.31	
NO	FS	REDUCED
1	2.07	102.23
2	2.01	102.29
3	2.03	102.27
4	2.08	102.22
5	2.2	102.1
6	2.16	102.14

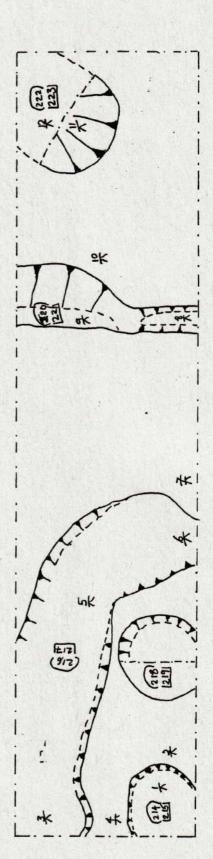
1M

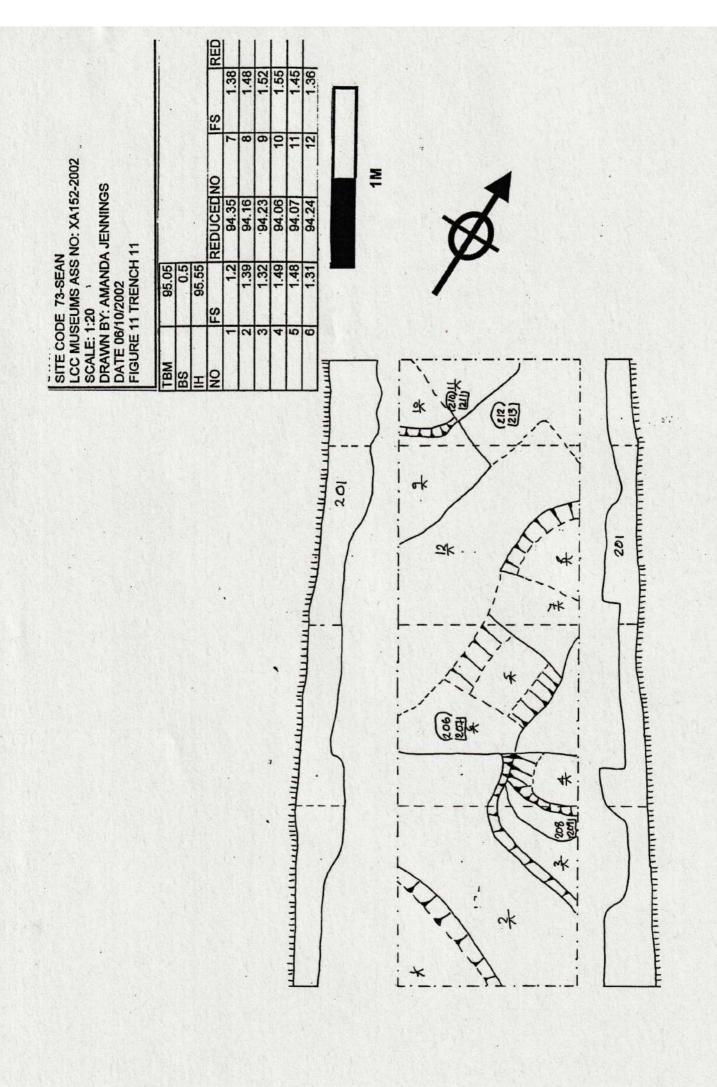


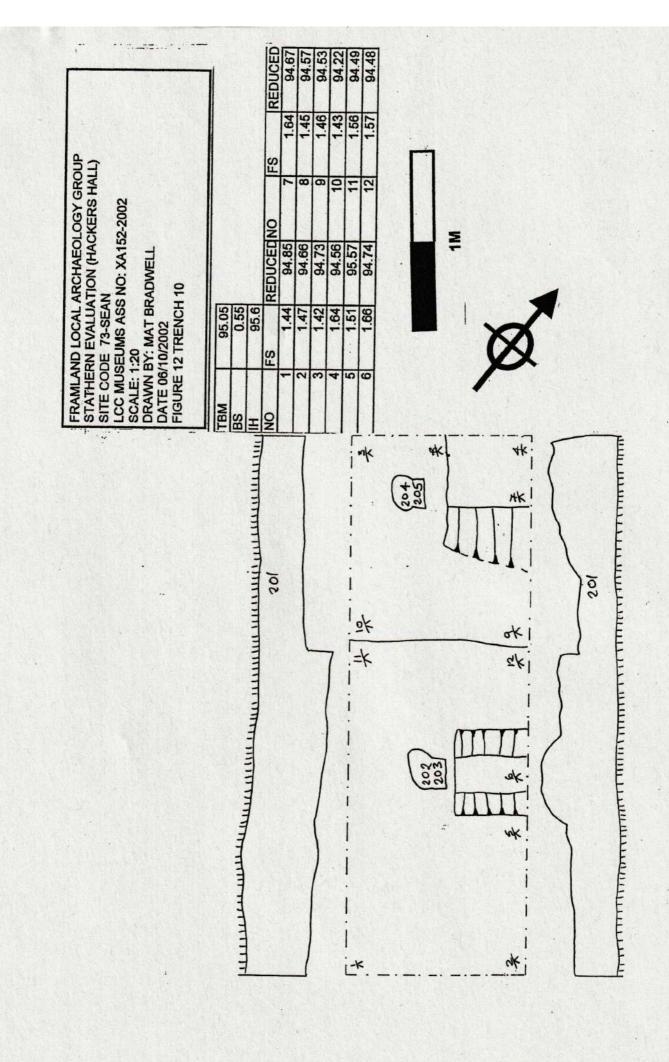
DATE 47/03/2002 FIGURE 9 TRENCH 9 FRAMLAND LOCAL ARCHAEOLOGY GROUP STATHERN EVALUATION (HACKERS HALL) SITE CODE 73-SEAN LCC MUSEUMS ASS NO: XA152-2002 SCALE: 1:20 DRAWN BY: NIGEL BURTON DATE 06/10/2002 FIGURE 10 TRENCH 13

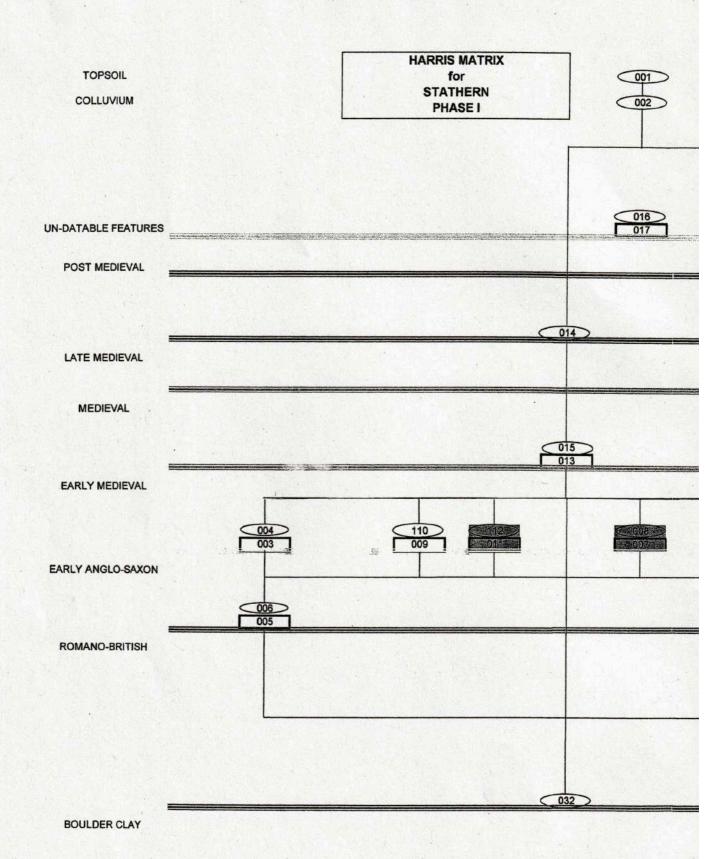
7

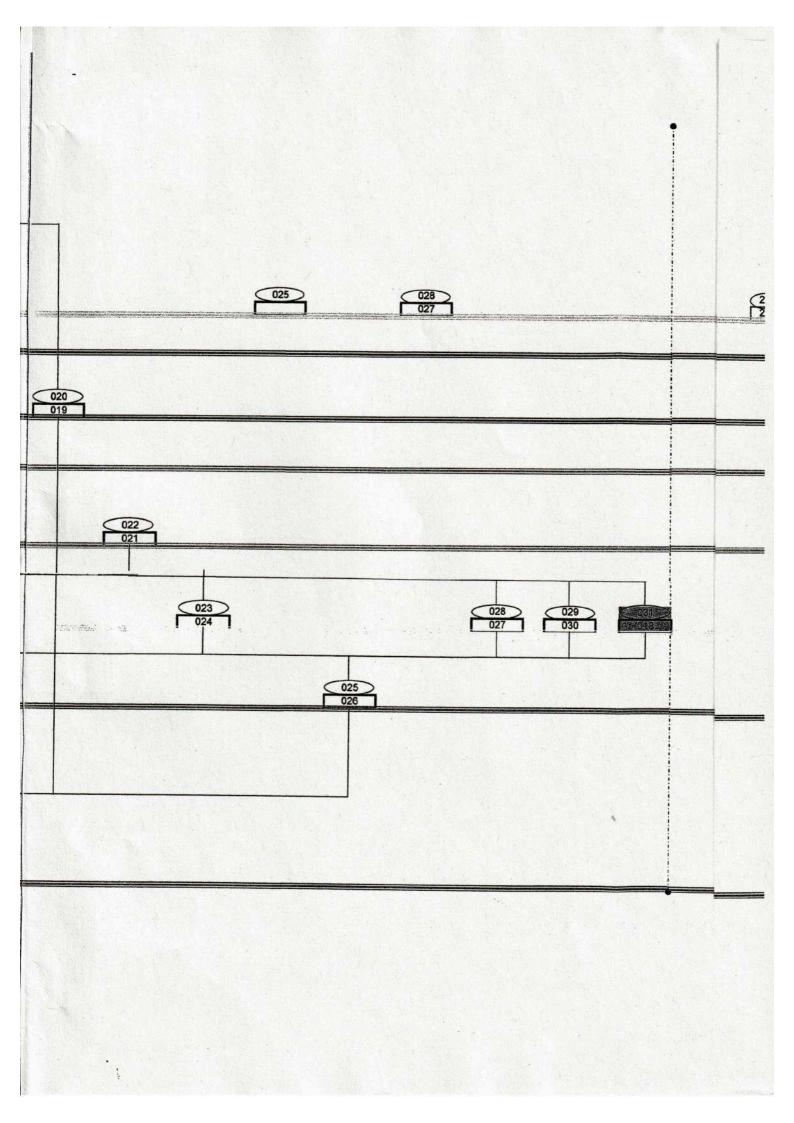
			FS REDUCED	2.22 93.38	2.34 93.26	2.49 93.11	2.22 93.38	2.35 93.25	225 9335
				7	8	6	10	11	12
			9N						
			REDUCEDNO	93.22	93.43	93.25	93.43	93.22	93.21
95.05	0.55	92.6		2.38	2.17	2.35	2.17	2.38	2.39
			FS		7	3		9	-
TBM	BS		NO		2	6)	4	5	9

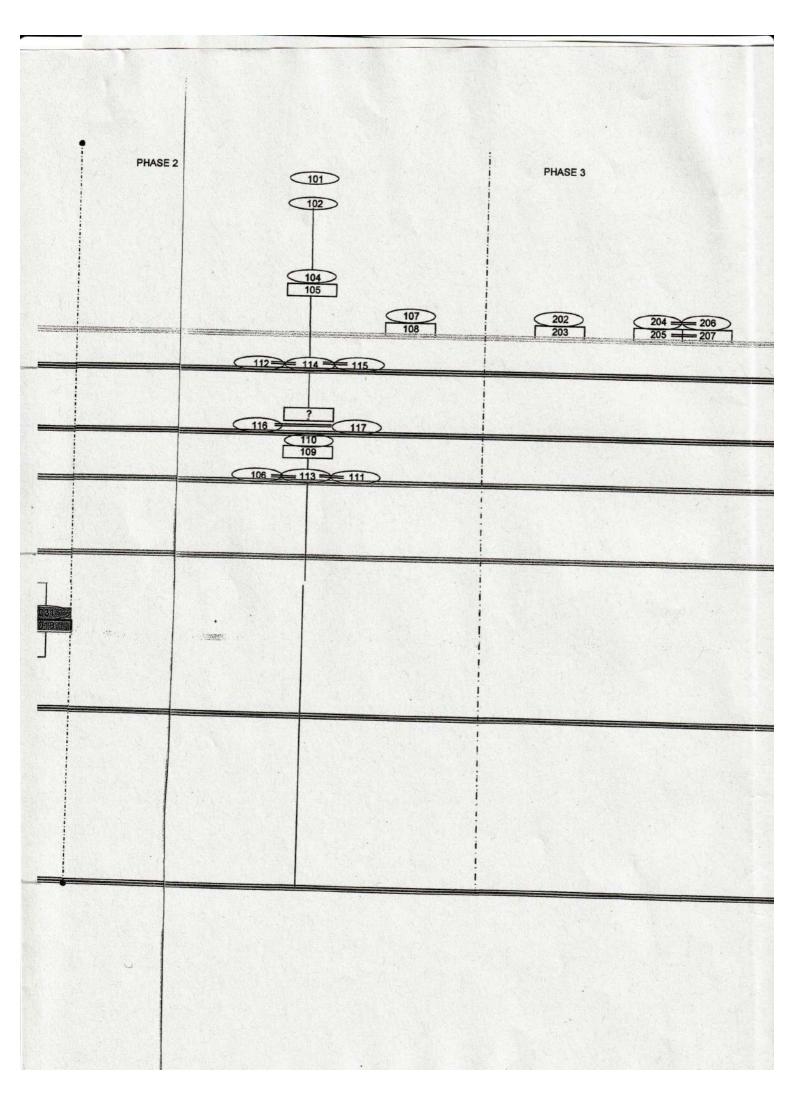


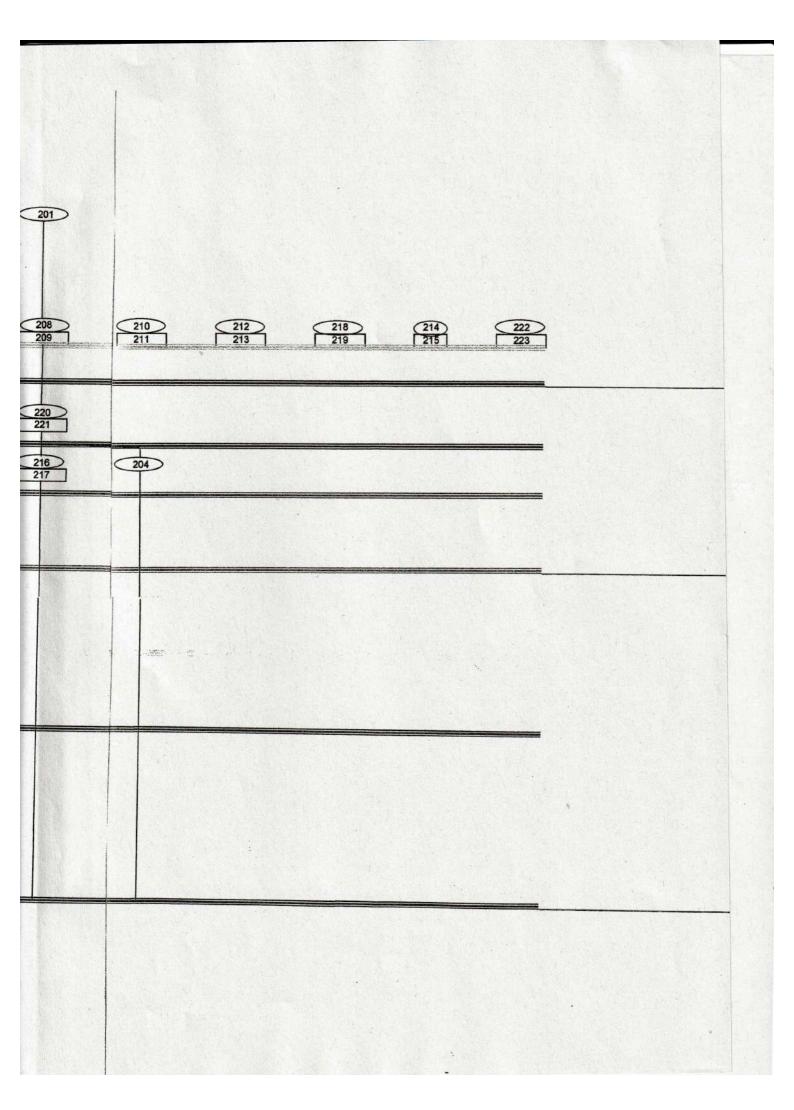


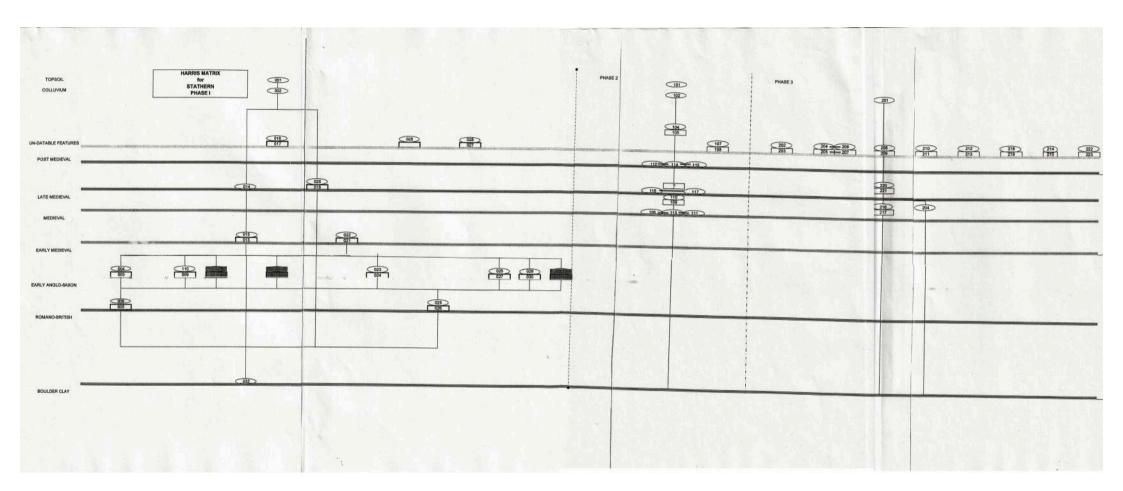












# APPENDIX 3

# THE SEARCH FOR HACKER'S HOUSE NORMAN FAHY

DRAFT COPY OCTOBER 2000

# The Search for Stathern Hall

Norman Fahy

Draft copy October 2000

### STATHERN, LEICESTERSHIRE.

#### 1.INTRODUCTION

This work was instigated following meetings with Stathern History Society who expressed the desire to locate the site of the hall which had a strong association with former Stathern Hall' which had a strong association with the Leicestershire historical figure - Colonel Francis Hacker (Fig. 1) during the seventeenth-century. The project was also designed to examine earthworks, assess the nature of the hall and establish a historical framework for the site and to examine the archaeological record for the area.

#### 2.THE SITE

The village of Stathern lies approximately eight miles north-east of the Leicestershire market town of Melton Mowbray (Map.1). The topography is steep escarpment with intermittent terraces forming part of the Belvoir Ridge which, ends with the castle approximately three miles to the north east.

The site is centred at SK 7750 3070, lies at a height of approximately 100m O.D. and occupies a natural terrace. Local geology is limestone overlaid by clays; the site in question comprising of a lens of sand and gravel oriented north-west /south- east, bounded to the north by Lias clay and boulder clay to the south.

There is a narrow hollow way running up to the site from Church Lane which according to the Enclosure Act map (1792) was once a track but, now serves as a drainage dyke.

Eighteenth-century maps clearly show an access road leading from Mill Hill which, is still visible as a hollow way within a modern plantation.

