
TARGET Archaeological Geophysics
Geophysical Prospection For Archaeological Assessment
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Mobile: +353 (0)87 858 0112
Landline: +353 (0)1 441 8818
Web site: www.targetgeophysics.ie
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| PROJECT: | TITLE: | JOB NUMBER: |
|---|---|---|
| PHASE 2, FORD DE FINE NAUL, CO. MEATH | AMMENDMENT TO PROPOSED EXTENSION: GRADIOMETER SURVEY LOCATION PHASE 1 AREAS 1 - 3 & PHASE 2 AREA 4 | 08013 |

| CLIENT: | FIGURE: | DATE: | SCALE: | LICENCE: |
|---|---|---|---|---|
| A.C.S. LTD. ON BEHALF OF GOODE CONCRETE LTD | FIG. 1 | 01/06/08 | 1/3000 | 08R0101 |




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| PROJECT: | TITLE: | JOB NUMBER: |
|---|---|---|
| PHASE 2, FORD DE FINE NAUL, CO. MEATH | AMMENDMENT TO PROPOSED EXTENSION: PHASE 2 GREYSCALE AREA 4 | 08013 |

| CLIENT: | FIGURE: | DATE: | SCALE: | LICENCE: |
|---|---|---|---|---|
| A.C.S. LTD. ON BEHALF OF GOODE CONCRETE LTD | FIG. 2 | 01/06/08 | 1/2000 | 08R0101 |


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| PROJECT: | TITLE: | JOB NUMBER: |
|---|---|---|
| PHASE 2, FORD DE FINE NAUL, CO. MEATH | AMMENDMENT TO PROPOSED EXTENSION: PHASE 2 INTERPRETATION AREA 4 | 08013 |

| CLIENT: | FIGURE: | DATE: | SCALE: | LICENCE: |
|---|---|---|---|---|
| A.C.S. LTD. ON BEHALF OF GOODE CONCRETE LTD | FIG. 3 | 01/06/08 | 1/2000 | 08R0101 |

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## Appendix 12-5

**2019 Geophysical Survey**

# Kilsaran Quarry,

# Naul,

# Co. Meath

## Archaeological Geophysical Survey

**Detection Licence No. 19R0225**

**Survey undertaken on behalf of**

**Kilsaran Build**



H. Gimson BA (Hons) MSc MIAI

EARTHSOUND geophysics

Prospect House, Drumagh, Claremorris, County Mayo, Ireland

earthsound.ie

EAG 396

2 December 2019

# Table of Contents

# Summary of Results



*Between the 11th and 13th November 2019, a geophysical survey commissioned by* Mr. C. Mount *on behalf of* Kilsaran Build *was conducted over 11.2 hectares of agricultural lands in advance of a proposed quarry development at Naul, County Meath. A magnetometer survey was undertaken at a sample resolution of 0.5m x 0.25m over the entire site.*

*The survey was conducted upon a bedrock geology consisting of Naul Formation calcarenite & calcisiltite and Clashford House Formation mudstone, siltstone & andesite, beneath surface water gleys & ground water gleys, renzinas, lithosols and regosols. The majority of the survey area was covered in crop stalk, with a similar area of recently seeded grass.*

*The geophysical survey undertaken for this report has revealed the presence of a palimpsest of probable archaeological activity. A double ditched enclosure was detected within the southern portion of the survey area. This enclosure appears to have suffered burning and contains internal features. A southern annex or boundary was also detected adjoining the enclosure, while further possible archaeological activity surrounds the monument.*

*Further archaeological activity was identified with the detection of three further enclosure ditches across the survey area. These range in size and formation and are often associated with pits. Further potential archaeological activity can be seen in the form of pit clusters, arcing ditches, possible structural remains, areas of magnetic enhancement and burnt or fired remains.*

*Evidence of agricultural activity was also identified through relict boundaries and divisions, while an area of geological or alluvial activity was also detected.*



## Statement of Indemnity

*A geophysical survey is a scientific procedure that produces observations of results which are influenced by specific variables. The results and subsequent interpretation of the geophysical survey presented here should not be treated as an absolute representation of the underlying archaeological features, but as a hypothesis that must be proved or disproved.* ***Direct investigations are recommended to confirm the findings of this report.*** *Verification can only be provided via intrusive means, such as Test Trench excavations.*

# 1 Introduction

Earthsound Geophysics Ltd. was commissioned by Kilsaran Build to execute a geophysical survey over 11.2 hectares of agricultural land, in advance of a proposed quarry development in Naul townland, Naul, County Meath.

The geophysical survey was requested to determine the presence/absence of unknown archaeological features at the site, in advance of applying for planning permission for a quarry. No specification document was issued. Kilsaran Build and Earthsound Geophysics Ltd. agreed to assess the site using a magnetometer (MG).

The method was approved by the Archaeological Licensing Section of the National Monuments Service. A Consent to use a Detection Device under Section 2 (2) of the National Monuments (Amendment) Act, 1987, was issued by the Minister for Culture, Heritage and the Gaeltacht: Consent No. 19R0225, issued to Heather Gimson.

## 1.1 Geography, Geology, Topography & Climate

| | |
|---|---|
| Townland | Naul |
| County | Meath |
| Central ITM Co-ordinates of the site | 712079 / 761205 |
| No. of Fields Surveyed | 3 |
| Ground Cover per Field | 1: Crop Stalks; 2: Recently Seeded Grass; 3: Crop Stalks / Recently Seeded Grass |
| | |
| Geology | Naul Formation calcarenite & calcisiltite limestone and Clashford House Formation mudstone, siltstone & andesite (GSI 2019) |
| Drift / Quaternary Geology | Till derived from sandstones and shales (GSI 2019) |
| Soils | Surface water gleys & ground water gleys, renzinas, lithosols and regosols (GSI 2019) |
| Drainage | Some poorly drained and some well drained soils (GSI 2019) |
| Expected effect of Soils/Geology | The sedimentary geology can have a negative effect on the quality of data collected using magnetometer surveys. A traverse spacing of 0.5m is recommended and has been used. |
| Topography | The site is located on the southern side of a drumlin ridge, sloping down from north to south. The Delvin River runs in an east-west direction roughly 120m to the south of the site. |
| Climate | The cold damp conditions are unlikely to have affected the survey. |

## 1.2 Archaeological Background

There are no recorded monuments within the survey area. The land directly to the south was subject geophysical survey by Target geophysics (Licence 08R0101) and archaeologically tested by ACS (Licence 08E242) in 2008.Three recorded monuments lie within 350m of the proposed development area: ME033-034 Mound, ME034-010 Castle and ME033-033 Mound.

### 1.3 Aims & Objectives

The aim of the geophysical survey was to determine the nature of the archaeological resource, in advance of a proposed development of a quarry. The objectives were to:

- Determine the presence or absence of archaeological features at the site
- Assess the spatial extent of the archaeological features

A detailed magnetometer survey was carried out within the survey area. The technique has been used in commercial and research archaeological projects for many years and is considered the most appropriate technique for a detailed investigation of the underlying archaeology (Aspinall *et al*. 2008, Clark 1996, Scollar *et al.* 1990, Gaffney & Gater 2003).

## 2 Methodology

| | |
|---|---|
| **Fieldwork Dates** | 11/11/2019 – 13/11/2019 |
| **Survey Area** | 11.2 Ha |
| **Method / Area** | Magnetometer: 11.2 Ha |

### 2.1 Magnetometer Survey

| | |
|---|---|
| **Instrument** | Eastern Atlas LEA MAX$^{1505}$ System |
| **Components** | LEA D2, 10-channel digitiser |
| **Data Acquisition Resolution** | 0.5m x 0.1m |
| **Sensors** | 8 x Förster FEREX® 4.032 CON650 fluxgate gradiometers |
| **Platform** | LEA MAX$^{1505}$ System cart |
| **Data Acquisition Method** | Gridless, using a Trimble RTK GPS VRS Now system to an accuracy of 5cm |
| **Sensitivity** | <0.2 nT |
| **Data Logger** | Panasonic Toughbook CF-H2 Field computer |
| **Calibration** | According to manufacturers guidelines (Pilz & Goossens 2015) |
| **Data Processing** | Ealdec: Profile decoding<br>Ealmat.m: Normalisation, drift correction<br>Surfer 8: Data Gridding (0.5m x 0.25m), using the Kriging Gridding Method |
| **Graphical Display / Dynamic Range** | Greyscale -2nT (white) to 2nT (black) |

### 2.2 Reporting, Mapping & Archiving

The geophysical survey and report follow the recommendations outlined by relevant best practice guidance documents as a minimum standard (David *et al*. 2008; Gaffney *et al*. 2002, Schmidt *et al*. 2015).

Ordnance Survey of Ireland mapping was supplied by Kilsaran Build.

Geophysical data, the figures presented here and the text, have been archived following the recommendations of the Archaeology Data Service (Schmidt & Ernenwein 2011).

# 3 Results & Discussion

*The interpretation figures should not be looked at in isolation but in conjunction with the information and classification terms contained in the Appendices.*

***Significant Anomalies** are highlighted in Figure 4 and are described within the text.*

## 3.1 Magnetometer Survey

Figure 3 – Magnetometer Data

Figure 4 – Magnetometer Interpretation

In magnetic data, a dipolar anomaly or 'iron spike' is a response to buried ferrous objects, often in the topsoil. Iron spikes generally are not removed in geophysical data, although often modern in origin, they can be indicative of archaeological material.

A linear negative anomaly crossed the northern field. Measuring 212m NW-SE, this is a relict field boundary, which is visible on the Historic 6" and 25", and the Cassini 25" maps. The negative nature of the anomaly means that it is likely to comprise of bank or wall material.