Also along Church Lane is a footpath known as Dalliwell and a drain for the brook known as The Gote. Careful examination of a village layout reveals a nucleus of development around the church and an area to the east of Church Lane may have formed the second manor (Map 4)

#### 3. LOCAL ARCHAEOLOGY (MAP 2.)

#### Prehistoric

Stathern village is bounded on the eastern side by Mill Hill, the top of which is planted with dense mixed forestry known as Stathern Woods. The woods contain pronounced lynchets or terraces which are suggestive of either medieval cultivation or *multivallate* Iron Age defences at SK 7775 3092 (Dyer 1990: 124-132). Two Iron Age occupation sites are recorded nearby at SK 784 309 (SMR 72 NE Z+) and SK 795 320 (Pickering & Hartley 1985:44,fig.2) the former being confirmed by the recovery of a loomweight during quarrying in the early twentieth-century, and the latter by fieldwalking. There have been numerous discoveries of prehistoric material in the Stathern area, the most interesting being a group of skeletons with associated Neolithic axes (Nottingham Castle Museum; acc.no. 92.38). Also a Bronze Age cremation contained by a Deverel-Rimbury style urn (University of Nottingham, Dept. of Archaeology) (Burgess 1974:?)(Thomas 1976:26-7).

There is fragmentary evidence of Romano-British occupation in Stathern, the most notable being a coin hoard (SMR 73.SE). However, examination of aerial photography (see 5a) may tentatively indicate a villa site.

#### Early Medieval

The Stathern Brooch (Fig. 2)A local metal detectorist unearthed an Anglo-Saxon brooch at SK 775 307 in 1982. This find (SMR 73 SE K) was classified as a trefoil-headed small-long variety (Liddle 1982:82) dating to the late fifth or early sixth-century. The brooch was later attributed to forms frequently found along the valleys of the Lark, Ouse, Nene, Welland and Avon (Howe 1988:77-80).

Medieval Church, Chantries and first manor etc.

#### 4. DOCUMENTARY EVIDENCE

Documentary evidence (cite) confirms that Stathern comprised of two manors since at least the thirteenth-century although the division of local power was probably a legacy of Danelaw and therefore ninth-century in origin.

Records indicate that Stathern Hall was in fact a medieval structure and housed the secondary manorial family named Reigne (cite).

The eighteenth-century antiquarian John Nichols (cite) drew together many early documents relating to Stathern and concluded that during the Norman Conquest, Stactedirne or Stachethurne was confiscated from the Saxon thane Leuric or Leofric and awarded to Robert de Todeni. The village was in turn granted to the family de Bosco Borard in return for knight's service.

Nemore or de Bosco is recorded as giving tithes to Belvoir priory which, he derived from his demesne at Stathern. Nichols also informs us that; 'It appears also that the family Reignes (who afterwards obtained the whole manor) had a considerable interest in it very antiently'. The joining of two manors is described thus; 'Joan, the daughter and heir of Simon de Borard was married, about 1275, to Thomas de Reignes, or Reines, to whom she brought this manor, and those of Clifton, co. Bucks and Okeley co. Bedford'.

However, Nichols goes on to say that during the process of enclosure in response to the act of 1792, Stathern is described as containing two manors. Also check: Domesday, Leicestershire Survey, Belvoir Muniments, Farnhams medieval village notes (Stathern not included).

#### Stathern and the Hacker connection

Hubbard (1941: ?) assembled most of the relevant documents for his discourse The Hacker family originated from Yeovil in Somerset.

John Hacker bought the estate known as Sheffeild Hall in East Bridgford, Nottinghamshire around 1591. John and his wife Margaret produced four sons and three daughters, the eldest son Francis was the father of our subject. Colonel Francis Hacker is believed to have been born around 1618 at East Bridgford and being the eldest of numerous children, he inherited property and land in Colston Bassett and Stathern and upon his marriage to Isabell Brunts of East Bridgford, the couple chose to live at Stathern Hall.

During the English Civil War (1639-60), Francis Hacker was a prominent Leicestershire Parliamentarian who upon the arrest of Charles I was given the task of guarding the King during the trial. Although Hacker never signed the death warrant kept at his home Stathern Hall, he did sign the execution order and supervised the proceedings on 30th January 1649. When the Commonwealth drew to a close and Charles II was crowned, Hacker was thrown into The White Tower and accused of regicide. The death warrant was retrieved from Stathern Hall in the hope of diverting the charge. Unfortunately, the signed execution order was sufficient evidence to send the Colonel to the gallows on 19th October 1660. Local folklore insists that the Hacker's remains were returned to Stathern. However, there is no substantial evidence for this and it seems highly unlikely in the knowledge that the process of hanging, drawing and quartering usually ended with impalement in a public place. Upon Hacker's death, Stathern Hall was systematically demolished in an attempt to rid the village of all association with the man.

#### 5. ARCHAEOLOGICAL INVESTIGATIONS

### a. Aerial Photography

Close examination of the 6"=1mile vertical (Hunting Survey Ltd., Run 6, frame 0457. 6th August 1969) revealed subtle vegetation features in pastures around the study site.

There is a discernible mound at SK 7752 3092, apparently enclosed by a curving feature of approximately 59m diameter (Map. 3).

This photograph also clearly shows the surviving hollow way extending into the site from the Mill Hill roadway. Approximately 300m to the north-east of the site SK 7775 3092 is a sub-rectangular feature visible in pasture but apparently unassociated with the farming strips plotted by Hartley (1987:55).

#### b.Fieldwork (Map 3)

Work began with a careful examination of the area, topography, earthworks and surviving walls. Various hollow ways, platforms and boundaries were identified which appear to have no relation to modern land divisions. It is hoped that a full survey of the site employing GPS (Global Positioning System) will be forthcoming in 2000 to clarify subtleties in the ground. A fixed grid was established and boundaries plotted using a theodolite and ranging poles.

#### c.Geophysics (Map 4)

The facility of a resistivity survey was kindly offered by Leicestershire County Council employee Patrick Roberts and was conducted on the 14th November 1999. This survey encompassed four areas of relatively flat pasture which, seemed likely to have served as building platforms. The equipment specification and operating method was thus:

Geoscan Research RM15 resistivity meter mounted on a PA1 frame.

Array - Twin probe (0.5m spacing).

Ground penetration maximum 2m. Grid size - 20x20m.

Traverse interval - 1m Sample interval - 1m. Traverse mode - Zig-Zag

#### Grid A

Concentrated areas of high resistance indicate the existence of demolition scatter with possible wall lines forming one or two buildings. However, the final plots clearly show some evidence of wall lines, particularly at the centre of the grid

#### Grid B

Probing this grid from west to east detected minor fluctuations in ground resistance within the first 20m x 20m area.as placed to encounter a conjectural east-west boundary wall. During the early stages of the process it was noticed that readings were exceptionally high in the north-west corner of the grid. The resulting plot shows one quarter of a circular or semi-circular **Grid C** 

This grid produced a plot very different in nature to the other images, it appears amorphous and less structured as before. The other grids probed clay ground and so produced clearly defined features of high resistance. The interpretation here is of a demolition layer partially obscured by, damp, sandy soil which has low resistant properties. A dense, dark feature to the west of this grid may represent a metalled surface.

#### Grid D

This grid revealed a solid feature bounded on the east by structural remains. The high resistant feature coincides with a scooped area of ground.

#### 6. CONCLUSION

The reference to Hacker; 'upon his marriage to Isabell Brunts of East Bridgford, the couple chose to live at Stathern Hall', suggests the hall was an established building and may date partly to the medieval period; a fact possibly reinforced by the documents referring to a second manor. So far, no documentary evidence has been traced to confirm the link with this site and Colonel Francis Hacker, although key sources such as the Belvoir Muniments and the National Records Office have yet to be consulted. However, results from resistivity indicate a complex of buildings enclosed by a massively built wall.

The eastern end of grid B revealed a distinctive circular feature which, is confirmed by aerial photography; this feature measures approximately 14m in diameter and appears to have massively built foundations. A high resistance area in the north-east corner of this grid could represent evidence of revetment to the hollow way entering the site.

The feature detected in Grid B may eventually define the nature and period of the site if further investigations reveal sound evidence of a dovecote which was typical of the period (Fedden and Joekes 1975; 304).

The most exciting aspect of this discovery relates its scale; if the size of the dovecote is commensurate to the population it was designed to feed, it follows that the site was either a religious order or a high-status manorial complex. The discovery of the Anglo-Saxon small-long brooch from the centre off the site adds another dimension to this study; this find may indicate a continuity of occupation from as early as the fifth-century; a practice implied at two other local sites studied by this writer (Fahy 1998, 1999).

Much has changed since the mid-twentieth-century site visit recorded by Hubbard (1941) (see appendix 1.) also, caution should be given to the accuracy of the observations in the absence directional details and a scale map showing the features discussed. The mention of pottery

discovered resulting from the construction of a WW II block house is worthless without museum acquisition numbers or a clear description of the fragments.

The wall described by Hubbard has been restored in recent years, but the area to the north east of the site still retains original foundations projecting from the turf. The wall line heading northwards into the valley was partially stripped of turf to establish the nature, condition and width of the structure. This exercise produced a single sherd of splashed-glaze ware datable to the thirteenth-century (McCarthy & Brooks 1988; check page no.).

Discussions with the keyholder for the nature reserve, Mr M. Stanley, and the private landowners Mr Bellers and Mr Wadsworth, revealed recent changes of boundaries etc. and gave an insight into the ever-changing nature of the landscape. A depression in Mr Wadsworth's fields strongly suggests the site of a redundant well which, lies close to a buried wall line.

The anomalous high resistance area in grid D may be evidence of an industrial process such as ore roasting, metal working, pottery or brick firing; the high temperatures needed for such operations may have vitrified the surrounding sandy ground. Future examination of the site using magnetometry would confirm this hypothesis and may reveal structural survival elsewhere.

It is highly likely that stone and other materials taken from the site would have been reused within the village, therefore a study of buildings dating to the latter half of the seventeenth-century may produce architectural fragments and timbers associated with the former half.

#### BIBLIOGRAPHY

Bassett, S. (ed), 1989. The Origins of Anglo-Saxon Kingdoms. Leicester University Press. Burgess, ?., 1974 (check this) Anglo-Saxon Kingdoms. Leicester University Press.

Dyer, J., 1990. Ancient Britain. Batsford. London.

Fahy, N.M., 1998. Investigation of a suspected medieval manor site at Manor Farm, Eastwell, Leicestershire. Dissertation. University of Nottingham.

Fahy, N.M., (forthcoming). Excavations of a possible media possible medieval manorial site at Eaton, Leicestershire.

Farnham, G.F., 1930. Leicestershire Medieval Village Notes. Vol.II. Privately Printed. Leicester. Fedden, R. and Joekes, R., 1975. The National Trust Guide. Jonathan Cape. London

Friar, S., 1996. A Companion to the English Parish Church. Bramley Books. Surrey.

Hartley, R.F. 1987. The Medieval Earthworks of North-East Leicestershire. Leicester Museums Publication No 88.

Howe, M.D., 1988. Three Anglo-Saxon small-long brooches from Leicestershire. *Trans. Leics. Archaeol. Hist. Soc.* Leicester.

Hubbard, H.L., 1941. 'Colonel Francis Hacker, Parlimentarian and Rigicide' *Trans. Thoroton Soc.* (p00-00) Nottingham.

Liddle, P., 1982. 'Stathern brooch' (note). Trans. Leics. Archaeol. Hist. Soc. Leicester.

Maitland, F.W., 1897. Domesday Book and Beyond. University Press. Cambridge.

McCarthy, M.R. & Brooks, C.M., 1988. *Medieval Pottery in Britain AD 900-1600*. Leicester University Press.

Nichols, J., 1795. The history and antiquities of the County of Leicester. London. Vol. 2 part 1. Peirson, E.G., 1912? The story of the church of Saint Guthlac at Stathern. J..W. Warner Ltd. Melton Mowbray, Leicestershire.

Pickering, J. & Hartley, R.F., 1985. Past Worlds in a Landscape - Archaeological Crop Marks in Leicestershire. Leicestershire Museum Publication No. 70.

Poole, A.L., 1986. From Domesday Book to Magna Carta 1087-1216. Clarendon Press. Oxford. Round, J.H. (ed.), 1905. The Manuscripts of His Grace The Duke of Rutland K.G. preserved at Belvoir Castle. Historical Manuscripts Commission. HMSO, London.

Slade, C.F., 1956. *The Leicestershire Surveyc. A.D. 1150*. University College Leicester. Occasional Paper No. 7.

Smith, D., 1980. English Episcopal Acta I, Linbcoln 1067-1185. London. (see 160, No 256) Stenton, D.M., 1959. English Society in the Early Middle Ages (1066-1307). Pelican. London.

Stenton, F.M., 1920. Documents Illustrative of the Social and Economic History of Danelaw. London.

Stocker, D., 1993. 'Recording worked stone' Advances in Monastic Archaeology. Gilchrist, R. and Mytum, H. (eds). BAR British Series Vol.227. Oxford.

Taylor, C., 1974. Fieldwork in Medieval Archaeology. Batsford, London.

Thomas, N., 1976. Guide to Prehistoric England. Batsford. London.

Thorold, H., 1984. A Shell guide to Nottinghamshire. Faber and Faber. London.

Wood, M., 1965. The English Mediaeval House. Ferdale Editions. London.

#### MANUSCRIPTS SPECIAL COLLECTIONS - BRITISH LIBRARY;

Shipman Papers

Chetwynd MS - Contains pedigrees of Borard, Reigne and Taillard families.

Cotton MS - Nero AI - E VIII

Guthlac Rolls - Harley Roll

reference to a museum aquisition number or a qualified appraisal of form, origin and date.

#### MAPS

Enclosure map for Stathern Leicestershire (1792). Leicestershire Record Service - Q5. 47/2/17. Location 1/146

Geological Survey of England and Wales - Melton Mowbray. sheet 142Ordnance Survey of England (1959)

#### **ACKNOWLEDGEMENTS**

Special thanks go to Mr & Mrs T. Bellars (Stone Acre), Mr & Mrs R. Wadsworth (Glen Cottage) and Leicestershire Farming and Wildlife Advisory Group (Mill Hill Nature Reserve) for access to their respective properties and interest in the research. Patrick Roberts, Roger & Barbara Hawkins, Laurence Darby, Dr Alastair Strang, Dr Richard Pollard, David Stanley, Michael Stanley, Mary Hatton, Caroline Mills, Mike Hubert, Scott Carlton, Bob Sparham, Steve & Lesley Hextall, Robin Borrett, Sue Walker, Robin Borrett, Sue Walker, Linda Darlison, Pauline Underwood, Paul Mellor and family, Julian Holland and Mrs Eddie Marlow.

#### APPENDIX 1.

'The house in which he lived was to the east of the church, half-way up a fairly steep slope, now known as Mill Hill, and enjoyed a splendid view over

the whole of the fertile Vale of Belvoir. The Belvoir woods, much more extensive than now, began two hundred yards or so from the walls enclosing the grounds. The house was destroyed soon after Hacker's execution, but, incorporated in the boundary of one of the present fields on the site, there still remains the buttress of one of the outside walls, with part of the mortar in the interstices of the stones, protected by the hawthorn hedge which continues the boundary of the field; running from from the buttress as a boundary iis about fifteen yards of stone wall, whose stones are remarkably even and smooth, save on the top where the wall has collapsed and been rebuilt, a wall which is probably part of that surrounding the grounds of the old hall, although stone from it was used in the wall's construction. The field which is the site of the old hall still has a number of undulations and mounds covering the foundations of the hall; there can be discerned the outlines of a terrace. The drive to the hall survives as a cart-road which debouches on to the road half-way up the Mill Hill. The earth in one part of the field has recently been disturbed for the erection of a blockhouse and, in the debris, were numerous fragments of rough pottery, made from local clay and discoloured by the iron-ore in it. An aerial photograph of the site would probably recover the complete ground-plan of the building and gardens'

Hubbard, H.L., 1941. 'Colonel Francis Hacker, Parlimentarian and Rigicide' Trans. Thoroton Soc. (p00-00) Nottingham.

#### NOTES ON WINDMILLS AND DOVECOTES

The earliest form of windmills date to the late twelfth-century. Known as post-mills, these consisted of a box-like superstructure which housed the grinding mechanism; this in turn pivoted upon a stout central post supported by struts attached to a cross base secured to the ground. This base construction of a medieval mill was either buried beneath an earthen mound or enclosed within a stone round-house. (Fedden and Joekes 1975: 401); the base of The circular feature in grid B was initially considered to be the surviving base of a windmill as evidence of one formerly standing nearby at SK 7745 3085 (SMR no.?) indicated the suitability of the site. Such a structure was considered, but the enormous diameter of the Stathern feature failed to match windmills typical of the medieval period. Study of likely structures has led this writer to conclude that the feature represents a medieval dovecote.

A fine example survives at Kinwarton, Worcester, Warwickshire, dating to the mid-fourteenth-century, this dovecote boasts walls over a metre in thickness and has a doorway with an ogee head; Such buildings had inordinately thick walls which, consisted of a matrix of internal nesting holes and were capped with conical roofs. Contrary to popular belief, dovecotes housed pigeons and not doves who are a close relative. (Fedden and Joekes 1975: 304-5). Friar (1996:167-8) dates English cylindrical dovecotes no earlier than the thirteenth-century and highlights the fact that some housed as many as four thousand birds which grazed freely upon tenant's crops. During the medieval period, a large dovecote was considered an essential feature of high status demesne manors and wealthy monastic foundations (ibid.) A good local example can be found at Sibthorpe, Newark, Nottinghamshire (Thorold 1984:152, 154).; this fourteenth-century dovecote was built as part of a college of priests who's diet must have been a amply supplemented by pigeon meat and eggs.

# APPENDIX 4

# Stathern Geophysics Report Paddocks 2023

# Stathern Hall Leicestershire

**GEOPHYSICAL SURVEY** 

PETER & AILEEN BALL

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# Acknowledgements.

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Sally & Robert Wadsworth for permission to survey paddocks
Geoff Kimbell for Plates
Field Detectives members for their assistance in surveying.
This report dated May 2023.

This document is the result of research for a non-commercial purpose.

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Farmland at Glen Cottage, Dalliwell, Stathern, Leics LE14 4HG

1 **Project Title:** Stathern Hall

Dates of survey: 22 April 2023 County: Leicestershire

Parish: Stathern SK7750/3070

Site Type: Probable large hall attributed to Colonel Hacker

1.1 **Survey undertaken for:** Field Detectives

**Surveyor:** Peter and Aileen Ball,

South Witham Archaeological Group

1.2 **Solid Geology:** Boulder clay covered with a sandy silt colluvium deposit

# 2 Purpose of Survey

To search for evidence through geophysical means for areas of 'potential archaeological interest' and to confirm the existence of any buried structural remains that may be associated with the documented Stathern Hall

# 3 Report Details

Title: Stathern Hall

**Author:** Peter and Aileen Ball, South Witham Archaeological Group

Date: May 2023

Number:

**Held by:** Peter and Aileen Ball, Field Detectives

# 3.1 Summary of report findings

The resistance survey and subsequent interpretation of the results suggest that several anomalies of 'potential archaeological interest' have been located within the surveyed area. The survey in Paddock A revealed the location of an infilled pond in the north corner. There are areas of high resistance, which may be geological but may also be demolition spread. The survey in Paddock B showed where the paddock is very wet, but also showed possible land drains running E-W, and N-S. No archaeological features were revealed.

All the anomalies detected have the potential to be geological in origin.

# 3.2 Archaeological Feature Classifications Covered

Pond and Stathern Hall? Evidence for pond located by survey.

# 3.3 Geophysical Techniques Used

Survey type: Resistance. Recorded grid 4000 sq. metres

**Traverse separation:** 1m **Reading interval:** 1m

Instrument type:
Instrument make:

Electrode configuration:

Electrode separation:

Resistance meter.

TR Systems

Twin probe

0.5m

Range setting: 200 Ohms.
Acquisition time: 1.5 seconds

Land use: Two horse paddocks

Weather: Mild.

Paddock A dry underfoot.

Paddock B wet and muddy underfoot in places.

# 3.4 Principles of resistance surveying

The basis for this method is that electric currents are fed into the ground and the resistance to the flow of these currents is measured. Where they 'meet' buried wall foundations high resistance readings are recorded, while if silted-up ditches (which tend to be wetter than the surroundings) are encountered, low resistance readings ensue. By mapping zones of high and low resistance, it is possible to identify, for example, the layout of buildings or the size and orientation of a ditched enclosure.

(Gaffney, C. & Gater, J. 'Revealing The Buried Past' Tempus Publishing, 2003).

# 3.5 Known limitations of the survey technique

Resistivity surveying measures only high and low contact resistance in the soil, which can vary considerably, depending on the moisture present in the ground. The instruments used do not distinguish between archaeology and geology. Post-survey interpretation of the results is vital in the understanding of what the survey shows.

# 4 The geophysical (resistance) survey of Stathern Hall, Leics

# 4.1 The Survey

The geophysical (resistance) survey was carried out within an area where a resistance survey had previously been carried out in November 1999 (Roberts P 14<sup>th</sup> November 1999, Leicestershire County Council, Norman Fahy et al.) The earlier survey covered four fields, and one of these was Paddock A. The results from the 2023 survey in this paddock match those from the 1999 survey but cover a larger area and have better resolution.

The geophysical survey was carried out over one day. The ground conditions in paddock A were almost perfect for resistance surveying, as the moist ground gave good contrast against any drier stonework or rubble deposits. The ground conditions in paddock B were less ideal due to very muddy and wet conditions in some areas. The survey has been tied-in to local features. It is re-locatable and repeatable.

# 4.2 Data collection and processing

All the surveys were carried out using a TR Systems resistance meter using the standard remote twin-probe array. Fixed and mobile electrode spacing was set to 0.5m. Reading acquisition time was set to 1.5 seconds at 200 Ohms.

The data was logged in the meter and downloaded back at base onto a PC running TR Systems software for handling the raw data information. Further processing of the data was carried out using Snuffler software (University of Sussex). QGIS software was used to georeference and display the results.

The report has been forwarded to the Field Detectives digitally.

The plots are displayed in their original raw data form and as several processed plots.

#### 5 **Interpretation of the results** (see plate 5)

Paddock A: The NW corner of the site shows the site of a pond filled in in the last century. The high resistance to the SW of this area is bounded on the E side by the edge of a platform. The SE and centre of the grid show high resistance in which can be distinguished possible wall features. Four red rectangles show previous trench positions. (Mouraille R.M., HND 2005 'Stathern Hall and grounds. Evaluations report.')

Paddock B: This was relatively featureless, showing only the wet areas, with possible land drains.

The apparent unevenness of edges to several of the anomalies is not expected to represent their exact shape in the ground. The unevenness is likely to be caused by demolition deposits or rubble spreads over the features. In extreme cases these deposits can mask of the true form of the features and show just as an area of high resistance with no form.

#### 6. Conclusions

The purpose of the survey was to search for evidence using non-intrusive geophysical techniques for areas of any buried structural remains that may be associated with Stathern Hall

The resistance survey has shown that there are some high resistance anomalies that may indicate building remains in paddock A. Low resistance in paddock A is probably an infilled pond. Paddock B results seem to indicate no structural remains.



Figure 1 Location of Stathern, Leicestershire

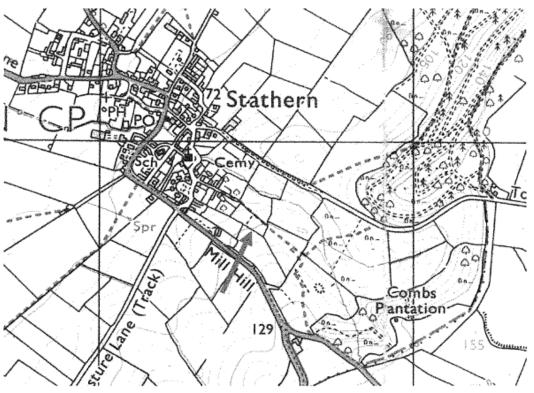


Figure 2 Location of site in Stathern, Leicestershire

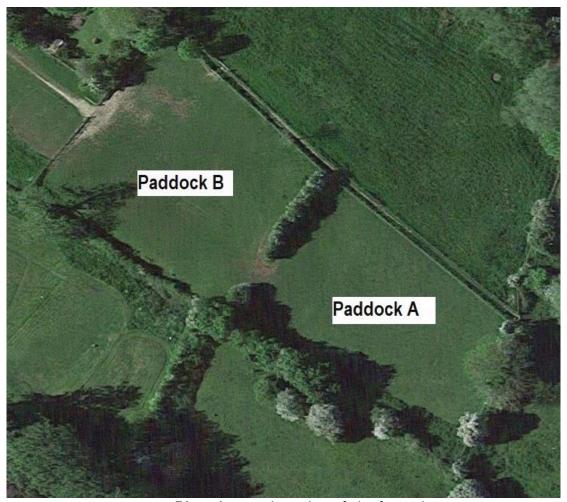


Plate 1 Location of site from air

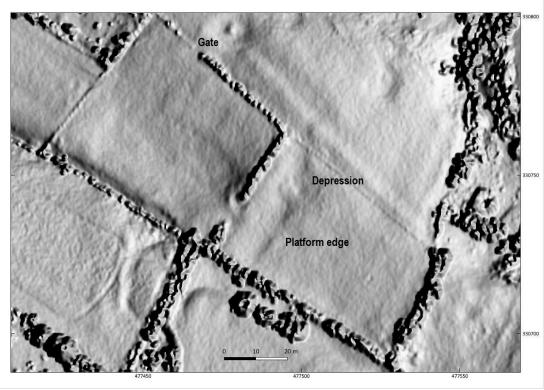
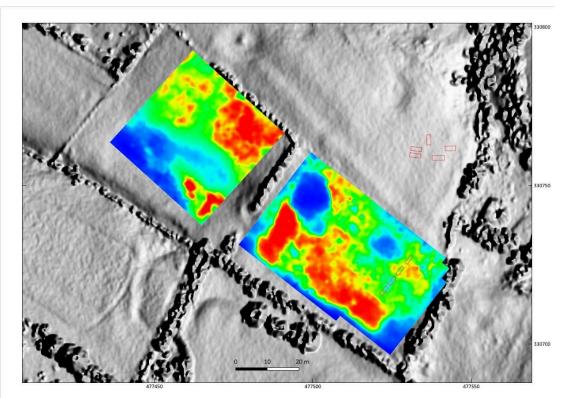


Plate 2 Lidar with annotation



Plate 3 Raw Data superimposed on air photo with previous trenches marked



**Plate 4** Colour Resistivity on Lidar (Blue low resistance, red high resistance)



Plate 5 Interpretation (see text section 5)

#### **Data statistics**

All statistics based on raw data.

Paddock A: 2222 Sq.M Area surveyed Paddock B 1600 Sq.M Readings total: 3822 Max. reading **Paddock A**: 224.010 **Paddock B:** 89.551 **Paddock A:** 44.003 **Paddock B: 19.842** Min. reading Mean **Paddock A:** 92.246 **Paddock B: 42.467** Std. Dev. **Paddock A:** 27.672 **Paddock B: 14.351** 

#### References

Gaffney, C. & Gater, J. 2003 'Revealing The Buried Past' Tempus Publishing. Mouraille R.M., HND 2005 'Stathern Hall and grounds. Evaluations report'. (Roberts P 14th November 1999, Leicestershire County Council, Norman Fahy et al.)

#### **Contacts**

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Email: aandpball@hotmail.com

APPENDIX	1,0,78.60	2,6,83.12	3,9,104.44
RAW	1,1,68.58	2,7,101.13	3,10,105.86
DATA	1,2,64.52	2,8,109.50	3,11,99.79
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CORNER	1,4,84.25	2,10,105.18	3,13,104.37
PADDOCK A	1,5,83.84	2,11,98.82	3,14,103.78
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0,29,79.87	1,35,69.50	2,41,77.06	3,44,93.89
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0,52,79.20	2,3,75.85	3,6,85.82	4,9,72.47
0,53,75.01	2,4,86.83	3,7,95.48	4,10,91.76
0,54,69.56	2,5,81.93	3,8,97.34	4,11,102.77

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8,42,72.85	9,44,96.07	10,46,99.69	11,48,112.14
8,43,83.00	9,45,100.69	10,47,115.38	11,49,105.32
	9,46,110.63		
8,44,90.57		10,48,108.50	11,50,107.80
8,45,95.23	9,47,108.59	10,49,111.64	11,51,106.29
8,46,103.25	9,48,117.19	10,50,112.60	11,52,100.82
8,47,102.91	9,49,115.87	10,51,110.88	11,53,100.79
8,48,106.80	9,50,105.42	10,52,97.31	11,54,103.80
8,49,120.16	9,51,106.51	10,53,102.98	11,55,101.46
8,50,92.55	9,52,97.60	10,54,101.70	11,56,88.59
8,51,87.04	9,53,86.35	10,55,95.74	11,57,71.14
8,52,80.93	9,54,93.74	10,56,81.42	11,58,66.26
8,53,84.99	9,55,82.33	10,57,67.27	11,59,63.94
8,54,88.98	9,56,71.99	10,58,64.66	12,0,66.74
8,55,82.61	9,57,70.14	10,59,65.32	12,1,80.01
8,56,81.58	9,58,68.52	11,0,62.72	12,2,90.17
8,57,73.84	9,59,72.23	11,1,70.51	12,3,76.25
8,58,66.72	10,0,63.68	11,2,82.76	12,4,56.11
	10,1,68.49		12,5,49.41
8,59,70.38		11,3,68.57	
9,0,61.39	10,2,68.31	11,4,52.61	12,6,47.71
9,1,67.58	10,3,68.01	11,5,49.12	12,7,46.03
9,2,75.94	10,4,53.82	11,6,47.76	12,8,46.02
9,3,63.59	10,5,49.48	11,7,46.36	12,9,45.93
9,4,56.83	10,6,49.06	11,8,46.11	12,10,45.56
9,5,51.33	10,7,47.44	11,9,45.22	12,11,46.79
9,6,49.96	10,8,46.85	11,10,45.52	12,12,48.60
9,7,50.74	10,9,46.42	11,11,46.24	12,13,52.82
9,8,47.74	10,10,46.02	11,12,46.96	12,14,60.78
9,9,47.40	10,11,46.26	11,13,50.43	12,15,74.13
9,10,47.79	10,12,45.91	11,14,56.69	12,16,85.77
9,11,46.57	10,13,48.41	11,15,67.87	12,17,85.39
9,12,48.22	10,14,55.19	11,16,81.68	12,18,88.19
9,13,50.76	10,15,66.96	11,17,92.46	12,19,90.91
9,14,61.37	10,16,86.86	11,18,99.80	12,20,89.20
9,15,85.56	10,17,96.69	11,19,85.68	12,21,88.46
9,16,109.27	10,18,107.96	11,20,94.81	12,22,89.15
9,17,110.48	10,19,92.18	11,21,85.84	12,23,87.45
9,18,109.33	10,20,92.94	11,22,89.40	12,24,93.57
9,19,94.17	10,21,86.32	11,23,91.54	12,25,89.85
9,20,98.97	10,22,91.07	11,24,83.85	12,26,86.03
9,21,96.30	10,23,91.72	11,25,76.50	12,27,88.24
9,22,87.32	10,24,84.90	11,26,82.92	12,28,92.71
9,23,101.24	10,25,75.46	11,27,84.57	12,29,92.94
9,24,97.02	10,26,80.52	11,28,98.15	12,30,87.20
9,25,94.85	10,27,88.11	11,29,93.45	12,31,90.07

12,32,85.19	13,34,86.99	14,36,81.38	15,38,85.46
12,33,79.45	13,35,74.98	14,37,88.20	15,39,90.07
12,34,76.79	13,36,78.25	14,38,89.11	15,40,92.78
12,35,73.70	13,37,81.94	14,39,90.51	15,41,87.05
12,36,73.86	13,38,80.51	14,40,88.43	15,42,86.22
12,37,73.81	13,39,87.88	14,41,87.29	15,43,88.75
12,38,72.11	13,40,83.67	14,42,90.28	15,44,90.17
12,39,75.61	13,41,91.14	14,43,96.28	15,45,85.97
		14,44,97.91	
12,40,79.37	13,42,93.76		15,46,92.97
12,41,93.61	13,43,109.17	14,45,92.45	15,47,89.18
12,42,97.76	13,44,106.83	14,46,101.61	15,48,86.74
12,43,110.44	13,45,101.49	14,47,93.02	15,49,83.34
12,44,98.55	13,46,111.05	14,48,90.46	15,50,82.66
12,45,94.03	13,47,100.35	14,49,85.39	15,51,87.73
12,46,100.29	13,48,101.92	14,50,86.23	15,52,85.84
12,47,101.74	13,49,96.72	14,51,88.32	15,53,97.30
12,48,115.15	13,50,94.39	14,52,91.55	15,54,91.53
12,49,106.19	13,51,95.33	14,53,98.89	15,55,91.07
12,50,99.53	13,52,100.49	14,54,98.80	15,56,84.87
12,51,98.71	13,53,97.75	14,55,95.40	15,57,73.24
12,52,99.53	13,54,101.50	14,56,85.82	15,58,77.55
12,53,97.29	13,55,101.24	14,57,82.25	15,59,69.96
12,54,100.78	13,56,78.57	14,58,75.92	16,0,65.56
12,55,95.14	13,57,79.46	14,59,67.06	16,1,73.97
12,56,84.45	13,58,73.59	15,0,65.99	16,2,80.94
12,57,79.52	13,59,68.76	15,1,72.08	16,3,92.69
12,58,67.68	14,0,64.06	15,2,78.74	16,4,91.48
12,59,58.35	14,1,69.72	15,3,81.43	16,5,67.30
13,0,66.18	14,2,76.19	15,4,75.43	16,6,57.70
13,1,74.63	14,3,79.09	15,5,56.28	16,7,55.08
13,2,81.46	14,4,66.12	15,6,49.57	16,8,54.06
13,3,78.40	14,5,55.05	15,7,48.19	16,9,53.94
13,4,58.91	14,6,48.67	15,8,47.99	16,10,55.12
13,5,50.39	14,7,46.74	15,9,48.86	16,11,56.40
	14,8,45.89		16,12,55.48
13,6,47.41		15,10,51.28	
13,7,46.21	14,9,47.05	15,11,52.58	16,13,62.53
13,8,44.90	14,10,48.38	15,12,55.33	16,14,71.30
13,9,45.67	14,11,49.67	15,13,61.93	16,15,72.72
13,10,46.08	14,12,54.68	15,14,70.73	16,16,69.87
13,11,47.63	14,13,61.90	15,15,71.62	16,17,69.81
13,12,50.31	14,14,72.01	15,16,74.29	16,18,74.04
13,13,54.80	14,15,74.89	15,17,75.41	16,19,93.72
13,14,64.18	14,16,85.34	15,18,86.88	16,20,99.34
13,15,76.12	14,17,85.11	15,19,97.92	16,21,102.98
13,16,81.77	14,18,92.24	15,20,102.57	16,22,113.44
13,17,85.13	14,19,93.06	15,21,114.60	16,23,108.62
13,18,89.78	14,20,102.37	15,22,113.05	16,24,87.16
13,19,92.00	14,21,110.82	15,23,108.07	16,25,94.27
13,20,93.41	14,22,115.92	15,24,115.64	16,26,103.63
13,21,92.25	14,23,121.30	15,25,115.17	16,27,109.70
13,22,95.39	14,24,115.51	15,26,108.57	16,28,96.95
13,23,93.76	14,25,120.55	15,27,107.88	16,29,90.47
13,24,93.52	14,26,115.42	15,28,98.61	16,30,93.38
13,25,100.79	14,27,105.81	15,29,84.39	16,31,89.45
13,26,95.04	14,28,103.49	15,30,97.25	16,32,85.21
13,27,94.50	14,29,99.90	15,31,93.37	16,33,82.35
13,28,95.05	14,30,96.07	15,32,93.75	16,34,80.60
13,29,97.07	14,31,102.16	15,33,92.01	16,35,81.61
13,30,97.79	14,32,98.37	15,34,83.83	16,36,80.44
13,31,98.09	14,33,93.96	15,35,82.05	16,37,85.74
13,32,88.32	14,34,91.28	15,36,76.73	16,38,86.15
13,33,87.44	14,35,80.36	15,37,84.45	16,39,94.60
	• *	• •	• *

16,40,94.91	17,42,84.98	18,44,87.35	19,46,81.86
16,41,93.45	17,43,85.47	18,45,78.07	19,47,92.34
16,42,87.16	17,44,85.37	18,46,84.26	19,48,93.25
16,43,83.76	17,45,78.99	18,47,90.39	19,49,92.28
16,44,82.85	17,46,87.28	18,48,93.28	19,50,96.83
16,45,71.48	17,47,93.06	18,49,88.88	19,51,97.78
16,46,86.38	17,48,90.21	18,50,92.73	19,52,92.08
16,47,93.86	17,49,89.84	18,51,94.58	19,53,83.59
16,48,89.53	17,50,85.48	18,52,88.46	19,54,83.62
16,49,87.50	17,51,84.39	18,53,79.69	19,55,85.87
16,50,84.12	17,52,83.39	18,54,82.28	19,56,79.58
16,51,83.07	17,53,82.03	18,55,81.21	19,57,80.87
16,52,84.29	17,54,87.07	18,56,81.42	19,58,76.48
16,53,85.32	17,55,80.18	18,57,80.10	19,59,72.00
16,54,84.37	17,56,82.20	18,58,78.54	20,0,78.60
16,55,85.76	17,57,77.36	18,59,71.60	20,1,85.21
16,56,87.13	17,58,76.89	19,0,79.16	20,2,82.25
16,57,81.28	17,59,69.29	19,1,82.53	20,3,86.20
16,58,78.44	18,0,77.98	19,2,82.68	20,4,144.31
16,59,68.04	18,1,79.73	19,3,99.38	20,5,198.46
17,0,67.40	18,2,85.08	19,4,142.68	20,6,211.81
17,1,77.07	18,3,105.76	19,5,167.62	20,7,216.52
17,2,82.10	18,4,132.71	19,6,177.13	20,8,190.25
17,3,98.03	18,5,143.13	19,7,170.42	20,9,148.02
17,4,105.30	18,6,122.38	19,8,143.82	20,10,117.78
17,5,77.97	18,7,118.06	19,9,110.05	20,11,106.32
17,6,71.37	18,8,103.97	19,10,86.94	20,12,92.84
17,7,65.59	18,9,82.61	19,11,90.61	20,13,90.30
17,8,66.52	18,10,76.29	19,12,80.33	20,14,91.97
17,9,59.02	18,11,78.03	19,13,77.23	20,15,87.10
17,10,58.56	18,12,72.10	19,14,79.28	20,16,88.05
17,11,59.19	18,13,73.63	19,15,73.47	20,17,99.17
17,12,59.44	18,14,81.42	19,16,70.22	20,18,112.20
17,13,68.10	18,15,75.19	19,17,74.49	20,19,128.31
17,14,75.70	18,16,69.82	19,18,79.90	20,20,121.26
17,15,75.15	18,17,67.25	19,19,98.50	20,21,116.82
17,16,68.50	18,18,69.31	19,20,115.08	20,22,112.64
17,17,68.28	18,19,88.39	19,21,114.38	20,23,111.76
17,18,71.62	18,20,110.92	19,22,114.35	20,24,96.27
17,19,86.08	18,21,110.26	19,23,111.41	20,25,100.65
17,20,105.78	18,22,106.48	19,24,100.31	20,26,116.03
17,21,105.33	18,23,99.79	19,25,104.93	20,27,112.49
17,22,107.54	18,24,106.14	19,26,110.07	20,28,106.16
17,23,106.38	18,25,106.97	19,27,105.44	20,29,101.46
17,24,89.17	18,26,110.33	19,28,98.22	20,30,105.90
17,25,95.69	18,27,109.82	19,29,97.06	20,31,102.86
17,26,107.98	18,28,102.09	19,30,95.20	20,32,99.22
17,27,116.06	18,29,94.39	19,31,98.68	20,33,99.07
17,28,98.02	18,30,95.98	19,32,87.10	20,34,96.44
17,29,91.27	18,31,95.97	19,33,96.11	20,35,91.86
17,30,94.88	18,32,85.66	19,34,85.79	20,36,101.20
17,31,92.22	18,33,81.88	19,35,93.98	20,37,92.29
17,32,87.49	18,34,83.03	19,36,98.29	20,38,102.25
17,33,82.88	18,35,89.77	19,37,95.22	20,39,111.55
17,34,83.33	18,36,90.40	19,38,97.05	20,40,98.20
17,35,81.20	18,37,88.60	19,39,88.42	20,40,98.20
17,36,86.47	18,38,98.18	19,40,86.60	20,42,97.60
17,37,88.93	18,39,88.54	19,41,90.21	20,43,90.56
17,38,86.50	18,40,90.05	19,42,95.43	20,44,90.39
17,39,88.08	18,41,98.03	19,43,89.80	20,45,82.58
17,40,91.71	18,42,86.40	19,44,86.02	20,46,85.36
17,41,90.11	18,43,84.90	19,45,78.60	20,47,93.72