A large area of geological or alluvial activity can be seen running NW-SE, along the western half of the survey area. This is characterised by raised magnetic enhancement, likely geological or alluvial in origin, bounded by and containing amorphous trends of raised magnetism. These amorphous curving trends are also likely to be geological or alluvial in origin; however, an archaeological explanation cannot be completely ruled out. The presence of the enhanced soils may mask anomalies of archaeological origin.

A large number of linear trends were detected across the survey area. Due to the weak magnetic signature of these anomalies, it is difficult to ascribe an exact origin to them. They could represent archaeological, agricultural or geological features. Several of the trends are linear in formation suggesting that they might be associated with former agricultural divisions. Indeed, within the south-eastern field a number of interconnecting trends were detected, running roughly NW-SE or NE-SW, which are likely to represent former field boundaries.

Anomaly **1** comprises of a highly magnetic linear which traverses the southern corner of the survey area. Measuring 19m in length, this anomaly is likely to have been burnt or fired. It may represent a relict field boundary or field division, once linked to the adjacent extant field boundary.

To the north of anomaly 1 two curving ditches were detected, covering an area of 17m N-S by 13m E-W. These features could be archaeological or agricultural in origin.

Anomalies **2** and **3** are curvilinear trends of raised magnetism, measuring 9m and 57m in length, which are likely to be associated with agricultural divisions. Anomaly 2 is located adjacent to three possible pits or tree bowls.

Anomaly **4** comprises of three arcing possible ditches. Measuring 8m, 16m and 27m in length, these features could be archaeological, agricultural or geological in origin.

Anomaly **5** consists of two arcing possible ditches which possibly enclose an area of 29m N-S and 31m E-W. These features could be associated with an archaeological enclosure.

Anomaly **6** is an isolated area of highly magnetic responses which is located along a linear trend. The highly magnetic nature of the anomaly suggests that it likely represents burning, probably occurring during the destruction of the boundary.

Anomaly **7** comprises an arcing possible ditch, 17m in length, which appears to surround eight possible pits. The possible ditch also appears to enclose an area of low magnetic enhancement, suggestive of a stony layer. These anomalies combined, cover an area 10m in diameter and could be archaeological in origin.

Anomaly **8** is a double-ditched oval enclosure, measuring 24m E-W by 27m N-S internally. A possible entranceway was detected to the north, with a second possible entrance to the south. The double ditch nature of the enclosure can clearly be seen to the west; to the east the internal ditch is only visible as a weak trend due to the highly magnetic signature of the outer ditch. The presence of this highly magnetic material indicates that the enclosure has suffered burning.

Possible internal activity is evidenced by a number of linear and curvilinear positive anomalies, detected within the enclosure. These could represent either habitation remains or internal divisions, a series of possible pits were also detected.

Anomaly **9** corresponds to a number of features which are located on the external edge of the double ditched enclosure (anomaly 8). These comprise of an area of enhancement, possible pits and small sections of ditches or cut features. Two of the ditch features intersect with the outer enclosure ditch and may indicate the presence of a secondary 'D-shaped' annex or division, 26m N-S and 22m E-W. This annex would comprise of a linear ditch to the east and an arcing possible ditch to the west.

The area of enhancement, possible pits and other possible ditches could suggest the presence of structures, smaller enclosures, boundaries or ditches which would have once surrounded the enclosure.

Anomaly **10** consists of a series of ditched or cut features and pits, which appear to form a possible sub-rectangular division to the south of anomaly 8. Measuring 35m E-W and 20m N-S, this anomaly could be archaeological or agricultural in origin.

Anomaly **11** comprises a series of highly magnetic features, covering an area of 23m N-S and 28m E-W, which are located adjacent to the modern field division. The highly magnetic nature of the features indicates that they contain burnt or fired material and could be archaeological or agricultural in nature.

Anomaly **12** consists of a circular ditch, 14m in diameter which is interspersed by five possible pits. These pits could be contained within the ditch or represent different deposits. It is likely that the anomaly represents an enclosure ditch, with a possible entranceway to the southwest.

Anomaly **13** is a linear feature of negative magnetism. Measuring 136m in length, this wall or stony bank intersects with a relict field boundary visible on historic mapping.

Anomaly **14** corresponds to a series of possible pits and possible ditches. Sixteen possible pits are contained within or adjacent to two arcing ditches. It is possible that these features represent an archaeological enclosure 16m in width.

To the south two sets of arcing double ditches were detected, 10m (West) and 19m (East) in length. It is unclear if these features are archaeological in origin, associated with the above possible enclosure or are agricultural in nature.

Anomaly **15** comprises a series of arcing possible ditches and possible pits which are located in the northern portion of the geological / alluvial activity. It is possible that these ditches and pits are archaeological in nature or they could be associated with the geological / alluvial activity.

Anomaly **16** consists of a semi-circular ditch, 29m in diameter. This enclosure ditch is located adjacent to an area of magnetic enhancement and two possible pits which are likely to be archaeological in origin. Contained within the enclosure are two arcing cut features and four possible pits which are likely to indicate archaeological activity.

Anomaly **17** represents a series of small, often interconnecting trends which were located on the northern edge of the survey area. These features have a very weak magnetic signature and therefore could be associated with geological, alluvial, agricultural or possibly archaeological activity.

Anomaly **18** is located in the northwest corner of the survey area and comprises a rectilinear cut feature, 13.5m SE-NW by 10m NW-SE. Two possible entranceways are located to the north and south, while a number of internal divisions and two possible pits were also detected. This could represent the footprint of a structure or division.

Anomaly **19** comprises two arcing probable ditches which are located on the western edge of the survey area. Encircling an area 73m in diameter, these ditches likely represent an archaeological enclosure, due to their strong magnetic signature. However, given that they are contained within an area of geological or alluvial activity the possibility that they relate to this activity cannot be ruled out.

The probable enclosure appears to surround a number of arcing possible ditches which could relate to habitation. The suggestion of a second outer ditch can be seen to the south which may be related to the enclosure.

# 4 Conclusion

## 4.1 Summary of Results

The geophysical survey undertaken for this report has revealed the presence of a palimpsest of probable archaeological activity. A double ditched enclosure was detected within the southern portion of the survey area. This enclosure appears to have suffered burning and contains internal features. A southern annex or boundary was also detected adjoining the enclosure, while further possible archaeological activity surrounds the monument.

Further archaeological activity was identified with the detection of three further enclosure ditches across the survey area. These range in size and formation and are often associated with pits. Further potential archaeological activity can be seen in the form of pit clusters, arcing ditches, possible structural remains, areas of magnetic enhancement and burnt or fired remains.

Evidence of agricultural activity was also identified through relict boundaries and divisions while an area of geological or alluvial activity was also detected.

## 4.2 Dissemination

The results of this survey were submitted to Kilsaran Build. Additional copies will be distributed in accordance with the Consent to use a Detection Device (see Appendix 2).

# 5 Acknowledgements

**Fieldwork:** Cian Hogan BSc (Hons) MIAI
Ursula Garner BSc (Hons) MSc

**Report and Graphics:** Heather Gimson BA (Hons) MSc MIAI

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## 7 Figures

# Technical Appendix

# Appendix 1: Anomaly Classifications



## Magnetometer

Magnetometer surveys are undertaken using magnetic gradiometers which measure the magnetic content of the underlying soils. Measurements are gained using sensors which calculate the difference between the geological / pedological background and anthropogenic remains associated with archaeological activity.

**Positive Magnetic Anomalies**
Burnt features, particularly kilns, but also hearths, furnaces and burnt (specifically 'burnt', not 'heated') mounds of stone will create a strongly magnetic anomaly due to thermoremanence. Cut features, such as pits, ditches or wooden postholes will create anomalies that will vary in shape and magnetic intensity depending on which material they were backfilled by (Fassbinder 2015). For cut features backfilled (or 'refilled') by

- magnetically enhanced topsoil – the refill will generate a positive magnetic anomaly
- homogeneous topsoil – the refill will generate an anomaly proportional to the size and volume of the archaeological feature.

The magnetic anomaly shape and intensity will also be determined by concentrations of pottery, ash or burned material, solid rocks or other material.

**Negative Magnetic Anomalies**
Negative magnetic anomalies have a number of causes (Fassbinder 2015):

- The material remains of the archaeological feature may have a lower magnetic susceptibility (MS) than the adjacent topsoil. In some cases the MS of a ditch may appear as both a positive and negative anomaly, reflecting the variable MS of the refill material. Some stone foundations can also appear as weakly magnetic or negative magnetic anomalies.
- If a cut feature is immediately refilled by the same material e.g. a grave cut excavated before a funeral is (almost) immediately refilled by the human body and the same (unaltered) sediment that was excavated before.
- Geochemical processes (see Fassbinder 2015) can alter the magnetic response, e.g. an archaeological feature identified by a positive anomaly can convert to a negative anomaly due to the combination of stagnant moisture and a changing groundwater table.

**Dipolar Anomalies**
A dipolar anomaly is a response to buried ferrous objects, often in the topsoil. Iron spikes generally are not removed in geophysical data; although often modern in origin (iron agricultural implements, rubbish), they can be indicative of archaeological material.

**Absence of Anomalies**
It is also possible that archaeological features exist that exhibit no magnetic contrast and hence cannot be identified by magnetometer survey.

# Anomaly classification used to interpret Magnetometer data

After Gaffney & Gater (2003) and Gaffney *et al*. (2000).



**A known archaeological feature type e.g. Ditch / Wall / Structure etc:** An anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil, where the presence of a type of archaeological feature is known from supporting evidence.

**Archaeology:** A linear, curvilinear or isolated anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil, without any supporting evidence from another source.

- **Ditch / Wall:** A linear, curvilinear, annular or penannular anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil. A positive polarity suggests a ditch; a negative polarity suggests a stone-filled ditch or wall.
- **Burnt Mound / Spread:** A horseshoe or ovoid shaped anomaly with a positive magnetic gradient that contrasts strongly with the surrounding sub-soil. An associated trough may be observed as a positive/negative anomaly. A hearth may also be expected nearby. Isolated responses in the vicinity could represent spreads of (or ploughed out) heat shattered stones.
- **Hearth:** A small isolated area (<2m diameter) of higher magnetic gradient than the surrounding sub-soil (typically >6nT).
- **Pit:** A small isolated area (>1-2m diameter) of moderate to high magnetic gradient, judged to be caused by a pit-type feature with a fill more magnetic than the surrounding soil.

**Industrial:** An isolated anomaly with a strong positive gradient (>30nT), judged not to be surface iron. This type of anomaly is typically caused by the remains of kilns or furnaces.

**Magnetic Enhancement:** A broad area of moderate positive magnetic gradient that contrasts with the surrounding sub-soil. May represent cultural noise associated with occupation or soil disturbance, judged to be of archaeological origin.

**Ferrous:** Dipolar anomalies indicating ferrous responses, judged to be in the near-surface.

**Cultivation:** Parallel linear responses of positive or negative polarity. Strong responses may indicate added magnetic material (e.g. burnt deposits) as fertiliser. Lower magnetic gradient anomalies 'beneath' the furrow overprint may be obscured. Higher magnetic gradient anomalies may be visualised *in situ* or ploughed out 'beneath' the furrow overprint.

**?Archaeology:** A linear, curvilinear or isolated anomaly with a magnetic gradient that contrasts weakly with the surrounding sub-soil, without any supporting evidence from another source. Such categories may represent possible archaeological or geological sources.

**Modern Disturbance:** Area where the ground has been disturbed in the recent past. Characterised by very large magnetic gradients and a high level of noise often accompanied by concentrations of dipolar, near-surface ferrous responses. This category also represents anomalies whose source may lie beyond the survey area, such as fencelines, vehicles or modern buildings.

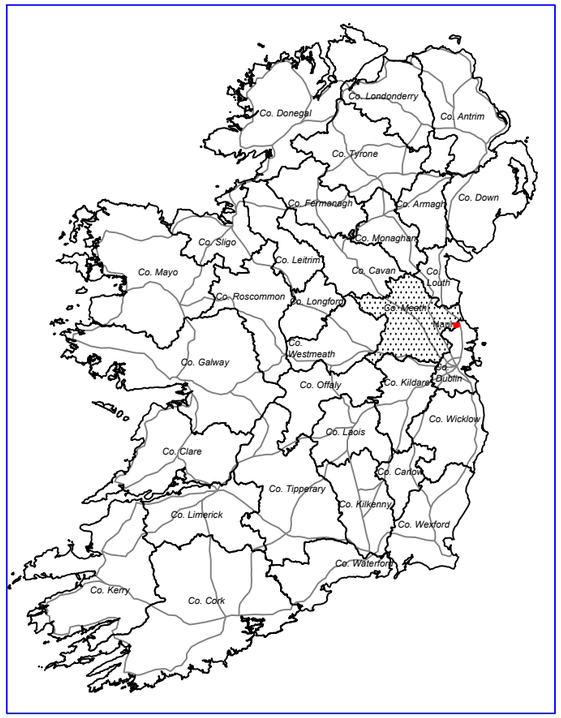
**Modern Pipe:** Straight, linear anomaly with very large magnetic gradients alternating regularly between positive and negative polarity.

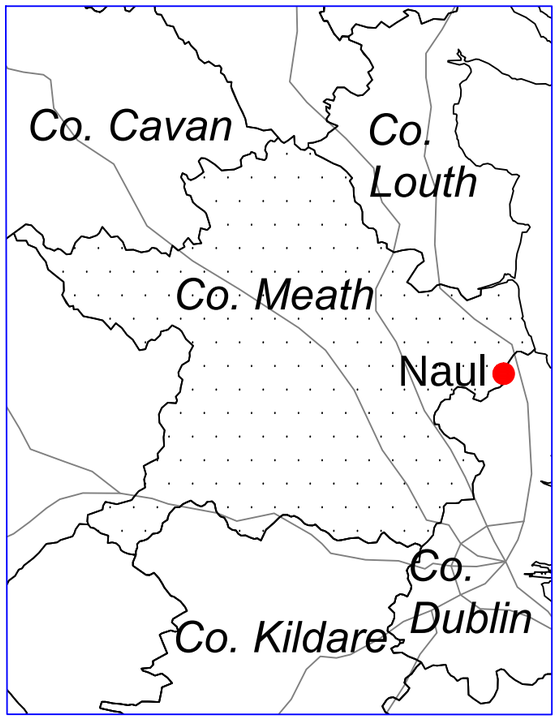
**Previous Excavation?:** Area of uniform magnetic signal contained within a well-defined boundary in regions otherwise densely covered with archaeological anomalies.

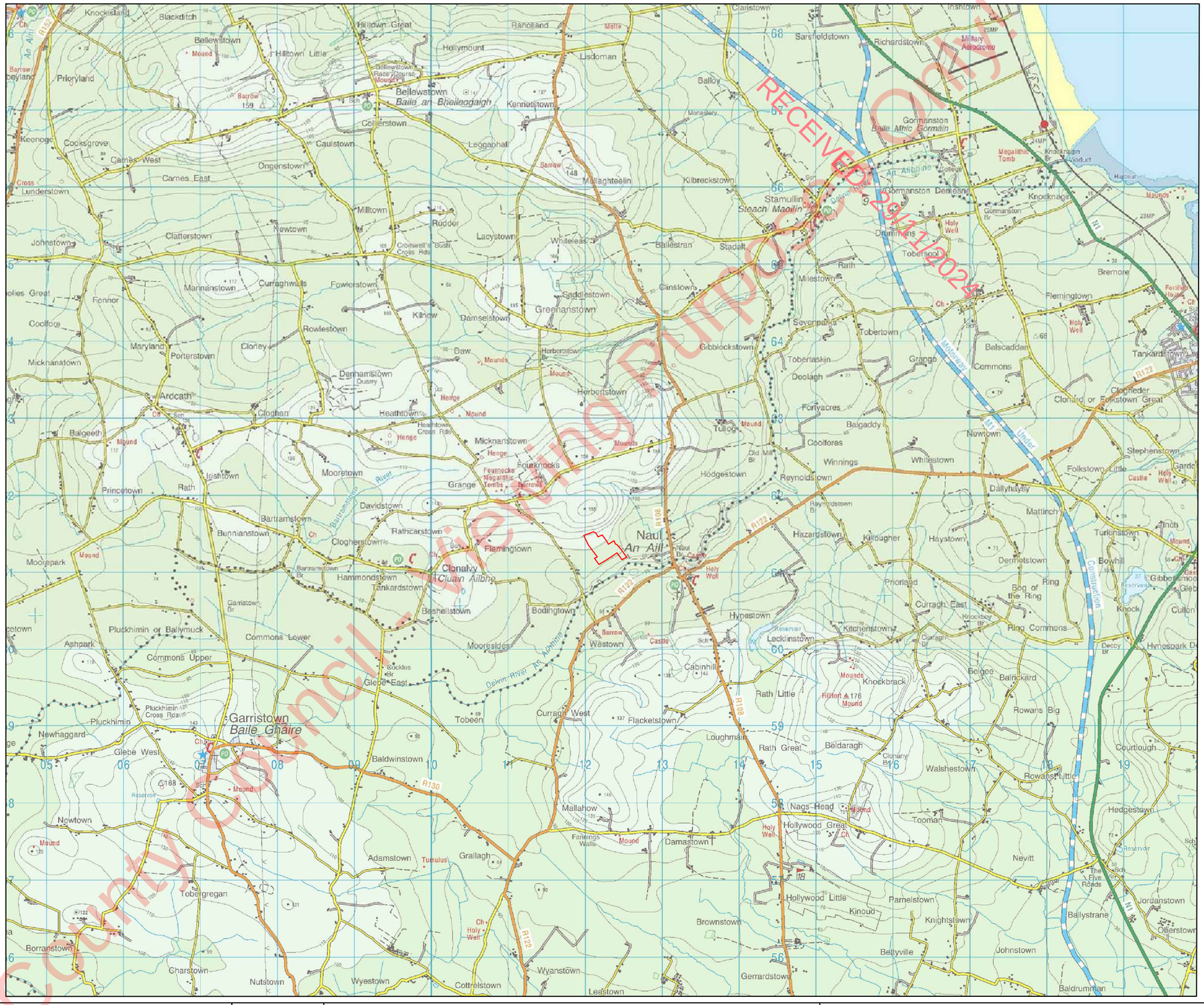
**Geology:** Anomalies of possible geomorphological origin.

# Appendix 2: Geophysical Archive

- Copies of the archive are held by Earthsound Geophysics Ltd., at separate locations to ensure preservation against accidental damage or theft.
- The Client, Kilsaran Build, holds further copies of the report.
- A hard copy and a soft copy will be deposited with the Archaeological Licensing Section, National Monuments Service, Department of Culture, Heritage and the Gaeltacht, Room G50, Custom House, Dublin 1.
- A hard copy will be deposited with the National Museum of Ireland, Kildare Street, Dublin 2.