20,48,93.52	21,50,90.00	22,52,83.11	23,54,82.54
20,49,95.29			
	21,51,87.70	22,53,84.68	23,55,80.94
20,50,97.76	21,52,87.79	22,54,88.00	23,56,72.86
20,51,90.66	21,53,88.35	22,55,82.82	23,57,68.85
20,52,90.90	21,54,92.22	22,56,76.91	23,58,67.21
20,53,88.76	21,55,85.73	22,57,67.75	23,59,67.62
20,54,89.70	21,56,81.36	22,58,67.56	24,0,76.81
20,55,89.30	21,57,77.86	22,59,68.84	24,1,79.67
20,56,82.33	21,58,74.12	23,0,76.67	24,2,86.20
20,57,81.36	21,59,72.31	23,1,87.39	24,3,80.77
20,58,74.29	22,0,83.38	23,2,88.46	24,4,88.63
20,59,71.13	22,1,82.65	23,3,86.04	24,5,134.10
21,0,83.02	22,2,79.36	23,4,99.71	24,6,182.77
21,1,82.48	22,3,85.51	23,5,150.07	24,7,200.67
21,2,80.47	22,4,105.22	23,6,201.49	24,8,190.93
21,3,79.46	22,5,154.97	23,7,224.01	24,9,196.82
21,4,124.67	22,6,182.85	23,8,207.91	24,10,183.33
21,5,180.65	22,7,176.61	23,9,201.50	24,11,150.60
21,6,188.13	22,8,156.84	23,10,179.55	24,12,132.86
21,7,185.92	22,9,180.78	23,11,145.78	24,13,108.13
21,8,138.63	22,10,169.66	23,12,131.84	24,14,120.83
21,9,190.57	22,11,133.04	23,13,101.57	24,15,130.57
21,10,157.66	22,12,111.38	23,14,127.42	24,16,119.55
21,11,121.51	22,13,108.14	23,15,126.57	24,17,110.67
21,12,105.95	22,14,117.34	23,16,128.57	24,18,104.10
21,13,97.77	22,15,118.85	23,17,119.23	24,19,115.04
21,14,101.18	22,16,118.84	23,18,109.63	24,20,125.32
21,15,101.40	22,17,125.65	23,19,110.29	24,21,126.45
21,16,101.99	22,18,131.79	23,20,133.73	24,22,136.32
21,17,115.64	22,19,118.77	23,21,144.74	24,23,123.97
21,18,117.24	22,20,129.07	23,22,146.61	24,24,122.24
21,19,129.17	22,21,132.14	23,23,120.93	24,25,117.85
21,20,119.93	22,22,130.23	23,24,116.39	24,26,112.58
21,21,117.86	22,23,114.69	23,25,113.55	24,27,103.58
21,22,110.29	22,24,108.41	23,26,115.05	24,28,107.22
21,23,99.37	22,25,108.07	23,27,101.85	24,29,110.50
21,24,101.86	22,26,112.34	23,28,106.47	24,30,111.51
21,25,115.10	22,27,108.10	23,29,115.13	24,31,118.26
21,26,113.64		23,30,120.71	
	22,28,114.13		24,32,106.00
21,27,104.62	22,29,113.55	23,31,125.23	24,33,109.72
21,28,106.25	22,30,115.69	23,32,110.10	24,34,107.59
21,29,107.50	22,31,115.39	23,33,109.85	24,35,115.29
21,30,110.45	22,32,117.32	23,34,112.31	24,36,107.19
21,31,104.64	22,33,114.76	23,35,109.71	24,37,103.60
21,32,98.56	22,34,121.48	23,36,102.01	24,38,105.66
21,33,104.25	22,35,113.44	23,37,105.64	24,39,111.80
21,34,94.30	22,36,106.89	23,38,101.89	24,40,103.29
21,35,105.40	22,37,99.62	23,39,100.78	24,41,110.14
21,36,97.60	22,38,104.62	23,40,92.79	24,42,113.64
21,37,109.06	22,39,95.36	23,41,99.52	24,43,111.62
21,38,106.01	22,40,92.06	23,42,100.32	24,44,121.93
21,39,108.39	22,41,98.57	23,43,99.88	24,45,118.07
21,40,103.76	22,42,98.75	23,44,94.72	24,46,113.99
21,41,94.51	22,43,93.08	23,45,94.94	24,47,105.36
21,42,95.97	22,44,95.38	23,46,91.56	24,48,103.94
21,43,93.53	22,45,92.65	23,47,88.42	24,49,101.98
21,44,92.71	22,46,88.32	23,48,94.74	24,50,100.18
		23,49,97.22	
21,45,95.97	22,47,92.47		24,51,93.73
21,46,93.13	22,48,96.62	23,50,94.43	24,52,86.57
21,47,93.37	22,49,92.04	23,51,97.51	24,53,80.79
21,48,94.19	22,50,95.47	23,52,82.53	24,54,77.67
21,49,98.01	22,51,93.37	23,53,80.59	24,55,73.19

24,56,69.85	25,58,63.47	27,0,69.97	28,2,66.72
24,57,67.11	25,59,61.91	27,1,71.74	28,3,69.75
24,58,68.08	26,0,72.05	27,2,72.90	28,4,82.96
24,59,64.87	26,1,77.36	27,3,73.36	28,5,97.60
25,0,81.65	26,2,79.11	27,4,82.25	28,6,134.34
25,1,78.10	26,3,79.13	27,5,107.66	28,7,161.38
25,2,85.90	26,4,82.52	27,6,137.29	28,8,165.39
25,3,79.75	26,5,104.56	27,7,168.76	28,9,171.09
25,4,78.21	26,6,152.07	27,8,172.48	28,10,165.71
25,5,105.71	26,7,184.78	27,9,167.74	28,11,137.79
25,6,170.95	26,8,173.37	27,10,159.72	28,12,104.18
25,7,184.15	26,9,165.05	27,11,135.83	28,13,92.50
25,8,181.12	26,10,151.00	27,12,111.91	28,14,81.38
25,9,170.12	26,11,121.32	27,13,90.54	28,15,74.45
25,10,175.47	26,12,105.64	27,14,85.81	28,16,73.82
25,11,134.89	26,13,93.57	27,15,88.82	28,17,86.28
25,12,126.85	26,14,104.56	27,16,92.11	28,18,99.40
25,13,113.40	26,15,113.44	27,17,96.38	28,19,103.29
25,14,122.91	26,16,114.84	27,18,97.74	28,20,103.67
25,15,133.60	26,17,92.17	27,19,107.25	28,21,108.11
25,16,112.56	26,18,98.61	27,20,126.59	28,22,115.88
25,17,104.81	26,19,106.79	27,21,114.01	28,23,129.93
25,18,103.56	26,20,117.01	27,22,115.38	28,24,133.68
25,19,109.07	26,21,121.37	27,23,123.10	28,25,118.85
25,20,117.20	26,22,118.99	27,24,115.68	28,26,141.76
25,21,115.09	26,23,121.07	27,25,123.99	28,27,145.66
25,22,119.51	26,24,114.83	27,26,134.87	28,28,137.16
25,23,117.66	26,25,127.92	27,27,122.32	28,29,126.62
25,24,122.21	26,26,122.40	27,28,121.64	28,30,121.07
25,25,116.36	26,27,127.95	27,29,115.14	28,31,110.93
25,26,118.23	26,28,120.41	27,30,100.77	28,32,113.61
25,27,120.05	26,29,105.67	27,31,104.40	28,33,128.07
25,28,115.00	26,30,103.90	27,32,119.63	28,34,132.35
25,29,109.84	26,31,104.90	27,33,123.31	28,35,166.30
25,30,111.95	26,32,121.09	27,34,133.22	28,36,162.52
25,31,115.67	26,33,119.72	27,35,134.84	28,37,141.76
25,32,111.42	26,34,125.71	27,36,138.82	28,38,137.61
25,33,115.12	26,35,116.91	27,37,127.79	28,39,123.17
25,34,106.31	26,36,124.62	27,38,133.92	28,40,126.41
25,35,107.14	26,37,116.58	27,39,144.54	28,41,145.01
25,36,116.86	26,38,127.25	27,40,155.45	28,42,175.43
25,37,109.72	26,39,131.79	27,41,155.12	28,43,161.59
25,38,106.09	26,40,143.02	27,42,157.58	28,44,164.96
25,39,118.99	26,41,139.77	27,43,167.80	28,45,154.51
25,40,117.52	26,42,148.17	27,44,155.15	28,46,144.20
25,41,110.08	26,43,159.39	27,45,145.83	28,47,133.90
25,42,122.42	26,44,156.51	27,46,136.11	28,48,126.44
25,43,118.14	26,45,150.86	27,47,133.44	28,49,124.98
25,44,131.96	26,46,139.46	27,48,133.83	28,50,100.60
25,45,125.15	26,47,130.30	27,49,118.07	28,51,81.93
25,46,125.45	26,48,122.28	27,50,100.03	28,52,73.08
25,47,111.39	26,49,121.46	27,51,86.73	28,53,61.86
25,48,107.47	26,50,110.73	27,52,72.75	28,54,58.15
25,49,109.07	26,51,88.46	27,53,61.31	28,55,56.21
25,50,104.24	26,52,74.76	27,54,60.30	28,56,54.87
25,51,93.94	26,53,64.62	27,55,61.83	28,57,54.85
25,52,83.53	26,54,63.83	27,56,61.04	28,58,55.22
25,53,77.45	26,55,64.14	27,57,60.53	28,59,53.95
25,54,74.15	26,56,64.71	27,58,57.39	29,0,60.07
25,55,69.99	26,57,61.46	27,59,55.25	29,1,64.35
25,56,68.93	26,58,59.75	28,0,63.01	29,2,67.27
25,57,64.99	26,59,58.68	28,1,65.26	29,3,70.27
43,37,0 <b>7</b> .33	20,27,20.00	20,1,03.20	47,5,10.41

29,4,84.37	30,6,115.78	31,8,156.87	32,10,138.03
29,5,93.60	30,7,149.14	31,9,137.37	32,11,120.42
29,6,121.49	30,8,152.10	31,10,122.33	32,12,116.58
29,7,155.54	30,9,145.19	31,11,126.29	32,13,93.83
29,8,160.65	30,10,142.38	31,12,104.05	32,14,89.12
29,9,160.87	30,11,130.99	31,13,92.96	32,15,90.98
29,10,162.37	30,12,112.55	31,14,89.64	32,16,96.72
29,11,147.89	30,13,97.76	31,15,90.70	32,17,102.77
29,12,108.15	30,14,99.34	31,16,95.24	32,18,88.56
29,13,92.93	30,15,98.39	31,17,98.38	32,19,87.36
29,14,92.41	30,16,93.51	31,18,93.25	32,20,93.82
29,15,84.49	30,17,102.71	31,19,85.85	32,21,93.46
29,16,77.29	30,18,108.61	31,20,82.39	32,22,90.85
29,17,89.71	30,19,95.77	31,21,90.12	32,23,88.80
29,18,92.84	30,20,93.75	31,22,111.95	32,24,95.13
29,19,102.13	30,21,107.64	31,23,103.51	32,25,104.29
29,20,98.18	30,22,126.08	31,24,122.24	32,26,113.35
29,21,104.11	30,23,131.83	31,25,122.64	32,27,114.81
29,22,126.46	30,24,138.04	31,26,123.83	32,28,121.54
29,23,131.48	30,25,139.02	31,27,125.19	32,29,116.10
29,24,131.64	30,26,127.94	31,28,121.28	32,30,127.54
29,25,129.89	30,27,127.32	31,29,117.25	32,31,123.41
29,26,141.84	30,28,125.28	31,30,122.32	32,32,119.08
29,27,149.60	30,29,124.20	31,31,118.56	32,33,124.74
29,28,143.15	30,30,126.14	31,32,126.63	32,34,120.94
29,29,106.84	30,31,125.87	31,33,146.44	32,35,119.25
29,30,129.20	30,32,129.17	31,34,138.81	32,36,121.97
29,31,126.11	30,33,133.60	31,35,144.32	32,37,110.84
29,32,123.05	30,34,146.03	31,36,152.84	32,38,99.95
29,33,122.11	30,35,146.05	31,37,150.36	32,39,91.61
29,34,127.74	30,36,156.71	31,38,126.39	32,40,95.25
29,35,161.28	30,37,163.27	31,39,117.24	32,41,108.28
29,36,164.82	30,38,139.13	31,40,130.45	32,42,118.96
29,37,160.92	30,39,125.41	31,41,145.99	32,43,108.63
29,38,158.79	30,40,122.12	31,42,154.69	32,44,102.00
29,39,116.22	30,41,156.75	31,43,147.96	32,45,101.18
29,40,105.22	30,42,165.31	31,44,137.41	32,46,100.35
29,41,133.38	30,43,165.28	31,45,135.03	32,47,107.11
29,42,186.66	30,44,147.83	31,46,135.77	32,48,102.74
29,43,158.97	30,45,146.29	31,47,131.06	32,49,102.94
29,44,155.45	30,46,148.60	31,48,123.01	32,50,95.98
29,45,148.69	30,47,152.69	31,49,122.56	32,51,80.03
29,46,151.65	30,48,137.37	31,50,109.65	32,52,68.99
29,47,145.67	30,49,125.97	31,51,92.36	32,53,62.83
29,48,139.11	30,50,109.95	31,52,72.99	32,54,58.61
29,49,124.88	30,51,88.68	31,53,65.75	32,55,55.73
29,50,101.79	30,52,72.21	31,54,60.48	32,56,52.81
29,51,81.96	30,53,62.72	31,55,56.22	32,57,51.13
29,52,73.00	30,54,59.93	31,56,55.74	32,58,52.15
29,53,62.08	30,55,53.45	31,57,55.78	32,59,49.94
29,54,56.00	30,56,55.47	31,58,52.43	33,0,74.29
29,55,55.32	30,57,54.37	31,59,51.82	33,1,67.23
29,56,52.82	30,58,54.26	32,0,69.14	33,2,67.74
29,57,52.68	30,59,53.19	32,1,70.97	33,3,70.77
29,58,54.20	31,0,62.09	32,2,73.77	33,4,83.47
29,59,52.89	31,1,64.74	32,3,77.83	33,5,111.86
30,0,61.88	31,2,68.66	32,4,95.71	33,6,133.77
30,1,62.18	31,3,75.90	32,5,116.72	33,7,154.28
30,2,66.01	31,4,101.30	32,6,136.13	33,8,165.41
30,3,75.65	31,5,120.10	32,7,164.24	33,9,164.07
30,4,91.88	31,6,137.06	32,8,159.43	33,10,148.45
30,5,100.06	31,7,147.29	32,9,161.75	33,11,132.73
20,2,100.00	J 1,1,1 11.47	22,2,101.70	55,11,152.75

33,12,120.90	34,14,96.58	35,16,85.02	36,18,60.61
33,13,111.86	34,15,92.06	35,17,80.32	36,19,56.69
33,14,99.09	34,16,90.44	35,18,72.30	36,20,56.58
33,15,93.01	34,17,91.59	35,19,69.34	36,21,55.87
33,16,92.41	34,18,83.46	35,20,71.57	36,22,50.46
33,17,108.10	34,19,78.07	35,21,78.29	36,23,57.89
33,18,104.22	34,20,84.35	35,22,67.89	36,24,62.45
33,19,93.36	34,21,83.00	35,23,79.92	36,25,63.03
33,20,95.96	34,22,82.32	35,24,86.27	36,26,59.36
33,21,90.37	34,23,87.62	35,25,89.90	36,27,57.85
33,22,91.54	34,24,90.79	35,26,70.50	36,28,56.39
33,23,89.22	34,25,88.56	35,27,78.57	36,29,55.11
33,24,88.36	34,26,91.82	35,28,82.54	36,30,53.88
33,25,100.28	34,27,72.03	35,29,81.62	36,31,51.89
33,26,108.14	34,28,82.72	35,30,83.54	36,32,52.85
33,27,106.32	34,29,99.56	35,31,77.86	36,33,51.24
33,28,109.12	34,30,99.49	35,32,74.39	36,34,50.48
33,29,114.50	34,31,95.42	35,33,73.07	36,35,48.68
		35,34,67.08	
33,30,125.53	34,32,83.07		36,36,47.24
33,31,110.09	34,33,96.96	35,35,62.60	36,37,45.79
33,32,109.54	34,34,82.68	35,36,55.21	36,38,45.44
33,33,114.94	34,35,74.95	35,37,50.43	36,39,44.41
33,34,112.14	34,36,67.59	35,38,50.51	37,0,46.31
33,35,108.53	34,37,59.69	35,39,50.54	37,1,46.85
33,36,97.65	34,38,57.38	35,40,51.24	37,2,49.10
33,37,91.35	34,39,55.59	35,41,50.84	37,3,50.49
33,38,88.41	34,40,57.69	35,42,49.85	37,4,55.51
33,39,76.62	34,41,57.50	35,43,50.28	37,5,61.91
33,40,83.92	34,42,57.89	35,44,50.42	37,6,62.43
33,41,95.40	34,43,56.87	35,45,52.58	37,7,65.57
33,42,93.51	34,44,58.62	35,46,54.54	37,8,66.86
33,43,88.69	34,45,61.60	35,47,53.52	37,9,66.93
33,44,84.61	34,46,61.01	35,48,52.08	37,10,66.83
33,45,90.13	34,47,64.18	35,49,53.55	37,11,69.00
33,46,86.32	34,48,61.01	35,50,51.53	37,12,77.52
33,47,87.26	34,49,60.29	35,51,53.43	37,13,75.10
33,48,89.36	34,50,56.29	35,52,53.40	37,14,72.08
33,49,88.13	34,51,58.55	35,53,51.20	37,15,68.61
33,50,80.85	34,52,56.89	35,54,47.41	37,16,65.50
33,51,72.04	34,53,50.88	35,55,47.72	37,17,64.08
33,52,64.06	34,54,49.66	35,56,45.72	37,18,56.53
33,53,59.29	34,55,48.80	35,57,45.09	37,19,51.33
33,54,56.71	34,56,47.22	35,58,46.16	37,20,51.67
33,55,54.29	34,57,46.38	35,59,44.73	37,21,50.37
33,56,51.52	34,58,44.68	36,0,46.47	37,22,46.64
33,57,50.71	34,59,44.00	36,1,47.43	37,23,50.14
33,58,49.20	35,0,55.60	36,2,50.25	37,24,50.00
33,59,47.49	35,1,53.25	36,3,53.77	37,25,49.52
34,0,58.65	35,2,54.55	36,4,59.43	37,26,49.28
34,1,56.21	35,3,58.69	36,5,66.77	37,27,48.03
34,2,59.76	35,4,63.12	36,6,75.15	37,28,46.85
34,3,61.67	35,5,77.10	36,7,79.10	37,29,46.58
34,4,70.44	35,6,100.67	36,8,86.15	37,30,46.32
34,5,88.63	35,7,108.71	36,9,90.65	37,31,48.28
34,6,114.37	35,8,118.73	36,10,82.34	37,32,48.49
34,7,123.27	35,9,119.32	36,11,86.93	37,33,46.80
34,8,133.36	35,10,120.17	36,12,88.79	37,34,45.85
34,9,139.19	35,11,126.45	36,13,81.91	37,35,45.54
34,10,140.40	35,12,115.54	36,14,75.81	37,36,45.49
34,11,130.96	35,13,91.94	36,15,72.28	37,37,45.18
34,12,125.38	35,14,86.61	36,16,74.04	37,38,44.81
34,13,100.06	35,15,86.28	36,17,72.58	37,39,44.39
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	1 10 (2 05	2.0.59.76	4 22 72 97
CT LDT NODELL	1,18,62.85	3,0,58.76	4,22,72.87
START NORTH	1,19,57.23	3,1,50.98	4,23,69.46
CORNER	1,20,43.53	3,2,40.82	4,24,62.04
PADDOCK B	1,21,40.73	3,3,38.05	4,25,60.54
0,0,49.76	1,22,42.76	3,4,40.23	4,26,65.32
0,1,49.14	1,23,52.63	3,5,41.39	4,27,72.41
0,2,41.53	1,24,55.80	3,6,40.87	4,28,75.05
0,3,39.36	1,25,56.10	3,7,41.55	4,29,67.16
0,4,39.47	1,26,56.09	3,8,45.37	4,30,64.62
0,5,46.28	1,27,53.34	3,9,44.96	4,31,68.17
0,6,47.44	1,28,50.68	3,10,47.92	4,32,64.29
0,7,41.01	1,29,50.93	3,11,46.98	4,33,65.53
0,8,38.62	1,30,52.51	3,12,45.91	4,34,58.39
0,9,46.46	1,31,53.55	3,13,44.57	4,35,60.39
0,10,54.03	1,32,52.00	3,14,45.34	4,36,62.58
0,11,58.89	1,33,55.34	3,15,52.30	4,37,65.83
0,12,51.64	1,34,53.41	3,16,53.74	4,38,64.55
0,13,45.55	1,35,57.36	3,17,53.74	4,39,60.50
	1,36,58.22		
0,14,51.00		3,18,56.85	5,0,54.35
0,15,56.33	1,37,62.63	3,19,57.23	5,1,44.61
0,16,53.04	1,38,61.44	3,20,58.25	5,2,42.92
0,17,54.91	1,39,57.54	3,21,64.09	5,3,45.17
0,18,58.54	2,0,56.43	3,22,67.33	5,4,47.95
0,19,53.30	2,1,51.62	3,23,62.98	5,5,48.95
0,20,41.96	2,2,41.45	3,24,58.64	5,6,46.79
0,21,43.17	2,3,38.06	3,25,67.33	5,7,48.52
0,22,45.29	2,4,42.66	3,26,71.17	5,8,49.61
0,23,49.51	2,5,40.86	3,27,75.81	5,9,50.93
0,24,52.15	2,6,38.18	3,28,68.93	5,10,54.68
0,25,55.78	2,7,37.49	3,29,59.72	5,11,53.48
0,26,49.01	2,8,39.56	3,30,63.45	5,12,50.63
0,27,44.35	2,9,43.92	3,31,60.15	5,13,48.36
0,28,49.42	2,10,47.92	3,32,63.73	5,14,44.73
0,29,50.57	2,11,48.00	3,33,59.59	5,15,45.62
0,30,50.56	2,12,47.61	3,34,56.08	5,16,44.46
0,31,52.97	2,13,44.80	3,35,58.83	5,17,45.54
0,32,48.63	2,14,48.05	3,36,63.30	5,18,45.60
0,33,55.20	2,15,52.18	3,37,67.42	5,19,51.01
0,34,53.04	2,16,58.29	3,38,62.26	5,20,58.60
0,35,54.06	2,17,62.67	3,39,67.90	5,21,65.46
0,36,57.16	2,18,57.56	4,0,59.32	5,22,66.58
0,37,64.30	2,19,60.91	4,1,46.73	5,23,64.31
0,38,66.57	2,20,50.05	4,2,41.42	5,24,63.60
0,39,67.69	2,21,56.38	4,3,43.61	5,25,56.07
1,0,51.65	2,22,64.31	4,4,45.84	5,26,74.29
1,1,49.37	2,23,62.83	4,5,47.00	5,27,77.56
1,2,42.43	2,24,62.67	4,6,46.06	5,28,71.83
1,3,37.27	2,25,73.62	4,7,47.23	5,29,70.89
1,4,39.36	2,26,68.94	4,8,47.83	5,30,65.19
1,5,38.02	2,27,64.20	4,9,49.91	5,31,72.79
1,6,39.33	2,28,60.57	4,10,54.26	5,32,68.86
1,7,36.08	2,29,54.45	4,11,51.36	5,33,65.68
1,8,35.49	2,30,56.56	4,12,50.14	5,34,62.19
1,9,41.44	2,31,58.78	4,13,47.08	5,35,65.92
1,10,48.56	2,32,57.27	4,14,45.06	5,36,66.55
1,11,51.22	2,33,58.96	4,15,48.92	5,37,67.50
1,12,45.93	2,34,57.08	4,16,45.01	5,38,66.17
1,13,45.86	2,35,58.71	4,17,50.25	5,39,58.44
1,14,47.72	2,36,59.72	4,18,45.73	6,0,47.94
1,15,55.46	2,37,63.49	4,19,49.94	6,1,44.18
1,16,59.30	2,38,61.24	4,20,58.59	6,2,44.75
1,17,61.87	2,39,45.22	4,21,66.57	6,3,46.95
-,-,-,,-	=,0,0,10.22	.,_1,00.07	0,0,10.75

6,4,47.59	7,26,63.29	9,8,46.81	10,30,65.77
6,5,48.20	7,27,72.92	9,9,48.48	10,31,65.28
6,6,48.86	7,28,83.94	9,10,50.48	10,32,57.22
6,7,50.67	7,29,72.90	9,11,48.43	10,33,57.17
6,8,51.62	7,30,78.11	9,12,47.66	10,34,59.14
6,9,52.62	7,31,70.51	9,13,48.18	10,35,64.05
6,10,59.63	7,32,61.71	9,14,43.26	10,36,60.41
6,11,58.36	7,33,66.99	9,15,41.91	10,37,57.70
6,12,52.87	7,34,65.99	9,16,44.82	10,38,50.19
6,13,54.12	7,35,64.20	9,17,46.42	10,39,48.01
6,14,44.64	7,36,56.04	9,18,46.00	11,0,55.17
6,15,43.88	7,37,57.53	9,19,52.96	11,1,53.16
6,16,45.71	7,38,50.43	9,20,52.59	11,2,50.07
6,17,47.69	7,39,43.59	9,21,54.01	11,3,47.82
6,18,48.33	8,0,51.05	9,22,54.34	11,4,48.43
6,19,51.41	8,1,47.76	9,23,58.93	11,5,49.59
6,20,59.39	8,2,47.54	9,24,58.18	11,6,48.18
6,21,60.57	8,3,53.31	9,25,50.59	11,7,49.52
6,22,61.90	8,4,53.59	9,26,58.08	11,8,41.60
6,23,63.68	8,5,57.75	9,27,66.94	11,9,45.70
6,24,65.13	8,6,54.44	9,28,69.80	11,10,48.07
6,25,60.42	8,7,57.57	9,29,70.98	11,11,44.83
6,26,72.69		9,30,70.44	11,12,43.72
	8,8,55.36		
6,27,74.92	8,9,50.81	9,31,72.69	11,13,43.42
6,28,88.27	8,10,51.82	9,32,68.05	11,14,43.60
6,29,73.17	8,11,50.64	9,33,69.11	11,15,38.82
6,30,70.82	8,12,50.81	9,34,59.15	11,16,40.25
6,31,66.64	8,13,50.08	9,35,57.53	11,17,43.30
6,32,63.96	8,14,44.06	9,36,56.57	11,18,43.30
6,33,66.28	8,15,43.57	9,37,50.68	11,19,45.37
6,34,65.37	8,16,43.33	9,38,45.49	11,20,50.13
6,35,61.53	8,17,46.23	9,39,41.55	11,21,57.48
6,36,61.50	8,18,46.93	10,0,54.92	11,22,53.84
6,37,62.38	8,19,57.08	10,1,52.08	11,23,57.13
6,38,57.33	8,20,58.87	10,2,48.82	11,24,53.75
6,39,51.13	8,21,57.54	10,3,49.15	11,25,61.37
7,0,46.33	8,22,58.52	10,4,50.21	11,26,55.25
7,1,46.38	8,23,62.09	10,5,50.31	11,27,62.02
7,2,46.52	8,24,60.10	10,6,48.98	11,28,64.29
7,3,48.04	8,25,58.34	10,7,46.87	11,29,65.55
7,4,50.26	8,26,60.15	10,8,46.12	11,30,60.47
7,5,53.71	8,27,65.40	10,9,47.20	11,31,59.83
7,6,51.45	8,28,78.96	10,10,47.39	11,32,61.48
7,7,51.88	8,29,71.05	10,11,48.88	11,33,63.30
7,8,49.35	8,30,74.60	10,12,43.91	11,34,61.18
7,9,55.26	8,31,78.11	10,13,43.12	11,35,65.63
7,10,59.36	8,32,69.98	10,14,42.11	11,36,63.24
7,11,57.91	8,33,64.74	10,15,39.97	11,37,62.75
7,12,53.98	8,34,62.78	10,16,40.75	11,38,55.07
7,13,50.54	8,35,65.59	10,17,41.72	11,39,47.80
7,14,44.91	8,36,59.74	10,18,41.86	12,0,52.62
7,15,44.02	8,37,50.13	10,19,44.69	12,1,51.06
7,16,46.10	8,38,44.76	10,20,49.03	12,2,52.54
7,17,48.28	8,39,40.70	10,21,51.92	12,3,46.38
7,18,49.03	9,0,52.69	10,22,54.00	12,4,44.47
		10,23,57.62	
7,19,54.97	9,1,50.94		12,5,45.14
7,20,64.83	9,2,49.28	10,24,53.31	12,6,45.39
7,21,63.37	9,3,51.44	10,25,54.04	12,7,52.83
7,22,60.54	9,4,53.38	10,26,57.70	12,8,50.81
7,23,67.29	9,5,51.67	10,27,58.56	12,9,48.73
	9,6,48.45	10,28,60.47	12,10,49.49
7,24,65.02			
7,25,59.82	9,7,51.05	10,29,63.40	12,11,47.79

12,12,50.51	13,34,59.62	15,16,42.04	16,38,49.15
12,13,46.79	13,35,64.34	15,17,40.67	16,39,51.45
12,14,43.34	13,36,55.85	15,18,43.36	17,0,45.32
12,15,44.36	13,37,56.06	15,19,44.16	17,1,49.61
12,16,42.05	13,38,55.68	15,20,45.81	17,2,51.11
12,17,42.21	13,39,50.55	15,21,44.03	17,3,46.94
12,18,42.58	14,0,47.05	15,22,48.42	17,4,46.16
12,19,45.08	14,1,54.71	15,23,58.76	17,5,47.60
12,20,49.52	14,2,54.44	15,24,59.11	17,6,50.86
12,21,60.56	14,3,49.40	15,25,59.24	17,7,50.12
12,22,63.75	14,4,48.06	15,26,60.16	17,8,50.50
12,23,53.51	14,5,49.18	15,27,61.31	17,9,47.86
12,24,56.16	14,6,50.57	15,28,63.74	17,10,48.37
12,25,56.08	14,7,54.53	15,29,59.42	17,11,48.24
12,26,56.43	14,8,51.98	15,30,57.48	17,12,53.20
12,27,56.39	14,9,53.96	15,31,58.51	17,13,52.09
12,28,64.18	14,10,51.25	15,32,64.36	17,14,50.86
12,29,61.73	14,11,59.54	15,33,57.80	17,15,49.47
12,30,59.42	14,12,58.82	15,34,64.63	17,16,43.27
12,31,55.21	14,13,51.19	15,35,57.91	17,17,41.03
12,32,60.61	14,14,44.51	15,36,54.81	17,18,38.50
12,33,57.85	14,15,43.51	15,37,54.04	17,19,41.12
12,34,57.79	14,16,40.93	15,38,46.98	17,20,43.55
12,35,63.60	14,17,42.19	15,39,44.56	17,21,42.20
12,36,60.42	14,18,42.49	16,0,45.00	17,22,43.33
12,37,57.06	14,19,44.45	16,1,50.24	17,23,45.64
12,38,55.55	14,20,46.53	16,2,53.86	17,24,47.49
12,39,53.86	14,21,46.23	16,3,49.25	17,25,46.20
13,0,53.55	14,22,53.03	16,4,44.60	17,26,45.98
13,1,51.74	14,23,56.55	16,5,46.29	17,27,45.35
13,2,48.96	14,24,57.24	16,6,51.31	17,28,44.01
13,3,45.65	14,25,57.15	16,7,50.68	17,29,43.89
13,4,48.46	14,26,57.02	16,8,49.68	17,30,43.63
13,5,48.32	14,27,64.54	16,9,50.32	17,31,46.81
13,6,46.65	14,28,65.85	16,10,49.31	17,32,46.53
13,7,52.82	14,29,63.13	16,11,50.60	17,33,47.18
13,8,53.70	14,30,61.43	16,12,50.51	17,34,53.77
13,9,50.24	14,31,63.49	16,13,53.21	17,35,48.07
13,10,50.29	14,32,62.24	16,14,46.76	17,36,49.60
13,11,53.28	14,33,62.73	16,15,46.74	17,37,49.79
13,12,56.83	14,34,63.12	16,16,42.24	17,38,50.30
13,13,48.45	14,35,63.46	16,17,41.20	17,39,51.85
13,14,45.95	14,36,53.54	16,18,39.90	18,0,44.36
13,15,43.99	14,37,54.54	16,19,41.05	18,1,44.63
13,16,41.34	14,38,48.01	16,20,44.89	18,2,47.60
13,17,41.91	14,39,45.15	16,21,44.09	18,3,45.75
13,18,43.88	15,0,45.21	16,22,43.17	18,4,45.28
13,19,46.69	15,1,52.72	16,23,50.13	18,5,44.25
13,20,49.10	15,2,54.69	16,24,57.74	18,6,46.34
13,21,54.53	15,3,49.66	16,25,57.12	18,7,46.96
13,22,59.53	15,4,46.99	16,26,57.44	18,8,47.26
13,23,56.64	15,5,45.74	16,27,54.56	18,9,46.58
13,24,52.42	15,6,50.22	16,28,56.33	18,10,46.26
13,25,61.14	15,7,53.86	16,29,53.42	18,11,47.73
13,26,60.13	15,8,50.84	16,30,48.42	18,12,57.09
13,27,57.80	15,9,54.19	16,31,50.43	18,13,56.43
13,28,62.93	15,10,49.57	16,32,54.22	18,14,50.69
13,29,62.10	15,11,52.55	16,33,48.34	18,15,46.46
13,30,59.54	15,12,56.20	16,34,55.99	18,16,42.42
13,31,57.00	15,13,50.70	16,35,55.17	18,17,39.60
13,32,59.52	15,14,45.02	16,36,51.40	18,18,39.66
13,33,58.30	15,15,45.99	16,37,48.96	18,19,39.20
-5,55,55,50	,,,	- 0,0 / , . 0.2 0	10,17,07.20

18,20,39.77	20,2,42.08	21,24,29.98	23,6,41.28
18,21,39.49	20,3,42.28	21,25,29.62	23,7,41.00
18,22,38.85	20,4,40.66	21,26,29.43	23,8,41.23
18,23,38.76	20,5,44.53	21,27,28.56	23,9,38.47
18,24,39.82	20,6,45.13	21,28,28.48	23,10,36.31
18,25,36.91	20,7,46.87	21,29,28.35	23,11,36.05
18,26,37.99	20,8,48.10	21,30,28.47	23,12,36.01
18,27,37.35	20,9,49.47	21,31,28.65	23,13,35.58
18,28,34.99	20,10,44.97	21,32,29.58	23,14,34.26
18,29,35.57	20,11,52.96	21,33,29.93	23,15,33.66
18,30,36.85	20,12,53.41	21,34,30.51	23,16,32.58
18,31,38.08	20,13,48.18	21,35,32.65	23,17,30.93
18,32,38.87	20,14,44.43	21,36,34.67	23,18,30.38
18,33,40.92	20,15,40.62	21,37,38.99	23,19,29.32
18,34,44.85	20,16,39.68	21,38,42.91	23,20,29.08
18,35,46.90	20,17,37.14	21,39,43.08	23,21,28.30
18,36,45.76	20,18,34.58	22,0,34.73	23,22,27.30
18,37,47.81	20,19,35.51	22,1,35.37	23,23,26.94
18,38,46.48	20,20,33.92	22,2,36.82	23,24,27.41
18,39,50.56	20,21,33.13	22,3,39.48	23,25,27.41
19,0,45.09	20,22,32.05	22,4,40.76	23,26,27.57
19,1,43.18	20,23,31.32	22,5,41.79	23,27,27.66
19,2,44.85	20,24,31.47	22,6,44.66	23,28,27.59
19,3,44.46	20,25,31.43	22,7,44.70	23,29,28.05
19,4,43.15	20,26,31.15	22,8,42.31	23,30,28.25
19,5,45.75	20,27,30.08	22,9,40.45	23,31,28.08
19,6,45.13	20,28,29.45	22,10,39.45	23,32,27.36
19,7,45.69	20,29,29.51	22,11,39.71	23,33,26.81
19,8,46.84	20,30,29.62	22,12,39.20	23,34,27.51
19,9,45.46	20,31,30.18	22,13,37.72	23,35,28.00
	20,32,31.10	22,14,37.17	23,36,29.73
19,10,48.86			
19,11,53.56	20,33,31.39	22,15,35.22	23,37,32.12
19,12,60.67	20,34,32.81	22,16,34.12	23,38,33.80
19,13,55.90	20,35,35.49	22,17,32.12	23,39,32.34
19,14,50.48	20,36,38.80	22,18,31.43	24,0,32.43
19,15,45.49	20,37,43.28	22,19,31.62	24,1,31.51
19,16,41.74	20,38,46.99	22,20,30.15	24,2,33.87
19,17,38.71	20,39,48.53	22,21,29.19	24,3,35.12
19,18,37.54	21,0,36.16	22,22,28.62	24,4,37.78
19,19,37.28	21,1,38.12	22,23,28.02	24,5,38.98
19,20,36.85	21,2,39.99	22,24,28.22	24,6,40.00
19,21,35.91	21,3,40.48	22,25,28.16	24,7,38.71
19,22,35.67	21,4,42.91	22,26,28.17	24,8,36.21
19,23,34.58	21,5,41.72	22,27,27.46	24,9,32.01
19,24,34.84	21,6,44.21	22,28,27.59	24,10,31.55
19,25,33.73	21,7,45.86	22,29,27.88	24,11,31.17
19,26,34.47	21,8,46.39	22,30,27.85	24,12,30.96
19,27,32.72	21,9,45.23	22,31,28.19	24,13,31.76
19,28,31.45	21,10,44.07	22,32,27.61	24,14,31.49
19,29,31.75	21,11,48.54	22,33,28.98	24,15,30.44
19,30,32.90	21,12,49.56	22,34,27.69	24,16,29.65
19,31,33.46	21,13,45.58	22,35,29.97	24,17,28.74
19,32,34.58	21,14,41.04	22,36,31.49	24,18,28.76
19,33,36.68	21,15,38.49	22,37,34.04	24,19,27.20
19,34,41.57	21,16,38.14	22,38,35.98	24,20,27.34
19,35,45.32	21,17,34.47	22,39,34.48	24,21,27.08
19,36,45.31	21,18,34.71	23,0,32.88	24,22,26.65
19,37,46.07	21,19,33.87	23,1,33.07	24,23,26.20
19,38,47.42	21,20,32.20	23,2,37.23	24,24,26.68
19,39,48.25	21,21,31.80	23,3,38.28	24,25,27.11
20,0,41.85	21,22,30.63	23,4,41.58	24,26,27.64
20,1,42.50	21,23,29.83	23,5,41.05	24,27,27.82
20,1,72.30	41,43,49.03	43,3, <b>T1.U</b> 3	47,41,41.04