***Legend***

Geophysical Survey Area

Site Location: Kilsaran Quarry, Naul, County Meath

Client: Kilsaran Build

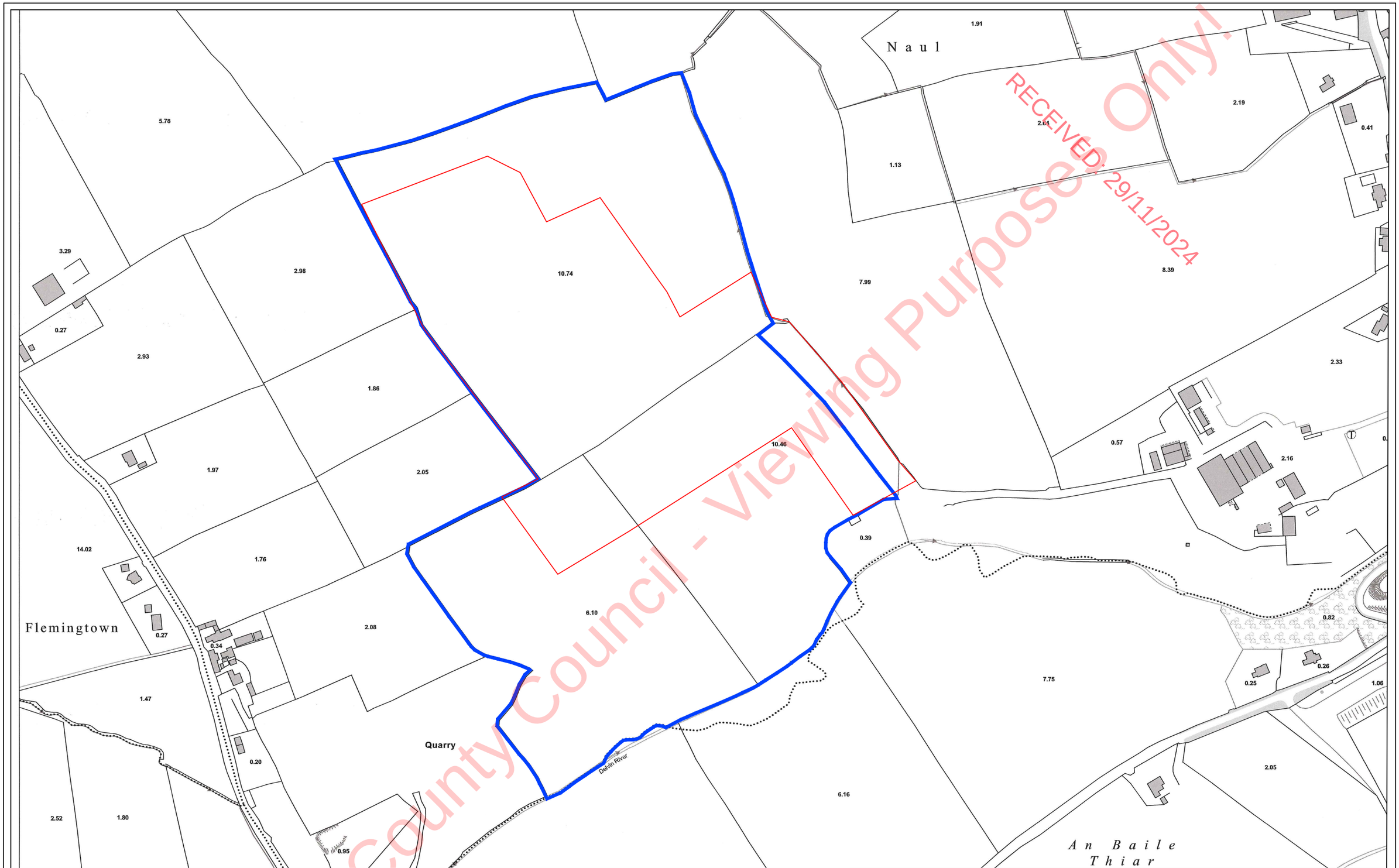
| Drawing Courtesy of: OSI | Date: 04/10/19 | Drawing No.: 19-064/01 |
|---|---|---|



0m 2km 4km

**Figure No. 1: Location Map**

EARTHSOUND geophysics






***Legend***

- Basemap
- Land Holding
- Geophysical Survey Area

Site Location: Kilsaran Quarry, Naul, County Meath

Client: Kilsaran Build

| Drawing Courtesy of: OSI | Date: 04/10/19 | Drawing No.: 19-064/02 |
|---|---|---|



0m 100m 200m

**Figure No. 2: Detailed Location Map**

EARTHSOUND geophysics

***Legend***

Basemap

Geophysical Survey Area

nT

-2 0 2

N

Site Location: Kilsaran Quarry, Naul, County Meath

Client: Kilsaran Build

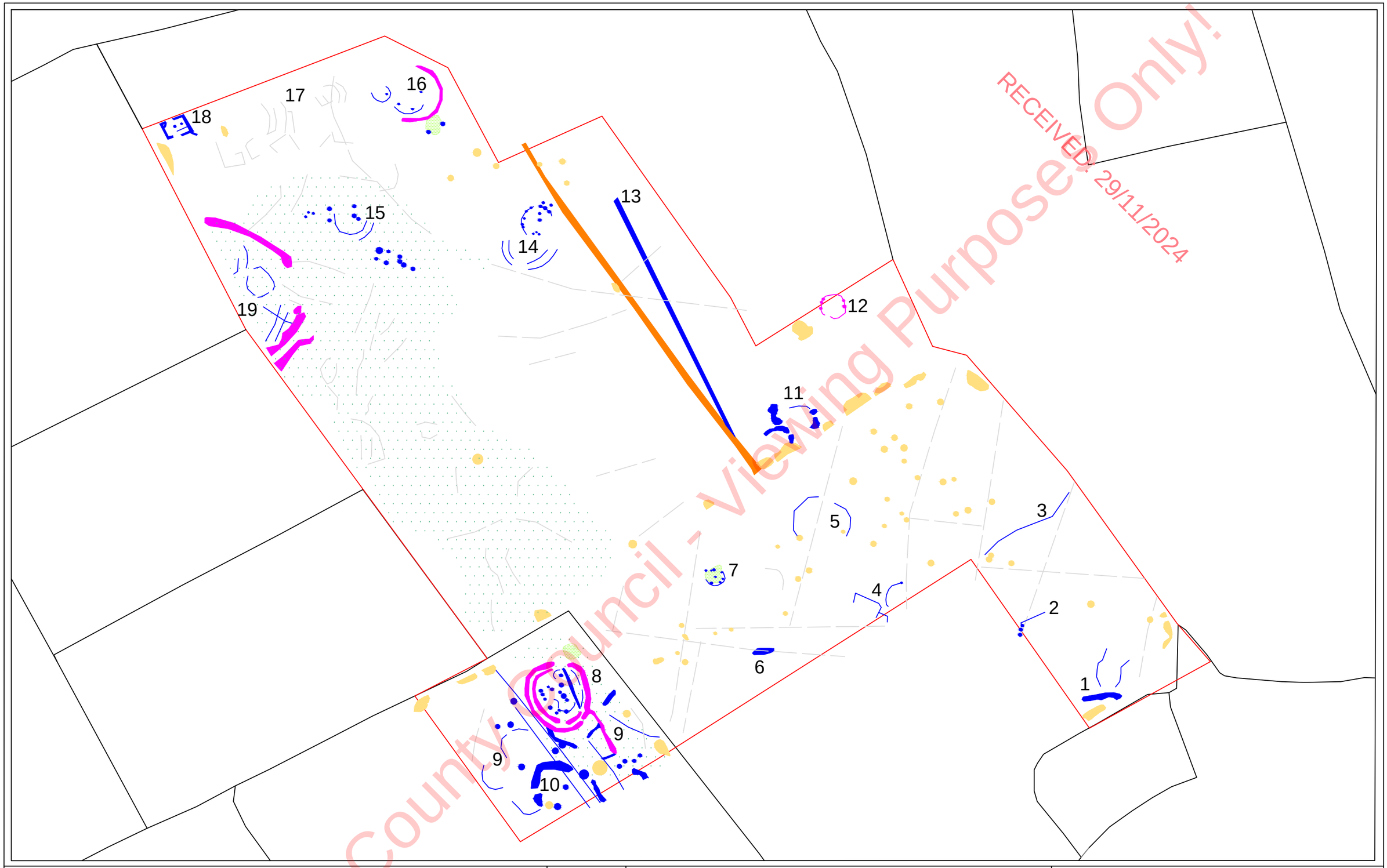
| Drawing Courtesy of: OSI | Date: 18/11/19 | Drawing No.: 19-064/03 |
|---|---|---|



0m 50m 100m

**Figure No. 3: Magnetometer Data**

EARTHSOUND geophysics






***Legend***

- Basemap
- Geophysical Survey Area
- Archaeology
- Possible Archaeology
- Magnetic Enhancement
- Trend
- Feature on Historic OS
- Geology / Alluvial Activity
- Modern Disturbance

Site Location: Kilsaran Quarry, Naul, County Meath

Client: Kilsaran Build

| Drawing Courtesy of: OSI | Date: 20/11/19 | Drawing No.: 19-064/04 |
|---|---|---|



0m 50m 100m

**Figure No. 4: Magnetometer Interpretation**

EARTHSOUND geophysics

## Appendix 12-6

**2008 Test Excavation**


ACS



ARCHAEOLOGICAL ASSESSMENT

**Ford de Fine, Naul, Co. Meath**

**Client:** Goode Concrete c/o Declan Brassil & Co.
Lincoln House, Phoenix Street,
Smithfield, Dublin 7.

| | |
|---|---|
| Licence No: | 08E242 |
| Planning Ref: | N/A |
| NGR: | 31199, 26076 |

**Report Date: 11th September 2008**

**ROBERT O'HARA**

Our Ref: 07_63

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## PROJECT DETAILS

| | |
|---|---|
| **Project** | Archaeological Assessment |
| **Archaeologist** | Rob O'Hara |
| **Client** | Goode Concrete c/o Declan Brassil & Co.<br>Lincoln House, Phoenix Street,<br>Smithfield, Dublin 7 |
| **Site Name** | Ford de Fine |
| **Townland** | Naul |
| **Nat Grid Ref** | 31199/ 26076 |
| **Licence No** | 08E242 |
| **Project Start Date** | 8 September 2008 |
| **Report Date** | 11 September 2008 |
| **ACS Ref** | 07_63 |

## NON-TECHNICAL SUMMARY

This report presents the findings of an archaeological assessment in the form of test trenching for the site of a proposed quarry extension located at Ford de Fine, 1km northwest of the village of Naul County Meath, carried out on behalf of Goode Concrete Ltd c/o Declan Brassil & Company, Lincoln House, Phoenix Street, Smithfield, Dublin 7.