24,28,28.51	26,10,26.13	27,32,28.11	29,14,24.71
24,29,28.71	26,11,25.46	27,33,29.03	29,15,24.55
24,30,28.61	26,12,25.48	27,34,30.42	29,16,25.27
24,31,28.18	26,13,26.26	27,35,32.37	29,17,25.86
24,32,28.38	26,14,26.53	27,36,36.48	29,18,26.76
24,33,27.83	26,15,26.21	27,37,39.49	29,19,29.19
24,34,27.96	26,16,26.39	27,38,38.80	29,20,31.40
24,35,27.82	26,17,26.89	27,39,37.37	29,21,32.26
24,36,29.16	26,18,26.72	28,0,30.17	29,22,33.45
24,37,31.26	26,19,26.86	28,1,29.40	29,23,33.60
24,38,33.32	26,20,26.70	28,2,28.25	29,24,34.29
24,39,30.92	26,21,27.10	28,3,26.79	29,25,35.17
25,0,29.76	26,22,27.09	28,4,26.43	29,26,35.70
25,1,30.74	26,23,27.58	28,5,25.78	29,27,36.42
25,2,31.16	26,24,27.81	28,6,25.62	29,28,37.13
25,3,32.99	26,25,27.75	28,7,24.97	29,29,36.43
25,4,35.91	26,26,28.66	28,8,24.25	29,30,35.81
25,5,37.09	26,27,28.61	28,9,23.64	29,31,34.62
25,6,37.08	26,28,29.01	28,10,23.20	29,32,34.35
25,7,34.29	26,29,28.51	28,11,23.05	29,33,35.96
25,8,33.26	26,30,28.30	28,12,23.53	29,34,44.26
	26,31,28.24	28,13,24.12	29,35,49.78
25,9,29.59			
25,10,29.37	26,32,27.96	28,14,24.76	29,36,54.41
25,11,29.25	26,33,29.21	28,15,25.19	29,37,57.50
25,12,28.93	26,34,30.61	28,16,25.76	29,38,65.07
25,13,29.85	26,35,30.94	28,17,25.94	29,39,67.42
25,14,29.68	26,36,32.52	28,18,27.48	30,0,30.30
25,15,28.76	26,37,36.12	28,19,29.00	30,1,29.91
25,16,28.38	26,38,35.50	28,20,31.02	30,2,28.45
25,17,28.20	26,39,34.20	28,21,30.98	30,3,25.90
25,18,27.73	27,0,27.79	28,22,31.01	30,4,24.70
25,19,27.45	27,1,28.13	28,23,31.17	30,5,24.49
25,20,26.82	27,2,29.22	28,24,31.65	30,6,24.63
25,21,26.70	27,3,28.39	28,25,32.45	30,7,24.60
25,22,26.52	27,4,27.51	28,26,32.97	30,8,24.31
25,23,26.61	27,5,28.96	28,27,32.49	30,9,23.39
25,24,26.82	27,6,28.37	28,28,32.80	30,10,22.73
25,25,27.35	27,7,27.19	28,29,32.86	30,11,22.63
25,26,27.87	27,8,26.34	28,30,31.82	30,12,23.55
25,27,27.55	27,9,25.58	28,31,30.90	30,13,23.50
25,28,28.84	27,10,24.56	28,32,30.92	30,14,23.36
25,29,28.49	27,11,24.75	28,33,32.37	30,15,24.12
	27,12,24.26		30,16,24.76
25,30,28.24		28,34,37.01	
25,31,28.12	27,13,24.33	28,35,41.66	30,17,25.39
25,32,28.97	27,14,25.21	28,36,51.63	30,18,26.14
25,33,28.75	27,15,25.59	28,37,55.76	30,19,28.56
25,34,29.10	27,16,25.86	28,38,56.86	30,20,31.09
25,35,28.86	27,17,26.15	28,39,54.43	30,21,33.01
25,36,30.00	27,18,26.48	29,0,30.15	30,22,37.05
25,37,32.07	27,19,27.16	29,1,29.94	30,23,36.69
25,38,33.16	27,20,27.73	29,2,28.27	30,24,40.03
25,39,31.18	27,21,28.03	29,3,26.75	30,25,43.29
26,0,27.71	27,22,27.57	29,4,25.96	30,26,43.33
26,1,28.30	27,23,28.46	29,5,25.07	30,27,50.35
26,2,29.90	27,24,28.67	29,6,25.38	30,28,46.21
26,3,29.36	27,25,28.35	29,7,24.64	30,29,49.96
26,4,30.34	27,26,29.45	29,8,24.31	30,30,47.95
26,5,31.35	27,27,29.60	29,9,23.55	30,31,51.52
26,6,30.75	27,28,29.32	29,10,23.10	30,32,46.47
26,7,29.08	27,29,29.08	29,11,23.04	30,33,51.15
26,8,28.00	27,30,28.61	29,12,23.58	30,34,58.53
26,9,26.41	27,31,28.62	29,13,23.68	30,35,71.20
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30,36,78.93	32,18,27.32	34,0,22.95	35,22,24.47
30,37,70.52	32,19,28.41	34,1,22.24	35,23,24.45
30,38,67.66	32,20,30.75	34,2,21.95	35,24,26.67
30,39,66.66	32,21,31.57	34,3,21.70	35,25,27.09
31,0,28.78	32,22,31.81	34,4,21.61	35,26,30.58
31,1,27.94	32,23,34.01	34,5,22.00	35,27,31.17
31,2,27.32	32,24,37.47	34,6,22.10	35,28,39.42
31,3,25.45	32,25,43.34	34,7,22.28	35,29,50.77
31,4,24.28	32,26,54.65	34,8,22.16	35,30,53.30
31,5,24.53	32,27,84.41	34,9,22.69	35,31,54.60
31,6,24.47	32,28,79.41	34,10,23.47	35,32,44.85
		34,11,24.61	35,33,49.42
31,7,24.42	32,29,76.96		
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31,11,23.09	32,33,45.44	34,15,24.67	35,37,73.61
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31,22,35.30	33,4,22.71	34,26,35.65	36,8,20.36
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32,3,24.27	33,25,35.52	35,7,21.32	36,29,32.41
32,4,23.83	33,26,54.30	35,8,21.72	36,30,29.56
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37,24,24.04	39,6,20.87
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37,26,23.38	39,8,21.70
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37,38,45.84	39,20,22.95
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38,24,23.05	
29 25 22 24	

38,25,23.34

## APPENDIX 5

# STATHERN GEOPHYSICS REPORT COOMBS MEADOW 2023

# Stathern Hall 2 Leicestershire 13-08-2023

**GEOPHYSICAL SURVEY** 

PETER & AILEEN BALL

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#### Acknoledgements.

Thanks to:

Leicestershire & Rutland Wildlife Trust for permission to survey Coombs Meadow Geoff Kimbell for Plates

Field Detectives members for their assistance in surveying.

This report dated September 2023.

This document is the result of research for a non-commercial purpose.

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Nature Reserve, Coombs Meadow, Stathern, Leics LE14 4HG

1 **Project Title:** Stathern Hall 2

Dates of survey: 13 August 2023 County: Leicestershire

Parish: Stathern

**Grid Reference**: SK7750/3069

**Site Type:** Probable large hall attributed to Colonel Hacker

1.1 **Survey undertaken for:** Field Detectives

**Surveyor:** Peter and Aileen Ball,

South Witham Archaeological Group

1.2 **Solid Geology:** Boulder clay covered with a sandy silt colluvium deposit

#### 2 **Purpose of Survey**

To search for evidence through geophysical means for areas of 'potential archaeological interest' and to confirm the existence of any buried structural remains that may be associated with the documented Stathern Hall

#### 3 Report Details

Title: Stathern Hall 2

Author: Peter and Aileen Ball, South Witham Archaeological Group

Date: September 2023

Number:

**Held by:** Peter and Aileen Ball, Field Detectives

#### 3.1 Summary of report findings

The resistance survey and subsequent interpretation of the results suggests that several anomalies of 'potential archaeological interest' have been located within the surveyed area. The survey in Coombs Meadow revealed the location of possible building remains in the SE corner, and also possible metalled surface to the sunken feature to the East..

All the anomalies detected have the potential to be geological in origin.

#### 3.2 Archaeological Feature Classifications Covered

#### Possible building

#### 3.3 Geophysical Techniques Used

**Survey type:** Resistance. Recorded grid

Area surveyed: 1424 sq. metres

**Traverse separation:** 1m **Reading interval:** 1m

**Instrument type:** Resistance meter.

Instrument make: TR Systems
Electrode configuration: Twin probe
0.5m
Range setting: 200 Ohms.

Range setting: 200 Ohms. Acquisition time: 1.5 seconds

Land use: Coombs Meadow Nature Reserve

Weather: Mild with occasional drizzle

#### 3.4 Principles of resistance surveying

The basis for this method is that electric currents are fed into the ground and the resistance to the flow of these currents is measured. Where they 'meet' buried wall foundations high resistance readings are recorded, while if silted-up ditches (which tend to be wetter than the surroundings) are encountered, low resistance readings ensue. By mapping zones of high and low resistance it is possible to identify, for example, the layout of buildings or the size and orientation of a ditched enclosure.

(Gaffney, C. & Gater, J. 'Revealing The Buried Past' Tempus Publishing, 2003).

#### 3.5 Known limitations of the survey technique

Resistivity surveying measures only high and low contact resistance in the soil, which can vary considerably, depending on the moisture present in the ground. The instruments used do not distinguish between archaeology and geology. Post-survey interpretation of the results is vital in the understanding of what the survey shows.

#### 4 The geophysical (resistance) survey of Stathern Hall 2, Leics

#### 4.1 The Survey

The geophysical (resistance) survey was carried out within an area where a resistance survey had previously been carried out in November 1999 (Roberts P 14<sup>th</sup> November 1999, Leicestershire County Council, Norman Fahy et al.) The earlier survey covered four fields, and one of these was Coombs Meadow. The results from the 2023 survey in this area are similar to those from the 1999 survey but cover a slightly different area on a different alignment.

The geophysical survey was carried out over one day. The ground conditions in Coombs Meadow were good for resistance surveying, but the good contrast expected did not materialise. The survey has been tied-in to local features. It is re-locatable and repeatable.

#### 4.2 Data collection and processing

The survey was carried out using a TR Systems resistance meter using the standard remote twin-probe array. Fixed and mobile electrode spacing was set to 0.5m. Reading acquisition time was set to 1.5 seconds at 200 Ohms.

The data was logged in the meter and downloaded back at base onto a PC running TR Systems software for handling the raw data information. Further processing of the data was carried out using Snuffler software (University of Sussex). QGIS software was used to georeference and display the results.

The report has been forwarded to the Field Detectives digitally.

The plot is displayed in it's original raw data form and as several processed plots.

#### 5 **Interpretation of the results** (see plate 5)

The North-West portion showed consistently low readings, with no obvious structural remains. The high readings in the North East area are consistent with the sunken road, and possible interference from the trees. The South-East section indicates structural remains or demolition rubble. Five black rectangles on Plate 4 show previous trenches, though their accurate positions are not known. (Mouraille R.M., HND 2005 'Stathern Hall and grounds. Evaluations report.')

The apparent unevenness of edges to several of the anomalies is not expected to represent their exact shape in the ground. The unevenness is likely to be caused by demolition deposits or rubble spreads over the features. In extreme cases these deposits can mask the true form of the features and show just as an area of high resistance with no form.

#### 6. Conclusions

The purpose of the survey was to search for evidence using non-intrusive geophysical techniques for areas of any buried structural remains that may be associated with Stathern Hall

The resistance survey has shown that there are some high resistance anomalies that may indicate building remains in the area.



Figure 1 Location of Stathern, Leicestershire



Figure 2 Location of site in Stathern, Leicestershire

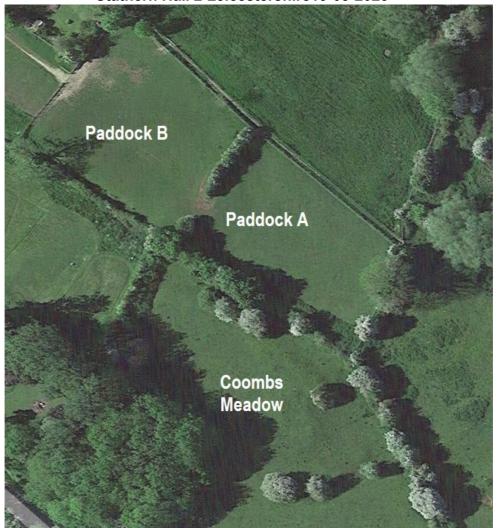


Plate 1 Location of site from air, related to April 2023 survey



Plate 2 1999 reistivity with trenches, compared to 2023 resistivity

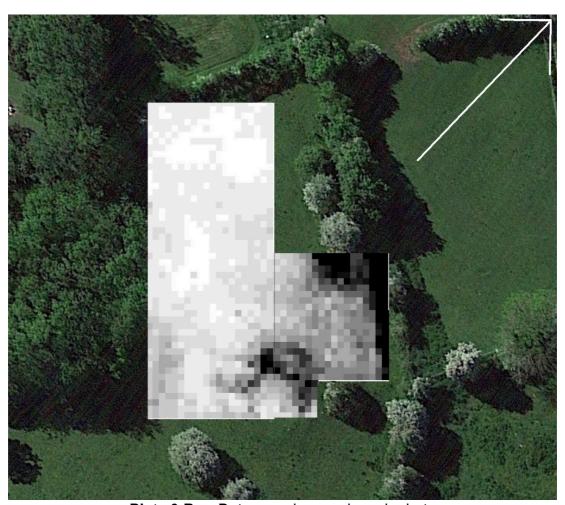
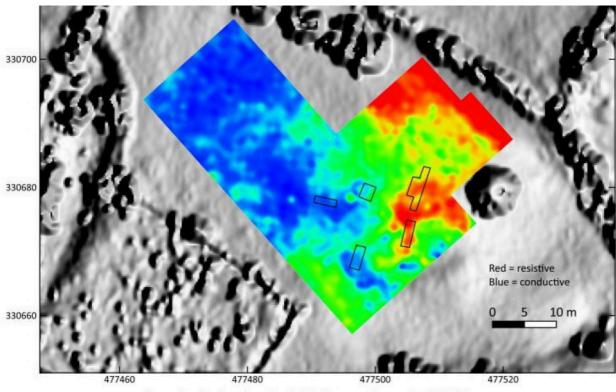


Plate 3 Raw Data superimposed on air photo



Interpolated and recoloured resistivity data superimposed on 2017 lidar

Plate 4 Colour Resistivity on Lidar, showing possible previous trench positions (Blue low resistance, red high resistance)

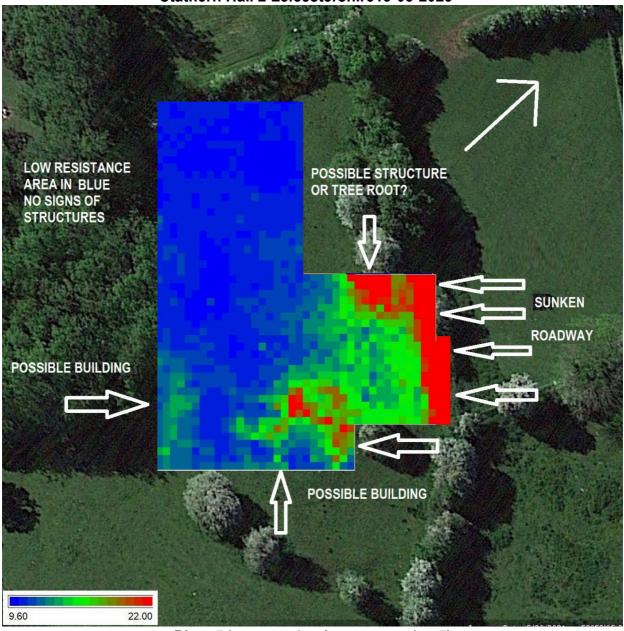


Plate 5 Interpretation (see text section 5)

# Stathern Hall 2 Leicestershire13-08-2023 Data statistics

All statistics based on raw data.

Area surveyed Coombs Meadow: 1424 Sq.M Readings total: 1424 Max. reading 40.710 Min. reading 9,685 Mean 13.175 Std. Dev. 4.491

#### References

Gaffney, C. & Gater, J. 2003 'Revealing The Buried Past' Tempus Publishing. Mouraille R.M., HND 2005 'Stathern Hall and grounds. Evaluations report'. (Roberts P 14<sup>th</sup> November 1999, Leicestershire County Council, Norman Fahy et al.)

#### **Contacts**

P & A Ball 9, Wimberley Way South Witham Lincs NG33 5PU

Email: <u>aandpball@hotmail.com</u>

DATA	1,12,11.95	2,25,10.46	3,38,10.99
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1,11,12.11	2,24,10.37	3,37,10.95	5,0,11.90

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5,17,11.42	6,31,10.30	7,45,9.88	9,9,10.97
5,18,10.94	6,32,10.59	7,46,10.38	9,10,11.79
5,19,10.23	6,33,10.67	7,47,10.60	9,11,11.25
5,20,10.23	6,34,10.76	7,48,10.95	9,12,11.21
5,21,9.96	6,35,10.53	7,49,10.78	9,13,11.16
5,22,9.73	6,36,10.45	8,0,11.27	9,14,10.82
5,23,10.23	6,37,10.62	8,1,10.95	9,15,11.14
5,24,10.61	6,38,10.66	8,2,10.99	9,16,11.03
5,25,10.82	6,39,10.30	8,3,10.94	9,17,10.72
5,26,10.56	6,40,10.35	8,4,10.44	9,18,10.63
5,27,10.61	6,41,10.00	8,5,10.64	9,19,10.55
5,28,10.40	6,42,10.10	8,6,10.71	9,20,10.51
5,29,10.71	6,43,10.03	8,7,10.71	9,21,10.14
5,30,10.48	6,44,10.02	8,8,10.77	9,22,10.02
5,31,10.98	6,45,10.39	8,9,10.76	9,23,10.10
5,32,10.55	6,46,10.09	8,10,10.73	9,24,10.04
5,33,10.81	6,47,10.38	8,11,11.46	9,25,10.02
5,34,10.51	6,48,10.73	8,12,11.41	9,26,10.07
5,35,10.28	6,49,11.08	8,13,11.41	9,27,10.04
5,36,10.26	7,0,12.26	8,14,11.02	9,28,10.11
5,37,10.58	7,1,11.40	8,15,10.93	9,29,10.45
5,38,10.39	7,2,12.09	8,16,10.66	9,30,10.28
5,39,10.55	7,3,11.74	8,17,10.86	9,31,10.49
5,40,10.35	7,4,10.48	8,18,10.78	9,32,10.79
5,41,10.22	7,5,10.72	8,19,10.71	9,33,10.53
5,42,10.02	7,6,10.74	8,20,10.03	9,34,10.77
5,43,9.83	7,7,10.99	8,21,9.87	9,35,10.79
5,44,10.17	7,8,10.75	8,22,9.85	9,36,10.36
5,45,10.39	7,9,10.64	8,23,9.85	9,37,10.74
5,46,10.43	7,10,10.59	8,24,9.69	9,38,10.58
5,47,10.85	7,11,11.39	8,25,10.08	9,39,10.49
5,48,10.95	7,12,11.39	8,26,10.11	9,40,10.07
5,49,11.13	7,13,11.08	8,27,9.99	9,41,10.01
6,0,12.55	7,14,11.21	8,28,10.08	9,42,10.02
6,1,11.73	7,15,11.11	8,29,10.14	9,43,10.53
6,2,11.97	7,16,11.26	8,30,10.42	9,44,10.34
6,3,11.70	7,17,11.04	8,31,10.39	9,45,10.60
6,4,11.01	7,18,11.00	8,32,10.88	9,46,10.24
6,5,10.40	7,19,10.47	8,33,10.97	9,47,10.66
6,6,11.11	7,20,10.42	8,34,10.57	9,48,10.44
6,7,10.67	7,21,10.37	8,35,10.69	9,49,10.40
6,8,10.55	7,22,11.19	8,36,10.45	10,0,12.57
6,9,10.93	7,23,9.94	8,37,10.53	10,1,10.88
6,10,11.34	7,24,9.84	8,38,10.68	10,2,11.71
6,11,11.39	7,25,9.95	8,39,10.34	10,3,11.80
6,12,11.64	7,26,9.94	8,40,10.18	10,4,11.27
6,13,10.93	7,27,9.93	8,41,10.05	10,5,13.36
6,14,11.57	7,28,10.18	8,42,9.96	10,6,12.27
		12	

,	Stathern Hall Z L	eicesterstille 13-00-2023	
10,7,11.63	11,21,10.91	12,35,10.75	13,49,10.49
10,8,11.50	11,22,11.22	12,36,10.84	14,0,12.58
10,9,11.30	11,23,10.67	12,37,10.86	14,1,11.32
10,10,12.01	11,24,10.52	12,38,10.34	14,2,10.80
10,11,11.21	11,25,10.65	12,39,10.21	14,3,12.44
10,12,11.31	11,26,10.39	12,40,10.21	14,4,14.98
10,13,11.10	11,27,10.82	12,41,10.30	14,5,15.88
10,14,11.02	11,28,10.82	12,42,9.90	14,6,14.33
10,15,10.29	11,29,10.82	12,43,9.97	14,7,11.76
10,16,10.25	11,30,10.59	12,44,9.78	14,8,11.03
10,17,10.27	11,31,10.28	12,45,10.12	14,9,13.72
10,18,10.45	11,32,10.67	12,46,10.22	14,10,11.90
10,19,10.53	11,33,11.15	12,47,9.95	14,11,11.14
10,20,10.61	11,34,10.93	12,48,10.22	14,12,11.31
10,21,10.79	11,35,10.52	12,49,10.53	14,13,11.20
10,22,10.52	11,36,10.80	13,0,13.17	14,14,10.98
10,23,10.39	11,37,10.71	13,1,11.84	14,15,10.61
10,24,10.38	11,38,11.01	13,2,11.02	14,16,12.75
10,25,10.35	11,39,10.42	13,3,10.53	14,17,10.98
10,26,10.55	11,40,10.36	13,4,15.21	14,18,11.25
10,27,10.39	11,41,9.74	13,5,13.09	14,19,11.50
10,28,10.48	11,42,10.39	13,6,11.94	14,20,11.25
10,29,10.79	11,43,10.38	13,7,11.55	14,21,11.15
10,30,10.49	11,44,10.18	13,8,11.40	14,22,11.13
10,31,10.54	11,45,9.94	13,9,12.38	14,23,11.39
10,32,10.70	11,46,9.98	13,10,11.84	14,24,11.06
10,33,11.06	11,47,10.19	13,11,11.41	14,25,10.65
10,34,11.06	11,48,10.59	13,12,11.00	14,26,10.88
10,35,10.72	11,49,10.82	13,13,10.88	14,27,10.98
10,36,10.46	12,0,13.31	13,14,10.87	14,28,11.37
10,37,10.73	12,1,12.73	13,15,10.28	14,29,11.51
10,38,10.65	12,2,12.07	13,16,10.52	14,30,11.53
10,39,10.37	12,3,11.64	13,17,10.72	14,31,11.22
10,40,10.60	12,4,13.96	13,18,10.98	14,32,11.03
10,41,10.44	12,5,13.94	13,19,11.24	14,33,10.98
10,42,10.15	12,6,12.10	13,20,11.25	14,34,10.99
10,43,10.39	12,7,11.77	13,21,11.11	14,35,10.57
10,44,10.01	12,8,11.52	13,22,11.39	14,36,10.53
10,45,9.80	12,9,12.46	13,23,11.03	14,37,10.22
10,46,9.82	12,10,11.80	13,24,10.32	14,38,10.13
10,47,9.93	12,11,11.08	13,25,10.67	14,39,10.09
10,48,10.33	12,12,10.98	13,26,10.77	14,40,9.86
10,49,10.45	12,13,10.94	13,27,10.65	14,41,10.12
11,0,12.59	12,14,10.95	13,28,11.00	14,42,10.18
11,1,11.78	12,15,10.44	13,29,10.98	14,43,10.22
11,2,12.23	12,16,10.45	13,30,10.79	14,44,10.47
11,3,11.80	12,17,10.64	13,31,10.96	14,45,10.10
11,4,13.23	12,18,11.06	13,32,10.67	14,46,10.36
11,5,14.31	12,19,10.83	13,33,10.85	14,47,10.61
11,6,14.26	12,19,10.83	13,34,11.00	14,48,10.60
11,7,12.02	12,21,11.20	13,35,10.97	14,49,10.75
11,8,11.14	12,22,11.20	13,36,11.24	15,0,12.73
11,9,11.88	12,23,10.64	13,37,10.53	15,1,11.44
11,10,11.57	12,24,10.80	13,38,10.24	15,2,11.80
11,11,10.97	12,25,10.77	13,39,9.98	15,3,13.18
11,12,10.82	12,26,10.73	13,40,9.97	15,4,17.90
11,13,10.82	12,27,10.61	13,41,9.90	15,5,14.63
11,14,10.91	12,28,10.80	13,42,9.96	15,6,14.91
11,15,10.38	12,29,11.23	13,43,10.04	15,7,12.51
11,16,10.10	12,30,10.76	13,44,10.19	15,8,12.97
11,17,10.55	12,30,10.70	13,45,9.91	15,9,14.04
11,17,10.33	12,32,10.98	13,46,10.13	15,10,11.95
11,19,10.44	12,33,10.73	13,47,10.00	15,11,11.28
11,20,11.08	12,34,10.93	13,48,10.26	15,12,11.81

	Otatilo III II II		10.5.10.05
15,13,11.17	16,27,11.52	17,41,10.22	19,5,13.97
15,14,10.94	16,28,11.39	17,42,10.24	19,6,14.56
15,15,11.30	16,29,11.62	17,43,9.86	19,7,19.26
15,16,10.62	16,30,11.45	17,44,9.96	19,8,22.64
15,17,10.93	16,31,11.08	17,45,9.95	19,9,21.03
15,18,11.57	16,32,10.62	17,46,10.54	19,10,20.32
15,19,11.77	16,33,10.45	17,47,10.60	19,11,15.49
15,20,11.02	16,34,10.65	17,48,10.22	19,12,13.92
15,21,11.73	16,35,10.51	17,49,10.01	19,13,13.19
15,22,11.66	16,36,10.39	18,0,10.54	19,14,11.84
15,23,11.35	16,37,10.33	18,1,10.88	19,15,11.36
15,24,10.89	16,38,10.21	18,2,11.62	19,16,11.72
15,25,11.13	16,39,10.07	18,3,12.81	19,17,11.36
15,26,11.14	16,40,10.37	18,4,12.38	19,18,11.73
15,27,10.65	16,41,10.11	18,5,13.42	19,19,11.63
15,28,11.43	16,42,10.31	18,6,16.35	19,20,11.94
15,29,11.51	16,43,9.94	18,7,24.03	19,21,12.07
15,30,11.49	16,44,10.38	18,8,26.67	19,22,11.36
15,31,11.06	16,45,10.49	18,9,22.70	19,23,11.36
15,32,10.82	16,46,10.32	18,10,18.30	19,24,11.22
15,33,11.07	16,47,10.14	18,11,15.66	19,25,11.00
15,34,10.93	16,48,10.44	18,12,13.98	19,26,11.09
15,35,10.63	16,49,10.33	18,13,13.51	19,27,11.09
15,36,10.65	17,0,13.76	18,14,11.69	19,28,11.51
15,37,10.36	17,1,11.61	18,15,11.57	19,29,12.14
15,38,9.97	17,2,13.03	18,16,11.59	19,30,11.70
15,39,9.81	17,3,12.57	18,17,12.22	19,31,11.77
15,40,10.20	17,4,14.59	18,18,12.21	19,32,11.15
15,41,10.30	17,5,17.99	18,19,12.01	19,33,10.63
15,42,10.27	17,6,17.53	18,20,12.17	19,34,10.71
15,43,10.01	17,7,15.58	18,21,11.89	19,35,10.88
15,44,10.42	17,8,16.12	18,22,11.51	19,36,10.93
15,45,10.41	17,9,16.64	18,23,11.08	19,37,10.46
15,46,10.39	17,10,12.87	18,24,10.95	19,38,10.40
15,47,10.09	17,11,12.75	18,25,11.36	19,39,10.35
15,48,10.60	17,12,12.91	18,26,11.36	19,40,10.39
15,49,10.71	17,13,11.83	18,27,11.56	19,41,10.86
16,0,13.33	17,14,12.32	18,28,11.74	19,42,10.38
16,1,15.43	17,15,11.22	18,29,11.82	19,43,10.47
16,2,13.27	17,16,11.02	18,30,11.13	19,44,10.45
16,3,14.29	17,17,11.04	18,31,11.52	19,45,10.48
16,4,14.50	17,18,12.12	18,32,10.94	19,46,10.81
16,5,19.24	17,19,11.74	18,33,10.50	19,47,10.81
16,6,14.55	17,20,12.24	18,34,11.02	19,48,10.43
16,7,12.30	17,21,11.83	18,35,10.76	19,49,10.44
16,8,18.21	17,22,11.80	18,36,10.72	20,0,11.62
16,9,14.97	17,23,11.69	18,37,10.35	20,1,10.95
16,10,12.98	17,24,11.29	18,38,10.58	20,2,11.70
16,11,13.66	17,25,11.03	18,39,10.24	20,3,12.59
16,12,11.81	17,26,11.28	18,40,10.26	20,4,13.32
16,13,11.81	17,27,11.14	18,41,10.29	20,5,13.48
16,14,12.05	17,28,11.28	18,42,10.31	20,6,15.14
16,15,11.01	17,29,11.36	18,43,10.22	20,7,21.39
16,16,11.52	17,30,11.20	18,44,10.60	20,8,19.42
16,17,10.75	17,31,11.19	18,45,10.68	20,9,17.32
16,18,11.53	17,32,10.74	18,46,10.71	20,10,16.48
16,19,11.89	17,33,10.56	18,47,10.46	20,11,17.28
16,20,11.78	17,34,10.62	18,48,10.38	20,12,13.74
16,21,11.89	17,35,10.60	18,49,10.33	20,13,13.39
16,22,11.56	17,36,10.47	19,0,11.19	20,14,12.71
16,23,11.57	17,37,10.60	19,1,11.23	20,15,11.74
16,24,11.19	17,38,10.13	19,2,11.60	20,16,12.04
16,25,11.15	17,39,10.16	19,3,12.02	20,17,12.51
16,26,11.19	17,40,10.22	19,4,13.00	20,18,12.80
		15	

	Statiletti tiali 2 Leicesi		
20,19,13.08	23,5,16.82	25,17,12.51	28,15,14.73
20,20,11.70	23,6,22.07	25,18,14.72	28,16,15.71
20,21,12.10	23,7,17.98	25,19,14.02	28,17,13.27
20,22,12.17	23,8,17.10	25,20,16.21	28,18,12.39
20,23,11.81	23,9,17.15	25,21,15.90	28,19,16.11
20,24,11.94	23,10,19.05	25,22,15.32	28,20,17.06
20,25,11.66	23,11,17.11	25,23,14.90	28,21,18.09
21,0,11.65	23,12,14.78	25,24,15.75	28,22,20.54
21,1,14.01	23,13,13.91	25,25,15.35	28,23,19.81
21,2,13.06	23,14,14.02	26,0,11.81	28,24,27.21
21,3,13.38	23,15,12.39	26,1,12.55	28,25,22.37
21,4,14.14	23,16,13.15	26,2,14.04	29,6,15.53
21,5,13.61	23,17,13.83	26,3,17.56	29,7,15.51
21,6,18.60	23,18,13.92	26,4,17.75	29,8,13.51
21,7,18.88	23,19,13.56	26,5,20.29	29,9,13.92
21,8,18.24	23,20,13.93	26,6,16.02	29,10,15.44
21,9,15.69	23,21,13.73	26,7,17.61	29,11,13.34
21,10,16.94	23,22,12.19	26,8,16.06	29,12,12.45
21,11,16.03	23,23,12.55	26,9,15.73	29,13,14.13
21,12,13.26	23,24,12.79	26,10,15.52	29,14,13.94
21,13,13.96	23,25,13.35	26,11,14.99	29,15,13.04
21,14,13.30	24,0,15.47	26,12,14.58	29,16,13.31
21,15,13.03	24,1,19.08	26,13,13.43	29,17,15.05
21,16,11.86	24,2,16.41	26,14,15.20	29,18,14.13
21,17,12.37	24,3,19.81	26,15,15.52	29,19,13.49
21,18,12.83	24,4,19.03	26,16,15.08	29,20,17.26
21,19,12.97	24,5,17.99	26,17,14.39	29,21,19.77
21,20,13.36	24,6,17.49	26,18,14.01	29,22,21.52
21,21,12.40	24,7,17.17	26,19,16.47	29,23,24.61
21,22,12.13	24,8,19.34	26,20,14.68	29,24,23.54
21,23,12.02	24,9,19.00	26,21,15.60	29,25,23.67
21,24,11.59	24,10,19.06	26,22,16.61	30,6,15.20
21,25,12.04	24,11,13.86	26,23,18.84	30,7,15.74
22,0,11.44	24,12,14.52	26,24,17.05	30,8,15.28
22,1,12.88	24,13,13.01	26,25,21.85	30,9,14.11
22,2,13.39	24,14,13.15	27,6,14.75	30,10,13.91
22,3,14.72	24,15,13.79	27,7,17.43	30,11,14.69
22,4,13.95	24,16,12.85	27,8,15.17	30,12,14.18
22,5,16.34	24,17,13.65	27,9,15.60	30,13,14.35
22,6,20.16	24,18,14.63	27,10,14.45	30,14,14.23
22,7,15.27	24,19,14.19	27,11,14.84	30,15,14.11
22,8,17.14	24,20,14.54	27,12,14.39	30,16,14.79
22,9,14.82	24,21,13.95	27,13,14.32	30,17,14.62
22,10,18.53	24,22,13.92	27,14,14.04	30,18,14.13
22,11,16.72	24,23,13.67	27,15,14.41	30,19,15.56
22,12,14.60	24,24,13.39	27,16,13.41	30,20,19.65
22,13,13.59	24,25,14.42	27,17,14.03	30,21,17.24
22,14,12.11	25,0,12.68	27,18,14.06	30,22,20.70
22,15,12.51	25,1,16.42	27,19,14.89	30,23,22.29
22,16,12.97	25,2,18.42	27,20,17.28	30,24,24.18
22,17,12.78	25,3,18.35	27,21,18.25	30,25,24.17
22,18,13.57	25,4,19.47	27,22,19.47	31,6,16.30
22,19,13.02	25,5,22.99	27,23,19.41	31,7,15.30
22,20,12.58	25,6,18.58	27,24,26.76	31,8,14.11
22,21,14.22	25,7,18.03	27,25,21.98	31,9,13.52
22,22,12.76	25,8,18.04	28,6,15.29	31,10,14.23
22,23,12.09	25,9,19.60	28,7,15.40	31,11,13.90
22,24,12.65	25,10,16.41	28,8,16.52	31,12,14.56
22,25,12.29	25,11,15.49	28,9,12.51	31,13,13.80
23,0,12.75	25,12,15.25	28,10,13.47	31,14,15.32
23,1,13.07	25,13,14.14	28,11,15.46	31,15,14.84
23,2,16.02	25,14,14.71	28,12,14.89	31,16,15.13
23,3,16.44	25,15,14.60	28,13,14.50	31,17,14.58
23,4,16.94	25,16,13.72	28,14,15.45	31,18,15.70

	Stathern Hall 2 L	₋eicestershire13-
31,19,16.58	34,23,19.16	38,7,25.39
31,20,18.30	34,24,20.02	38,8,33.71
31,21,21.40	34,25,22.08	38,9,34.66
31,22,20.94	35,6,15.13	38,10,40.71
31,23,21.63	35,7,14.88	38,11,38.14
31,24,22.40	35,8,14.31	38,12,27.02
31,25,21.67	35,9,13.95	38,13,31.31
32,6,16.23	35,10,13.97	38,14,36.72
32,7,15.24	35,11,16.11	38,15,38.45
32,8,14.61	35,12,15.38	38,16,34.35
32,9,14.10	35,13,15.60	39,6,28.11
32,10,14.80	35,14,15.58	39,7,32.75
32,11,15.58	35,15,16.61	39,8,31.08
32,12,14.77	35,16,16.61	39,9,36.19
32,13,16.00	35,17,19.87	39,10,34.82
32,14,15.51	35,18,20.01	39,11,36.83
32,15,15.13	35,19,19.83	39,12,33.29
32,16,16.38	35,20,22.54	39,13,31.97
32,17,13.92	35,21,21.57	39,14,32.22
32,18,15.65	35,22,22.55	39,15,37.91
32,19,17.30	35,23,22.05	39,16,40.08
32,20,18.96	35,24,24.82	, ,
32,21,19.89	35,25,27.03	
32,22,18.37	36,6,17.39	
32,23,19.19	36,7,18.00	
32,24,18.69	36,8,16.11	
32,25,18.86	36,9,16.50	
33,6,17.08	36,10,19.47	
33,7,15.39	36,11,21.99	
33,8,15.68	36,12,21.29	
33,9,15.96	36,13,19.99	
33,10,14.58	36,14,20.45	
33,11,17.82	36,15,23.87	
33,12,16.27	36,16,23.16	
33,13,15.22	36,17,22.98	
33,14,15.39	36,18,24.94	
33,15,15.30	36,19,25.85	
33,16,15.62	36,20,23.95	
33,17,15.70	36,21,22.25	
33,18,14.06	36,22,29.68	
33,19,17.24	36,23,30.74	
33,20,17.87	36,24,31.63	
33,21,19.70	36,25,30.30	
33,22,20.89	37,6,28.08	
33,23,20.15	37,7,20.10	
33,24,19.16	37,8,21.31	
33,25,18.49	37,9,23.53	
34,6,16.09	37,10,23.59	
34,7,15.74	37,11,26.90	
34,8,15.29	37,12,26.15	
34,9,16.23	37,13,25.28	
34,10,16.12	37,14,26.79	
34,11,16.12	37,15,29.30	
34,12,15.53	37,16,28.88	
34,13,15.95	37,17,34.71	
34,14,15.52	37,18,30.38	
34,15,15.89	37,19,26.22	
34,16,17.10	37,20,29.75	
34,17,16.91	37,21,31.30	
34,18,18.22	37,22,29.53	
34,19,17.90	37,23,34.01	
34,20,18.09	37,24,32.30	
34,21,20.95	37,25,30.28	
34,22,19.25	38,6,29.18	
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## APPENDIX 6

# COLONEL FRANCIS HACKER, PARLIMENTARIAN AND REGICIDE

H.L Hubbard 1941

Colonel Francis Hacker, parliamentarian and regicide

#### By H. L. HUBBARD, B.A.

THE Nottinghamshire Hackers were a younger branch of a Somersetshire family, once living in Yeovil; their first representative who settled at East Bridgford in Nottinghamshire was John Hacker, the grandfather of the subject of this biography, who is presumed to have come to the district about 1591, in which year he bought the estate of Sir Robert Sheffield, including Sheffield Hall, then so-called. A fine mural monument with his effigy, together with that of his wife, at a prie-dieu, with their four sons and three daughters in a row beneath, still survives in a good state of preservation on the north wall of the church at East Bridgford. The inscription is as follows:—

' Here lieth buried ye bodies of John Hacker of Bridgford, Esq. and Margaret his wife, who left issue 4 sonnes and 2 daughters. Hee departed t's life ye 28th of March A'o D'ni 1620, and shee departed t's life ye 5th of January, 1627, in whose memory their said children have erected t's monument.'

The four sons (represented on the monument) were Francis, John (of Trowell), Rowland (died 1639) and Richard (of Flintham) and the daughters Maria, Luce and Elizabeth. All these children, save Elizabeth, were born before the family came to East Bridgford. The sons all married and left issue.

The eldest of the four sons, Francis, the father of the parliamentarian, married twice, first, Margaret, daughter of George Rossell of Radcliffe-on-Trent<sup>2</sup>, second, Elizabeth, widow successively, of Nicholas Strelley of Strelley and Richard, second Lord Biron, by each of whom she had had a son.<sup>3</sup> He acted as agent to George, Earl of Rutland, and his accounts survive 'of summes of money layd out, payd and disbursed by him to and from the use of the Right Honorable George, Earle of Rutlande, since this account made at the audit the xxjth of September, 1637'; <sup>4</sup> he also acted in a similar capacity when Belvoir Castle was surrendered to the commonwealth forces, 1644.

He had seven children, five sons and two daughters, (three of the sons being by Margaret, his first wife); they were Francis, John, Richard, Thomas, Rowland, Anne and Alice. His second wife was buried at East Bridgford, November 27th, 1634 and he himself on January 20th, 1646, in the evening, for some reason.<sup>5</sup> There survives no record of the baptism of any of his children or grandchildren at East Bridgford, a fact probably due to his extreme puritanism and dislike of the sacramental side of Christianity. By his will, dated August 17th, 1640, he wishes to be buried near his wife at East Bridgford and gives £2 to the poor of that village and of Colston Bassett, to be distributed at his burial; he gives his lands at Colston Bassett to his son Francis and his heirs, his East Bridgford lands to his son Thomas, and charges his estates with an annual payment of £20 to his youngest son Rowland. He likewise names his daughter Anne and his daughter Alice Grococke and her child. The son John had died previously and Richard was left out, as a ne'er-do-well.