The site of the existing quarry contains a Recorded Monument (ME033-034) a mound site, located within the current site boundary of the existing quarry. This recorded monument (ME033-034) is described within the Record of Monuments and Places as a mound or possible barrow, 10m by 15m in diameter, situated on a ridge overlooking the River Delvin. In 1985 a field inspection associated with the development of the Meath Archaeological Inventory stated that no visible traces of the monument could be identified. The site of this RMP is now beneath massive spoil heaps from previous activity at the quarry.

The current testing programme focused on a proposed extension to the northeast of the existing quarry. A total of 26 test trenches were excavated at this location. Geophysical survey had highlighted a number of areas of archaeological potential, particularly along the southern boundary of proposed extension, where test trenching identified features, corresponding to anomalies on the geophysical survey. Under the current proposals, this part of the site would be situated beneath a berm delimiting and screening the quarry. The features found at this location were the only archaeological features noted within the site.

**Recommendations:**

The features identified in Trenches 1 & 2 are located in a part of the site intended as a berm to screen the proposed quarry activity. There will be a minimal impact on these features from traffic associated with the construction of this berm. The following mitigation was approved (24 October 2008) by Catherine Desmond of the National Monuments Service of The Department of the Environment, Heritage and Local Government.

1. A geotextile membrane will be laid on existing topsoil beneath berm prior to construction works;
2. A 1-tonne excavator will be used to construct the berm;
3. The work will be carried out under archaeological supervision to ensure compliance with the above criteria.

With respect to the RMP site (ME033:034) located within the existing quarry; investigation of this site was beyond the remit of the current testing programme, as the site location as indicated by the RMP files is beneath massive spoil heaps and thus unavailable for testing. It is suggested that any ground disturbance in the vicinity of this area be archaeologically monitored to mitigate any damage to the RMP site.

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# 1 INTRODUCTION

This report presents the findings of an archaeological assessment in the form of test trenching of the site of a proposed quarry extension located at Ford de Fine, 1km northwest of the village of Naul County Meath (NGR: 31199/ 26076; Figures 1, 2), carried out on behalf of Goode Concrete Ltd c/o Declan Brassil & Company, Lincoln House, Phoenix Street, Smithfield, Dublin 7. A desk-based study (Stirland 2007) and geophysical survey (Nicholls 2008a; 2008b) have been undertaken in relation to this project.

# 2 DEVELOPMENT

The assessment is been carried out prior to a planning application at the request of Goode Concrete through Declan Brassil & Co. The aim of the assessment was to determine the archaeological potential of the proposed extension.

# 3 RECEIVING ENVIRONMENT

## 3.1 Archaeological Landscape

The landscape surrounding the townland of Naul has been subject to human development and settlement since prehistoric times. The monuments listed in the RMP clearly demonstrate that the surrounding landscape is made up of a mosaic of different periods of historic and prehistoric activity and the features within the modern landscape serve as reminders and indicators of past land use practices and cultural changes. The topography and location of the site proposed for development would suggest that, in theory, it was a suitable location for settlement in prehistoric times through to the early medieval period. The overall importance of the landscape in terms of prehistoric activity is clearly demonstrated by the concentration of recorded monuments of prehistoric date within the nearby townland of Fourknocks and its surrounding townlands. The townland of Fourknocks contains two passage tombs, a cemetery mound, two barrows, and a henge monument; these recorded monuments serve as a physical reminder of the prehistoric significance of this overall landscape. The medieval significance of this landscape is noted by the presence of two recorded tower houses or castles located within the village of Naul and within the townland of Westown. The name of the bridge located directly alongside the site of the existing quarry also serves of a reminder of medieval activity within the landscape, marked Ford de Fine on the 3rd edition OS map, as the etymology of this name suggests Norman origins.

### 3.2 Record of Monuments and Places

The site of the proposed development contains a Recorded Monument (ME033-034), a mound site (NGR 31199/26076; Figure 3). The definition of a mound site within the RMP is an artificial elevation of earth or earth and stone of unknown date and function that cannot be classified as a specific monument type. This recorded monument (ME033-034) is described within the RMP as a mound or possible barrow, 10m by 15m in diameter, situated on a ridge overlooking the River Delvin. In 1985, a field inspection associated with the development of the Meath Archaeological Inventory states that no visible traces of the monument could be identified. The following is a list of recorded monuments located within the wider landscape and has been included to demonstrate the overall landscape's archaeological potential.

| RMP No | NGR | Townland | Site Type |
|---|---|---|---|
| DU004-004 | 31196/26050 | Westown | Enclosure site |
| DU004-005 | 31215/26024 | Westown | Barrow |
| DU004-04301 | 31283/26020 | Westown | Tower house |
| DU004-04302 | 31283/26020 | Westown | Hall, possible |
| DU004-007 | N/A | Naul | Mill, unclassified |
| DU004-008 | 31332/26113 | Naul | Castle / tower house |
| DU004-009 | 31348/26111 | Naul | Ritual site / holy well |
| DU004-01001 | 31334/26102 | Naul | Church |
| DU004-01002 | N/A | Naul | Cross |
| DU004-01003 | 31334/26102 | Naul | Graveyard |
| ME033-033 | 31204/26181 | Naul | Mound site |

### 3.3 Geophysical Survey

The proposed extension was the subject of a geophysical survey carried out by Target Archaeological Geophysics (Nicholls 2008a; 2008b). Gradiometer scanning followed by targeted detailed gradiometer survey suggested a number of potential archaeological features existed below the surface, including a bivallate circular enclosure (c.35m in diameter) in the northeast of Field 1 (Figure 4) and additional enclosures in the south of that field (Nicholls 2008a). There were no clear indications of archaeological remains in Field 2 (Nicholls 2008b). There was extensive natural variation across much of the proposed site and a number of anomalies may be the result of site investigation work at this location in the past. The site boundary of the proposed development was amended to avoid substantial impact on these archaeological remains.

### 3.4 Assessment Results

A total of 26 test trenches were excavated within the current site boundary (Figure 4; Plate 1). The combined trench length was 1960m. There was some variation in subsoil, though generally it was yellow brown boulder clay with underlying strata (coarse sand) visible in places. A number of these trenches sought to identify anomalies recorded during the geophysical survey (particularly in Trenches 1 & 2), while the remainder were excavated at regular intervals across the site to determine if any archaeological features existed that were not picked up by the gradiometer survey.

| Trench | Length | Depth | Features |
|---|---|---|---|
| 1 | 110m | 0.2m–0.4m | Features (F2, F3) recorded |
| 2 | 100m | 0.2m–0.4m | Feature (F1) recorded |
| 3 | 60m | 0.2m–0.4m | No archaeological features were recorded |
| 4 | 80m | 0.2m–0.4m | No archaeological features were recorded |
| 5 | 90m | 0.2m–0.4m | No archaeological features were recorded |
| 6 | 85m | 0.2m–0.4m | No archaeological features were recorded |
| 7 | 100m | 0.2m–0.4m | No archaeological features were recorded |
| 8 | 35m | 0.2m–0.4m | No archaeological features were recorded |
| 9 | 95m | 0.2m–0.4m | No archaeological features were recorded |
| 10 | 85m | 0.2m–0.4m | No archaeological features were recorded |
| 11 | 85m | 0.2m–0.4m | No archaeological features were recorded |
| 12 | 85m | 0.2m–0.4m | No archaeological features were recorded |
| 13 | 90m | 0.2m–0.4m | No archaeological features were recorded |
| 14 | 80m | 0.2m–0.4m | No archaeological features were recorded |
| 15 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 16 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 17 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 18 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 19 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 20 | 70m | 0.2m–0.4m | No archaeological features were recorded |
| 21 | 65m | 0.2m–0.4m | No archaeological features were recorded |
| 22 | 65m | 0.2m–0.4m | No archaeological features were recorded |
| 23 | 65m | 0.2m–0.4m | No archaeological features were recorded |
| 24 | 65m | 0.2m–0.4m | No archaeological features were recorded |
| 25 | 65m | 0.2m–0.4m | No archaeological features were recorded |
| 26 | 35m | 0.2m–0.4m | No archaeological features were recorded |

Three potential archaeological features were identified and are below. They corresponded to anomalies on the geophysical survey. They were identified in a part of the site intended as a berm to screen the quarry activities. The remaining site area did not contain any archaeological features. The combined results of the geophysical survey and test trenching suggest that archaeological deposits are present within a small part of the site, but otherwise the remaining area is free of extensive archaeological deposits.

| Feature Number | Description |
|---|---|
| F1 | A shallow linear deposit of dark grey silty clay with no obvious inclusions within the recorded section. 0.60m wide x 0.03m deep. It corresponded to an east-west orientated anomaly on the geophysical survey. The date of the feature was not determined (Plates 2, 3). |
| F2 | A linear deposit of dark brown silty clay with charcoal inclusions 0.35m wide x 0.15m deep. It extended across the trench and continued in both directions. It was also identified by the geophysical survey where it appeared to be an element of a larger square shaped enclosure (Plates 4, 5). |
| F3 | A curving ditch feature identified on the geophysical survey. 1.8m wide x 1.0m deep. Four deposits were recorded, the uppermost having charcoal inclusions and fragments of animal bone (Plates 6, 7). This feature may be a tree-lined feature marked on the OS 3rd edition map (See Figure 2). Its date could not be determined within the excavated section. |

## 4 CONCLUSION

The findings of the current archaeological test trenching generally concur with those of the earlier geophysical survey. The identified features in Trenches 1 & 2 corresponded to anomalies on the earlier survey, although test excavation could not conclusively determine the date and nature of these features. These were the only areas in which archaeological features were recorded. The remaining site area was devoid of archaeological remains.

## 5 SUGGESTED MITIGATION MEASURES

The features identified in Trenches 1 & 2 are located in a part of the site intended as a berm to screen the proposed quarry activity. There will be a minimal impact on these features from traffic associated with the construction of this berm. The following mitigation was approved (24 October 2008) by Catherine Desmond of the National Monuments Service of The Department of the Environment, Heritage and Local Government.

1. A geotextile membrane will be laid on existing topsoil beneath berm prior to construction works;
2. A 1-tonne excavator will be used to construct the berm;
3. The work will be carried out under archaeological supervision to ensure compliance with the above criteria.

With respect to the RMP site (ME033:034) located within the existing quarry; investigation of this site was beyond the remit of the current testing programme, as the site location as indicated by the RMP files is beneath massive spoil heaps and thus unavailable for testing. It is suggested that any ground disturbance in the vicinity of this area be archaeologically monitored to mitigate any damage to the RMP site.

**NOTES:**

All conclusions and recommendations expressed in this report are subject to the approval of Department of the Environment, Heritage and Local Government (DOEHLG) and the relevant local authorities. As the statutory body responsible for the protection of Ireland's archaeological and cultural heritage resource, the DOEHLG may issue alternative or additional recommendations.



## 6 BIBLIOGRAPHY

**References**

Nicholls, J. 2008a Geophysical Survey Report. Ford de Fine, Naul (08R101). Unpublished report prepared by TAG.

Nicholls, J. 2008b Geophysical Survey Report. Phase 2. Ford de Fine, Naul (08R101). Unpublished report prepared by TAG

Stirland, J. 2007 Archaeological Impact Assessment. Ford de Fine, Naul. Unpublished report prepared by ACS Ltd.

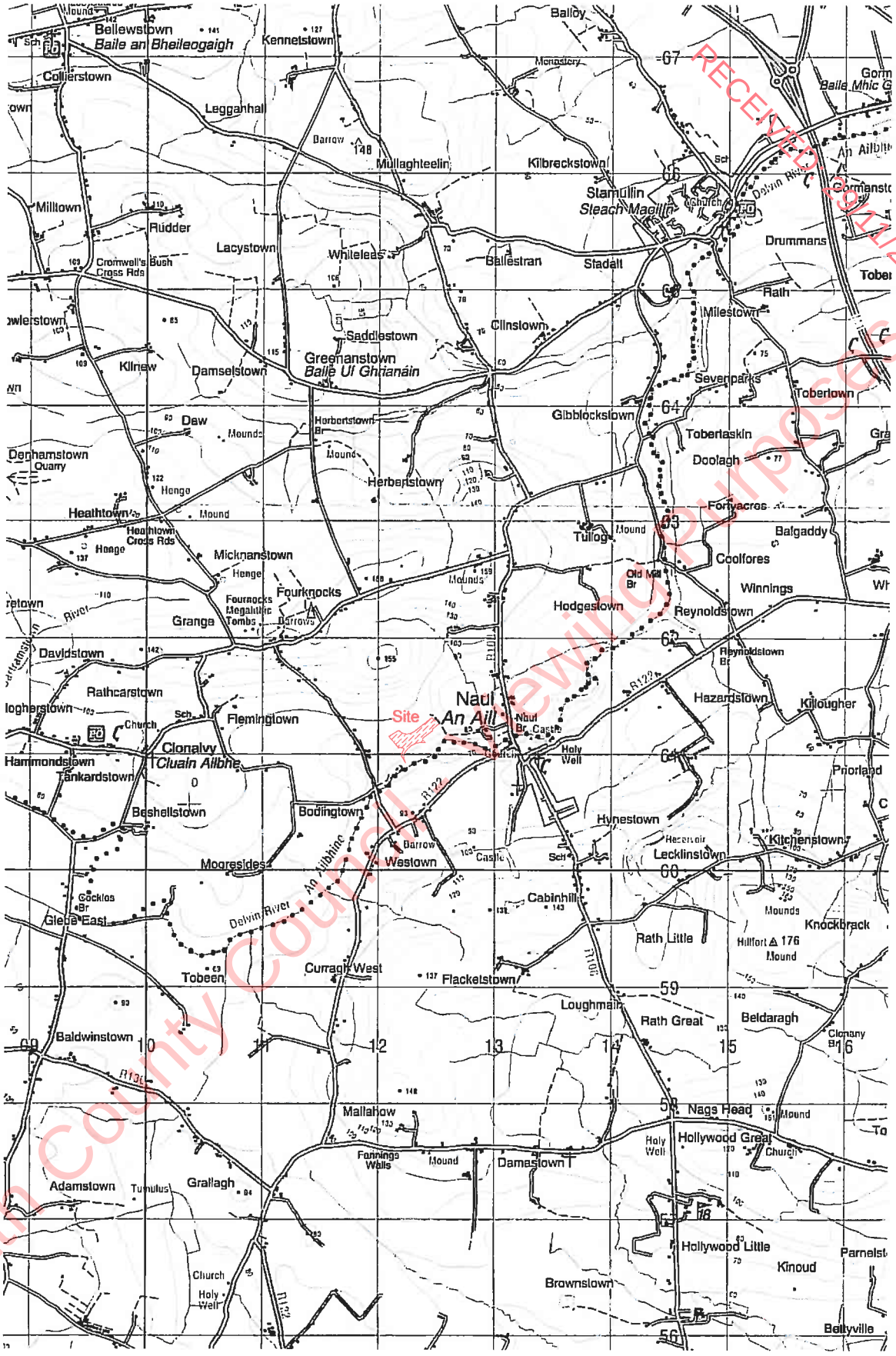
**Other Sources**

Historical Maps courtesy of the Map Library, Trinity College, Dublin 2.

Record of Monuments and Places (RMP), of The Department of the Environment, Heritage and Local Government, 7 Ely Place Upper, Dublin 2.

Robert O'Hara

Rob O'Hara BA MIAI
11 September 2008






| | | |
|---|---|---|
| **Archaeological Consultancy Services Ltd.** Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth | Site: Ford De Fine, Naul, Co. Meath | Scale: 1:50,000 A4 |
| | Issued for: Archaeological Assessment Report | Date: Sept '08 |
| | Client: Goode Concrete c/o Declan Brassil & Co. Ltd | Origin: Discovery Series No.43 |
| | | Drawing no.: 07_63_C1031 |