Captain Rowland Hacker, who was an ardent cavalier, maintained a long defence of the royalist fort erected at Trent Bridge against the parliamentary garrison of Nottingham, attained the rank of colonel and lost his right hand in action.

Thomas Hacker, serving in his brother Rowland's company, was killed in a skirmish near Colston Bassett while commanding a troop of horse, and was buried at East Bridgford, May 12th, 1643.<sup>6</sup>

The baptism of Francis has not been found nor is the date and place of his birth known.<sup>7</sup> Firth, following Briscoe, calls him the third son, but this is impossible. His parents were married at East Bridgford, December 23rd, 1617, and he himself was married July 5th, 1632.<sup>8</sup> As he could not legally have married under the age of fourteen, he must have been born sometime in 1618. This is confirmed by a statement of Mrs. Hutchinson<sup>9</sup> that Francis was his father's eldest son.

Francis inherited the family lands at Colston Bassett and Stathern in Leicestershire, and brought his bride to live at Stathern Hall. Her name was Isabell Brunts, of East Bridgford, one of the four daughters of Gabriel Brunts of the same village, who died July 18th, 1638 and was buried there<sup>10</sup> by Isabella his wife, daughter of Rowland Wand, Esq. of Mansfield Woodhouse.

Presumably the five children of Francis and Isabell were born and baptized at Stathern but it has been impossible to check this fact as the pages bearing the entries of baptisms for the years 1571-1664 have been cut out of the register, why, when and by whom is unknown. The cutting was skilful, clean and done at a distant date.

Hacker was constable of the village in 1635, as appears from an entry in the constables' accounts for the village:<sup>11</sup>

'Mr. Hacker chosen Constabell of Statherne in the countie of Lessester in the year 1635 and in the 5th day of April.' One of his duties apparently was to see that the ale brewed in the village was up to assize standards and to report on the matter to the justice of the peace. He also had to collect the ship-money, the tax which, imposed on ports and coast towns in 1634, was extended to the inland counties in 1635 and caused so much discontent. There is the entry:—'Ittem payd to him (Mr. Elston) which was owing in tax for the ships.'

The house in which he lived was to the east of the church, half-way up a fairly steep slope, now known as Mill Hill, and enjoyed a splendid view over the whole of the fertile Vale of Belvoir. The Belvoir woods, much more extensive than now, began two hundred yards or so from the walls enclosing the grounds. The house was destroyed soon after Hacker's execution, but, incorporated in the boundary of one of the present fields on the site, there still remains the buttress of one of the outside walls, with part of the mortar in the interstices of the stones, protected by the hawthorn hedge which continues the boundary of the field; running from the buttress as a boundary is about fifteen yards of a stone wall, whose stones are remarkably even and smooth, save on the top where the wall has collapsed and been rebuilt, a wall which is probably part of that surrounding the grounds of the old hall. At right angles to this is another stone wall forming, with a hedge, the boundary of a field, but this is a rough structure and probably no part of the hall, although stone from it was used in the wall's construction. The field which is the site of the hall still has a number of undulations and mounds covering the foundations of the hall; there can also be discerned the outlines of a terrace. The drive to the hall survives in the form of a cart-road which debouches on to the road half-way up the Mill Hill. The earth in one part of the field has recently been disturbed for the erection of a blockhouse and, in the debris, were numerous fragments of rough pottery, made from local clay and discoloured by the iron-ore in it. An aerial photograph of the site would probably recover the complete ground-plan of the building and gardens.

1 The date of John Hacker's death is incorrectly recorded, for the burial register states that he was buried "ye 29 Marche 1616." His wife Margaret was the daughter of Thomas Goode, of Bassingbourne, Cambridgeshire. They had 3 daughters, and not 2, as here stated.

2 The marriage was solemnized at East Bridgford, December 23rd, 1617.

3 Hutchinson Memoirs, ed Firth, p. 285 n.

4 H.M.C., Rutland IV., p. 528.

5 East Bridgford Register of Burials.

1634 Nov. 27 Elizabeth. Uxor Francisci Hacker, erat sepulta.

1646 Jan. 20 Frauciscus Hacker, vesperi.

6 East Bridgford Register of Burials.

12 May 1643. Thomas Hacker, occisus in Colston Bassett.

7 D.N.B. art. Hacker, Francis. Briscoe, 'Old Nottinghamshire' art. Hacker Family, Lawson Lowe.

8 East Bridgford Register of Marriages. Nottm. Parish Registers—Marriages. St. Peter's Church, 1572-1872, ed. Phillimore and Ward.

9 Hutchinson Memoirs, ed. Firth, p. 255.

10 East Bridgford Register of Burials.

11 Constable's Accounts (in the Parish Church). 'The Accounts of the Constables of the Village of Stathern, Leics.' E. L. Guilford, 'Arch. Journ.' 1912.

From the outbreak of the civil war, Francis, unlike his brothers Rowland and Thomas, was a vehement supporter of the parliamentary cause, while William Norwich, appointed vicar of Stathern in 1641, was unhesitatingly on the side of Charles I. Norwich had held the living only four years when he was fined £48 for adhering to the king's cause and refusing to give up the use of the prayer book in church. Hacker, as constable, collected the fine. In 1648, Norwich was deprived of his living, possibly at Hacker's instigation, and driven from his parish. For thirteen years he was left to keep himself and his wife as best he could. Meanwhile, two puritan ministers, Frecalton and Shephardson, were, in turn, put in possession of the living, men more in line with Hacker's own religious bent. The baptismal, marriage, and burial records were not kept with any degree of regularity during this period. In the year 1646 Stathern was, for the last time, swept by plague and the burial records tell of seventeen deaths<sup>2</sup> from that cause, marked with a cross in the register, from February to July. In a Latin note Norwich regards it as little short of a miracle that of those who showed the plague-marks, as many as half recovered. Among those who died of the plague were Barbara and Isabel Hacker, the squire's daughters, who were buried in Stathern churchyard, the 29th and 30th of April, 1646.

In his religious views Hacker was a stern presbyterian and, while strongly opposed to the anglican church, he was equally hostile to other puritans who did not accept his views. Before his death he declared 'that the greatest trouble he had upon his spirit was that he had formerly borne too great a prejudice in his heart towards the good people of God who differed from him in judgment.' Probably his treatment of the quakers who, in his day, under the leadership of George Fox, had stood sturdily for freedom of conscience, was the chief thing upon his mind. In his position of justice of the peace for the county, Hacker had had Fox brought before him for holding a quaker meeting near Leicester, and had threatened to imprison him if he came that way again. But, of course, Fox was not stopped by such a threat. Strangely enough, when he did come into Leicestershire in the following year Hacker's wife, Isabell, and his brother-in-law, Marshall, the husband of his sister Anne, were present at one of the

meetings which Fox held in the district. Both of them were convinced and threw in their lot with the quakers. Fox records in 1655:<sup>3</sup> 'I went into Leicestershire where Colonell Hacker said he would imprison me againe. I came to Whetstone where his troopers had taken me before, and Colonell Hacker's wife and Marshall came to the meeting and was convinct (who remains a Freinde to this day).' When brought before the magistrates in 1663, Fox refers to the same events as evidence of his loyalty: 'I was carried up out of my ain countrie by Colonell Hacker (before Oliver Cromwell) as a plotter to bring in King Charles in 1654, and I had nothing but love and goodwill to the King . . . '

On the 10th July, 1643 Hacker was appointed one of the militia commanders for Leicestershire, the scene of most of his exploits during the civil war. On the 27th November, 1643 he and several others of the Leicester company were surprised and taken prisoners at Melton Mowbray, by Gervase Lucas, royalist governor of Belvoir Castle. A month later, December 28th, 1643, parliament ordered his exchange for Colonel Sands<sup>5</sup>: 'Ordered, that it be especially recommended to my Lord General, from this House, to exchange Mr. Hazlerigg, Captain Hacker and Mr. Arthur Stavely, for Sir Wingfield Bodenham, Lieutenant-Colonel Sands.' The captured were, all three, members of the Leicester committee. At the capture of Leicester by the king in May, 1645 Hacker, who distinguished himself in the defence, was again taken prisoner.' The royalists, records Hollings, in pushing forward were furiously attacked by the horse stationed at the extremities of the inner breastwork under Captain Hacker and were again borne back over the breach with the loss of several of their number.' After the capitulation of the town Hacker, early in the morning with a few others, made his escape over the river Soar at Pike Head<sup>7</sup> but after being closely pursued he was captured near Braunstone and subjected to the same confinement as the rest. Hacker was a member of the parliamentary committee during the siege. 8 In spite of his bravery he was attacked for his conduct in a pamphlet by a certain James Innes<sup>9</sup>; this provoked a warm defence in a second pamphlet published by the Leicester committee. His services in the parliamentary cause are there detailed at length; particular praise is lavished on his behaviour at the capture of Bagworth House and his defeat of the royalists at Belvoir, where he was in command of the Leicestershire, Nottinghamshire and Derby horse. Hacker, too, they say 'of all the prizes that ever he took, reserved nothing for himselfe, but gave all frankly to the State and his Souldiers'; also 'having layne long prisoner at Belvoir, was offered his pardon and the command of a regiment of horse to change his side and refused it with scorne; '.... .choosing rather to suffer imprisonment and beggery than to take up arms against the Parliament' . . . ' We know no cause of this invictive spleen against him, but that he is a valiant souldier and one of the Committee.' Hacker could inspire both dislike and trust in his intimates.

At the defeat of the royalists at Willoughby Field<sup>10</sup> in Nottinghamshire, July 5th, 1648<sup>11</sup> Hacker commanded the left wing of the parliamentary forces and was slightly wounded.

It was to his keeping that the king was committed during the trial at Westminster and, to his great credit it is recorded that he treated Charles very respectfully; it was also Hacker who was put in command of the soldiers guarding the scaffold on the day of the king's execution. At about ten o'clock on the morning of the execution Hacker came to fetch Charles to Whitehall. Attended by his servant, Herbert, and by Juxon, Bishop of London, they walked through St. James's Park. A guard of halberdiers surrounded the king and companies of foot were drawn up on each side of his way. "The drums beat and the noise was so great as one could hardly hear what another spoke," said a contemporary. It was a cold

frosty morning and Charles walked, as he was used to, very fast and, calling to the guard 'in a pleasant manner,' told them to march apace. When he reached Whitehall he was kept waiting two or three hours, perhaps, suggests Firth, to give parliament time to pass an act forbidding the proclamation of a new king. There are two traditions of Charles's last words to Hacker, as the colonel was holding the axe in his hand, before passing it to the executioner; the local one is, 'Hacker, you will take care of my body,' unvouched for by any contemporary; the other, 'Take care that they do not put me to pain, and, sir, this, an' it please you.'<sup>13</sup>

Hacker returned to the hall after the execution, bringing with him the warrant upon which he had acted.

This warrant is now in the British Museum but was kept at the hall during all the years of the Commonwealth. It was addressed to 'Colonell Phayre, and to every of them,' and was signed by nearly sixty of the leading men of the parliamentary party, including Oliver Cromwell and Colonel Hutchinson.

It seems that Cromwell had ordered Colonel Huncks to write out a further order required by the executioner before he would do his work. Huncks was afraid. So Cromwell wrote the order with his own hand and then passed the pen to Hacker. Hacker, after a moment's hesitation, stooped and signed it. This was the last signature needed to ensure the king's execution, but it was also to entail the death of the signer.

1 List of vicars in Stathern parish church.

- 2 Stathern register of burials.
- 3 Fox's Diary, vol. i, pp. 194 and 424 n.
- 4 The Siege of Leicester in 1645—J. H. Rollings, p. 11.
- 5 Commons' Journals ii, 25 Dec.
- 6 Rollings' op cit., p 20.
- 7 Ibid, p 24
- 8 Ibid, p. 27.
- 9 An Examination of a Narration of the Siege of the Towne of Leicester, by James limes (copy in Leicester Public Library).

An Examination Examined, etc., (copy in Leicester Public Library).

- 10 Hutchinson Memoirs, pp. 439-40. H.M.C. Portland, vol. 1, p. 475.
- 11 Wood, Nottinghamshire in the Civil War, p. 180.
- 12 Firth, Oliver Cromwell, pp. 226-7.
- 13 The Church of S. Guthlac. Stathern, p. 31. Rev. E. G. Pierson.

Hacker commanded a regiment of horse under Cromwell in the campaign against the dissident Scots. We have an account of these activities in Ludlow's Memoirs. There are also a number of letters from Cromwell on this northern campaign in which Hacker is mentioned: 'Dunbar.' We have been constrained ... to dismiss 4-5,000 prisoners; the remainder, which are the like or greater number, I am fain to send by a convoy of four troops of Colonel Hacker's to Berwick, and so on to Newcastle, southwards. The famous letter of rebuke from Cromwell to Hacker, who had remonstrated with him about a commission given to one Captain Empson, whom Hacker thought "a better preacher than a fighter or a soldier," was dated Edinburgh, 25th December, 1650. Truly, wrote Cromwell, 'I think, that he that prays and preaches best will fight best. I know nothing that will give like courage and confidence as

the knowledge of God in Christ will: and I bless God to see any in this army able and willing to impart the knowledge they have for the good of others and I expect it to be encouraged by all chief officers in the army, especially, and I hope you will do so.'

While Cromwell lived Hacker continued a staunch supporter of the Protectorate; he arrested Lord Grey in February, 1655 and was employed in the following year to suppress cavalier intrigues in Leicestershire and Nottinghamshire. An abortive rising in Nottingham on Thursday, March 8th, 1655, was nipped in the bud; three troops of Hacker's horse descended on the county promptly and within a few days traced all the conspirators. A cartload of arms was found in a barn at Farnsfield and the details of the plot ferreted out of the prisoners. Meanwhile Hacker's men patrolled the county, disarming malignants and searching for any suspects to give security for good behaviour. A party of horse was also sent to search Newstead Abbey, but no arms were found there.

In Richard Cromwell's parliament Hacker was a member for Leicester but a silent one. 'All that have known me,' he said at his execution, 'in my best estate have not known me to have been a man of oratory and God hath not given me gift of utterance.'

In the troubled period preceding the Restoration he generally followed the leadership of his neighbour, Sir Arthur Haslerigg, whose 'creature' Mrs. Hutchinson (who disliked Hacker), termed him. By Haslerigg's persuasion he, first of all the colonels of the army, accepted a new commission from the hands of the speaker of the restored long parliament and was the first to recognize the supremacy of the civil power over the army. The ice being thus broken, says Ludlow, the rest of the officers began to consider better of the matter, and divers of them growing more moderate, came also, and took their commissions (June 8th). Hacker opposed the mutinous petitions of Lambert's partisans in September, 1659, and when they expelled the parliament from Westminster he entered into communication with Hutchinson and Haslerigg for armed opposition. After the triumph of the rump he was again confirmed in the commission of his regiment and seems to have retained his command until the Restoration.

He was then taken into custody, having had assurances from Monk that he would be fully indemnified. 'But the next day,' Ludlow tells us,<sup>9</sup> when he came to London he made a visit to Monk, and was received with all the appearance of friendship and affection. But the next day after he had thus been caressed, he was seized, examined and sent to the Tower.' (5th July). The house of commons did not at first except him from the act of indemnity, but during debates on it in the house of lords the fact emerged that the warrant for the execution of the king had been in Hacker's possession, and this fact proved fatal.

When, very shortly afterwards, he was placed on his trial, and charged with the murder of the king he did not attempt to deny the part which he had played, but answered,' Truly, I have been no counsellor, nor adviser, nor abetter of the act charged against me; but in obedience to the command over me, I did the act. My desire hath ever been for the welfare of my country, and that the civil power might be upheld.' He was told to produce the warrant, which the lords desired to use as evidence against the regicides. His wife, who was in faithful attendance on him through the trial, was sent to fetch the warrant which she pathetically thought might secure her husband's acquittal; but, on the contrary, his judges held that this order showed that he had not acted as he did ignorantly or unwillingly, and refused to listen to his wife's plea' that he was a soldier and under command, and had done what he did by the commission that she held in her hands.' The document was regarded solely as incriminating all the

signatories and did not save the colonel from the scaffold. 'Colonel Hacker,' says Ludlow,<sup>10</sup> "excepted not against any of the jury, seeing them all to be of the same stamp.' He made no serious effort to defend himself<sup>11</sup>: 'I have no more to say for myself but that I was a soldier and under command, and what I did was by the command you have read.' He was sentenced to death and his execution fixed for October 19th. At nine o'clock on that morning, he and a fellow-officer were drawn on a sled to the place of execution at Tyburn. By order of the king, probably influenced by the earnest beseechings of the indubitably loyal brother Rowland, Hacker's body was given to his son Francis, and carried for burial to the Church of S. Nicholas Cole Abbey, in London, the advowson of which belonged to the Hacker family. There is, however, no entry of the interment in the registers of that church,<sup>12</sup> and local tradition at Stathern suggests that the body may have been taken there without attracting attention, for final burial.

Hacker's estate was forfeited to the crown by his sentence as a traitor<sup>13</sup>; it is described in a contemporary pamphlet as 'Houses, Lands, etc., at Colston Bassett and Bridgford ad Montem, now part of the possession of his Royal Highness James Duke of York, late did belong to Francis Hacker, 1662 ' (383 acres, valued at £213 9s. 4d.). As this description shows, the estates passed into the hands of Charles II's brother. The hall at Stathern was pulled to the ground, as mentioned previously, but the royalist brother Rowland was allowed to buy back, almost, we might say, ransom, part of the estate, including the site of the hall, at an exorbitant price.

After Francis's death, his wife Isabell, continued to live at Withcote Hall, a property of the Hacker's in Rutland, and worshipped with the Somerby community of the friends. Persecution of the quakers was renewed under Charles II as their religious scruples would not permit them to swear to the oath of allegiance, and, on December 14th, 1664, the unfortunate Isabell was sentenced with a group of seven men and thirteen women to be transported for seven years to Jamaica, <sup>14</sup> a virtual death-sentence, considering the climate and the conditions both in Jamaica and on the voyage. It is said that they lay packed on board ship in the Thames estuary before the order came for their release; and soon afterwards death finally set Isabell free. Her burial is recorded in the friends' register as having taken place at Stathern; probably she was actually buried in the nearby quaker burial-ground at Long Clawson, four miles away. Hers is the true tragedy of the whole story: cruelly robbed of her husband, of whose death she was the unwitting cause, deprived by the plague of her two small daughters and finally, in the evening of her years, martyred for the faith her husband detested. Du Boulay Hill states<sup>15</sup> 'Colonel Francis Hacker left no sons to survive him.' This is inaccurate, since his son Francis received his father's body after the execution. He had been an officer in his father's regiment during the civil war but what his ultimate fate was is unknown. <sup>16</sup> It has been suggested that he emigrated to the American colonies, where members of the Hacker family may still be living. Of his four daughters the eldest, Barbara, was buried in infancy at East Bridgford in 1635, a second Barbara and Isabel died of the plague at Stathern in April, 1646, and only Anne survived her parents. She is mentioned under the will of Samuel Brunts, 1711, a distant relative and the benefactor of the present Mansfield school of that name, by whom she was bequeathed an annuity of £40. Whether she married and left descendants is not

1 Ludlow's Memoirs, T, p. 316, June, 1652.

<sup>2</sup> Life and Letters of Cromwell, Thomas Carlyle, ed. S. C. Lomas, No. CLXII.

<sup>3</sup> Op. cit., No. CLXII.

<sup>4</sup> Wood, op. cit., pp. 168-9.

- 5 Hutchinson Memoirs, p. 308; Clar. State Papers iii, p. 53.
- 6 Ludlow's Memoirs, p. 90. Commons' Journs., vii, p. 876.
- 7 Hutchinson Memoirs, p. 401.
- 8 Commons' Journs., vii, p. 824.
- 9 Ludlow's Memoirs, ii, p. 321.
- 10 Ludlow's Memoirs, ii, p. 321.
- 11 Trials of the Regicides, etc., 1661 (Contemporary Broadsheet).
- 12 The Story of the Church of St. Guthlac, Stathern. Pierson.
- 13 Du Boulay Hill, East Bridgford, p. 45.
- 14 Besse, Hist, of the Sufferings of the People call Quakers, vol. i, p. 403
- 15 Op. cit., p. 72.
- 16 Briscoe, Old Nottinghamshire, p. 134.