*Figure 1: Site location map*

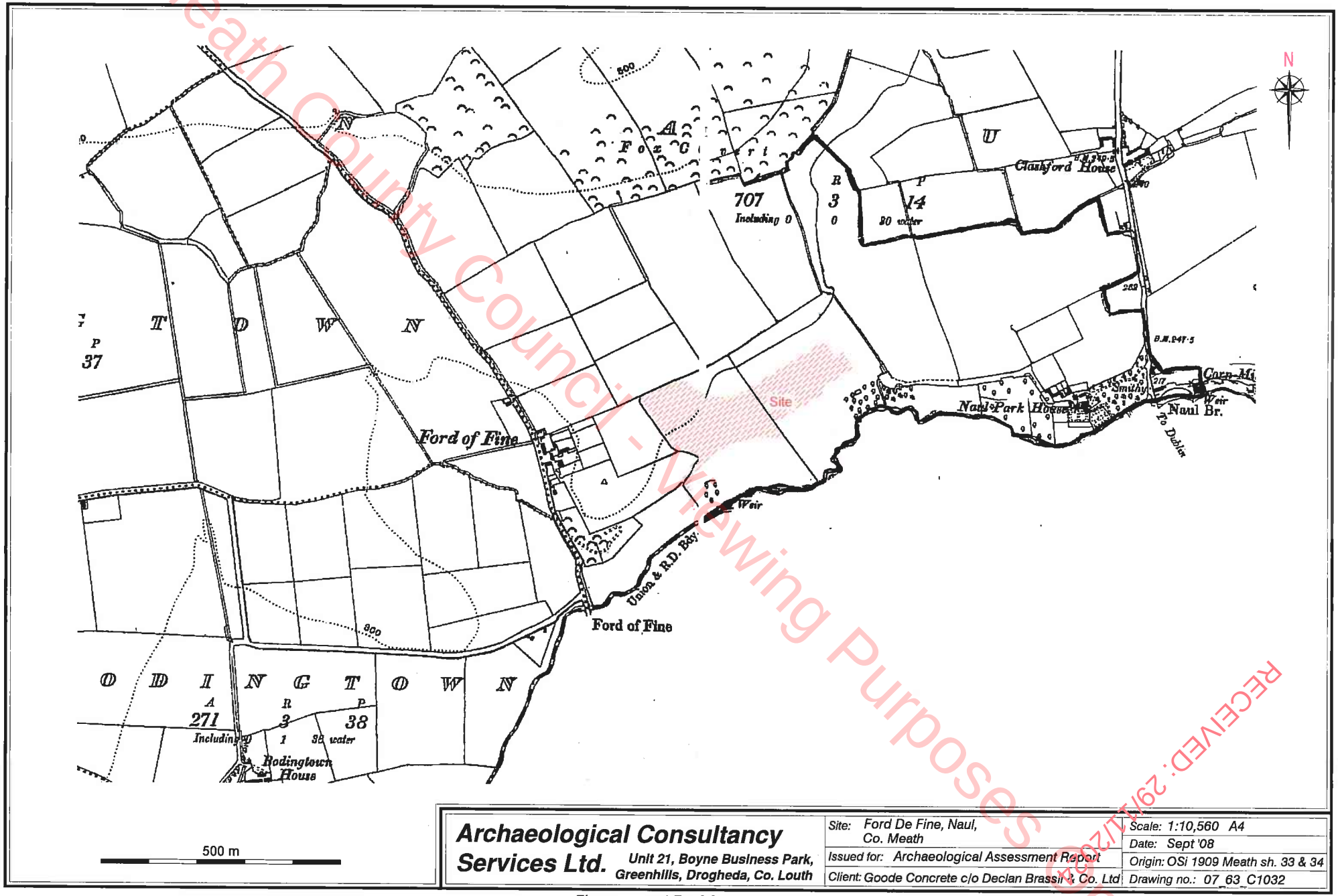
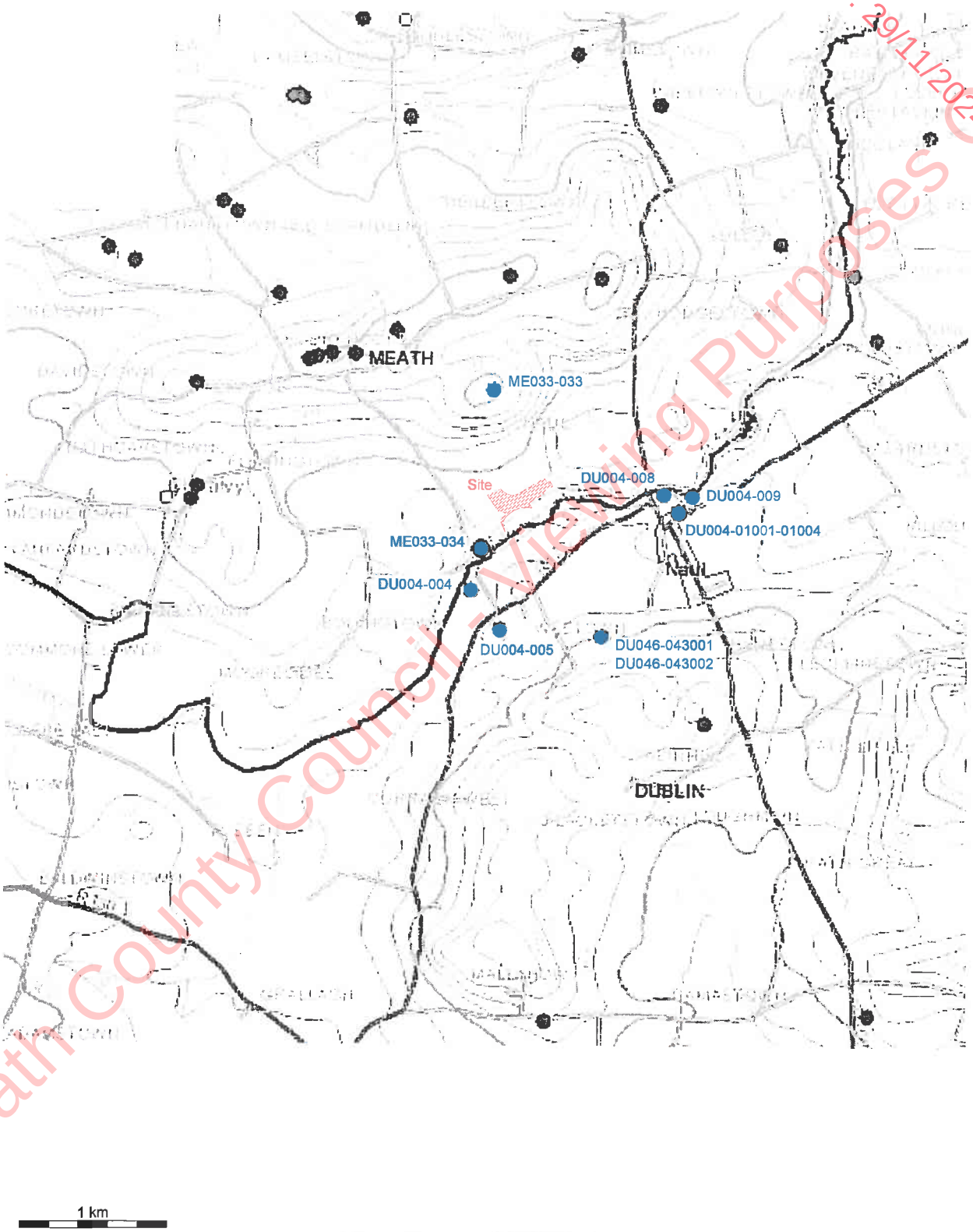



Figure 2: 3rd Ed OS map




| | | |
|---|---|---|
| **Archaeological Consultancy Services Ltd.** Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth | Site: Ford De Fine, Naul, Co. Meath | Scale: 1:40,000 A4 |
| | Issued for: Archaeological Assessment Report | Date: Sept '08 |
| | Client: Goode Concrete c/o Declan Brassil & Co. Ltd | Origin: Heritage Services Map Browser |
| | | Drawing no.: 07_63_C1033 |

*Figure 3: Recorded Sites and Monuments*

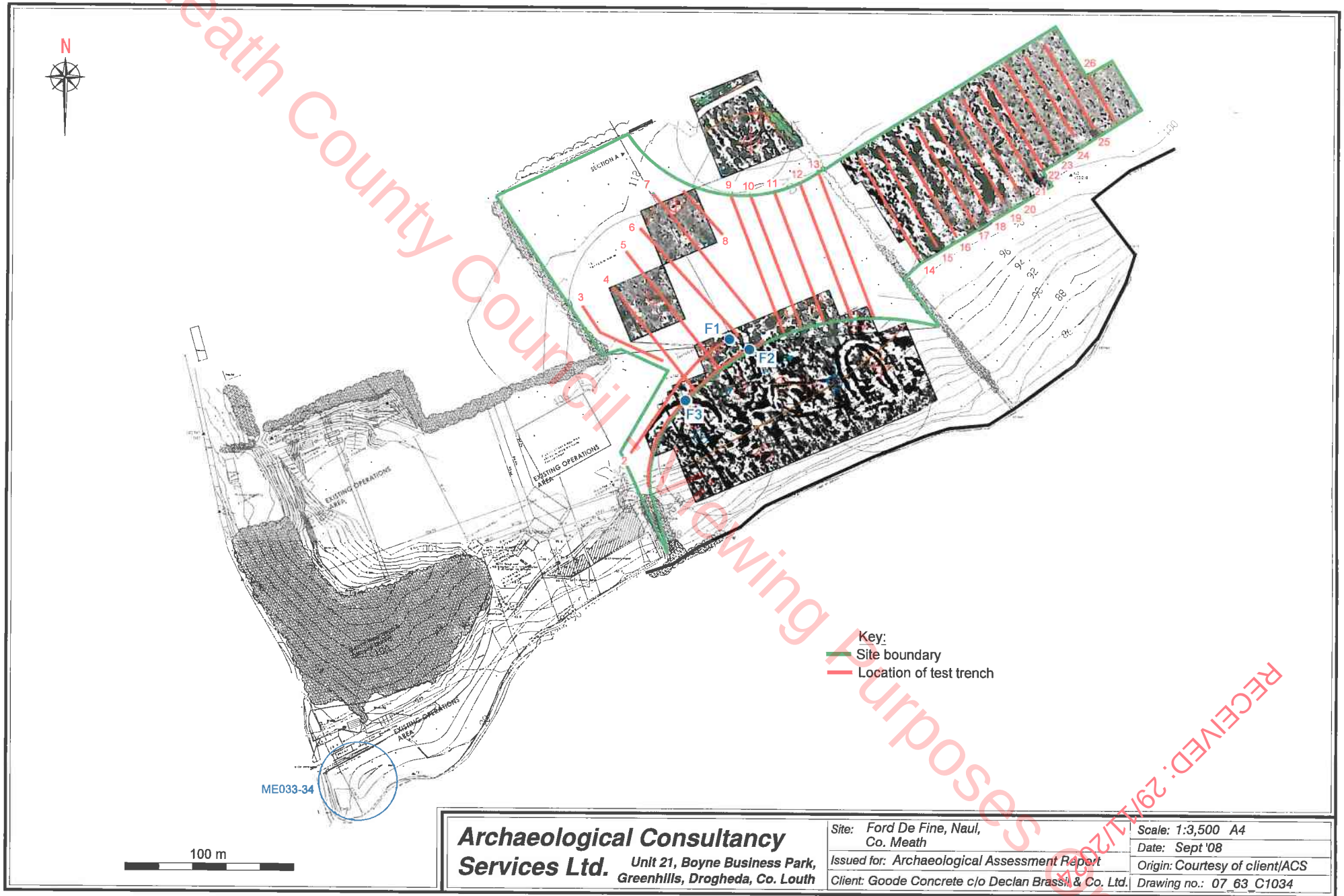



*Figure 4: Location of test trenches over geophysical survey results*

*Plate 1: Excavated trenches from south (07_63_CP1001_14)*

*Plate 2: F1 (07_63_CP1001_12)*

*Plate 3: Excavated section of F1 from south (07_63_CP1001_10)*

Plate 4: F2 (07_63_CP1001_03)

Plate 5: Excavated section of F2 from west (07_63_CP1001_04)

Plate 6: F3 (07_63_CP1001_06)

Plate 7: Excavated section of F3 from west (07_63_CP1001_08)

## Appendix 12-7

**2020 Test Excavation**

# Proposed quarry development at Naul Td., Co. Meath



## Part 1 – Archaeological Testing at Naul, County Meath - FINAL REPORT

**Excavation Licence No. 20E0053 X (Annette Quinn)**

**Planning Ref:** AA191263 Meath County Council
**Planning Status:** Further Information

---

**Client:** **Kilsaran Concrete**

**By:** Annette Quinn
Tobar Archaeological Services
Saleen,
Midleton,
Co. Cork
E-mail: *annette@tobararchaeology.ie*
Tel: 021-4652305

**April 2020**

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| **Excavation report** | Part 1 |
| **Excavation Licence No.** | **20E0053 X** |
| **Licensee:** | Annette Quinn |
| **Planning Ref:** | AA191263 Meath County Council |
| **Townland:** | Naul |
| **County:** | Meath |
| **ITM Coordinates (Centre point)** | ITM E712208, N761346 |
| **Planning Status:** | Further Information |

# 2 INTRODUCTION

## 2.1 SCOPE OF WORK

Pre-development archaeological testing of a proposed quarry development site at Naul townland, near Naul village, Co. Meath was undertaken between the 2nd-4th March 2020 by Tobar Archaeological Services. The client (Kilsaran Concrete) has applied for planning permission for a quarry development at Naul townland (Pl. Ref. AA191263). The testing was carried out under licence (20E0053) from the National Monuments Service (NMS) of the Department of Culture, Heritage and the Gaeltacht (DCHG) and the layout of the trenches was agreed with the same Department in the methodology submitted with the licence application. Further details regarding the proposed development can be referred to in the planning application drawings. A request for Further Information has issued from the planning authority, which relates to archaeology. Geophysical survey and archaeological testing of the development site was requested (see below). Archaeological testing of the geophysical anomalies only was requested by the ICF project archaeologist, Dr. Charles Mount.

## 2.2 DEVELOPMENT DESCRIPTION AND SITE LOCATION

The application site is located in the townland of Naul, Co. Meath on OS Six Inch sheet Nos. 33 and 34. It is situated 0.71 km to the north of the river Delvin, north-west of the village of Naul and west of the R108 Regional road. Access to the site is from the Naul road through an agricultural yard and associated access track. The proposed development area comprises portions of three adjoining arable fields. Crop was planted in a portion of the northern field and also in the south-western field while the remaining areas were not freshly ploughed or planted. The proposed development will comprise the extraction and processing of sand and gravel to service the existing readymix concrete pant operated by Kilsaran on the eastern side of the R108.

## 2.3 PREVIOUS WORK CARRIED OUT ON THE SITE

A number of archaeological geophysical surveys (08R0101 Phase 1 and 2) and subsequent archaeological investigations (08E0242) were carried out on or adjacent to the proposed development site in 2008 by ACS. A more recent programme of geophysical survey across the proposed quarry area (this application) was carried out by Earthsound Archaeological Geophysics in 2019 (Detection Licence No. 19R0225). The survey revealed the presence of a number of potential archaeological features with nineteen anomalies identified. A summary of the anomalies is provided below. Targeted testing of all anomalies was carried out under this testing licence at the request of the ICF project archaeologist to fulfil the Further Information Request.

### 2.3.1 Summary of Geophysical Anomalies (19R0225)

Anomaly 1 comprises a highly magnetic linear which traverses the southern corner of the survey area. Measuring 19m in length, this anomaly is likely to have been burnt or fired. It may represent a relict field boundary or field division, once linked to the adjacent extant field boundary. To the north of anomaly 1 two curving ditches were detected, covering an area of 17m N-S by 13m E-W. These features could be archaeological or agricultural in origin.

Anomalies 2 and 3 are curvilinear trends of raised magnetism, measuring 9m and 57m in length, which are likely to be associated with agricultural divisions. Anomaly 2 is located adjacent to three possible pits or tree bowls.

Anomaly 4 comprises of three arcing possible ditches. Measuring 8m, 16m and 27m in length, these features could be archaeological, agricultural or geological in origin.

Anomaly 5 consists of two arcing possible ditches which possibly enclose an area of 29m N-S and 31m E-W. These features could be associated with an archaeological enclosure.

Anomaly 6 is an isolated area of highly magnetic responses which is located along a linear trend. The highly magnetic nature of the anomaly suggests that it likely represents burning, probably occurring during the destruction of the boundary.

Anomaly 7 comprises an arcing possible ditch, 17m in length, which appears to surround eight possible pits. The possible ditch also appears to enclose an area of low magnetic enhancement, suggestive of a stony layer. These anomalies combined, cover an area 10m in diameter and could be archaeological in origin.

Anomaly 8 is a double-ditched oval enclosure, measuring 24m E-W by 27m N-S internally. A possible entranceway was detected to the north, with a second possible entrance to the south. The double ditch nature of the enclosure can clearly be seen to the west; to the east the internal ditch is only visible as a weak trend due to the highly magnetic signature of the outer ditch. The presence of this highly magnetic material indicates that the enclosure has suffered burning. Possible internal activity is evidenced by a number of linear and curvilinear positive anomalies, detected within the enclosure. These could represent either habitation remains or internal divisions, a series of possible pits were also detected.

Anomaly 9 corresponds to a number of features which are located on the external edge of the double ditched enclosure (anomaly 8). These comprise of an area of enhancement, possible pits and small sections of ditches or cut features. Two of the ditch features intersect with the outer enclosure ditch and may indicate the presence of a secondary 'D-shaped' annex or division, 26m N-S and 22m E-W. This annex would comprise of a linear ditch to the east and an arcing possible ditch to the west. The area of enhancement, possible pits and other possible ditches could suggest the presence of structures, smaller enclosures, boundaries or ditches which would have once surrounded the enclosure.

Anomaly 10 consists of a series of ditched or cut features and pits, which appear to form a possible sub-rectangular division to the south of anomaly 8. Measuring 35m E-W and 20m N-S, this anomaly could be archaeological or agricultural in origin.

Anomaly 11 comprises a series of highly magnetic features, covering an area of 23m N-S and 28m E-W, which are located adjacent to the modern field division. The highly magnetic nature of the features indicates that they contain burnt or fired material and could be archaeological or agricultural in nature.

Anomaly 12 consists of a circular ditch, 14m in diameter which is interspersed by five possible pits. These pits could be contained within the ditch or represent different deposits. It is likely that the anomaly represents an enclosure ditch, with a possible entranceway to the southwest.

Anomaly 13 is a linear feature of negative magnetism. Measuring 136m in length, this wall or stony bank intersects with a relict field boundary visible on historic mapping.

Anomaly 14 corresponds to a series of possible pits and possible ditches. Sixteen possible pits are contained within or adjacent to two arcing ditches. It is possible that these features represent an archaeological enclosure 16m in width. To the south two sets of arcing double ditches were detected, 10m (West) and 19m (East) in length. It is unclear if these features are archaeological in origin, associated with the above possible enclosure or are agricultural in nature.

Anomaly 15 comprises a series of arcing possible ditches and possible pits which are located in the northern portion of the geological / alluvial activity. It is possible that these ditches and pits are archaeological in nature or they could be associated with the geological / alluvial activity.

Anomaly 16 consists of a semi-circular ditch, 29m in diameter. This enclosure ditch is located adjacent to an area of magnetic enhancement and two possible pits which are likely to be archaeological in origin. Contained within the enclosure are two arcing cut features and four possible pits which are likely to indicate archaeological activity.

Anomaly 17 represents a series of small, often interconnecting trends which were located on the northern edge of the survey area. These features have a very weak magnetic signature and therefore could be associated with geological, alluvial, agricultural or possibly archaeological activity.

Anomaly 18 is located in the northwest corner of the survey area and comprises a rectilinear cut feature, 13.5m SE-NW by 10m NW-SE. Two possible entranceways are located to the north and south, while a number of internal divisions and two possible pits were also detected. This could represent the footprint of a structure or division.

Anomaly 19 comprises two arcing probable ditches which are located on the western edge of the survey area. Encircling an area 73m in diameter, these ditches likely represent an archaeological enclosure, due to their strong magnetic signature. However, given that they are contained within an area of geological or alluvial activity the possibility that they relate to this activity cannot be ruled out.

## 2.4 METHODOLOGY

The testing methodology was agreed with the National Monuments Service through the licensing system. The methods of testing were prior agreed with the same Department therefore and dictated by the details of contract between Tobar Archaeological Services and Kilsaran Concrete. All test trenches were set out and tied in using a GPS Leica GS07 plus Smart Antenna with a Leica CS20 3.75G Field Controller. This allowed a mm accurate survey of all test trenches in Irish Transverse Mercator coordinate system. Thirty archaeological test trenches were excavated over the 19 geophysical anomalies and varied in length from 10m-40m. All trenches were excavated with a 26 tonne tracked excavator equipped with a 2m wide grading toothless bucket.

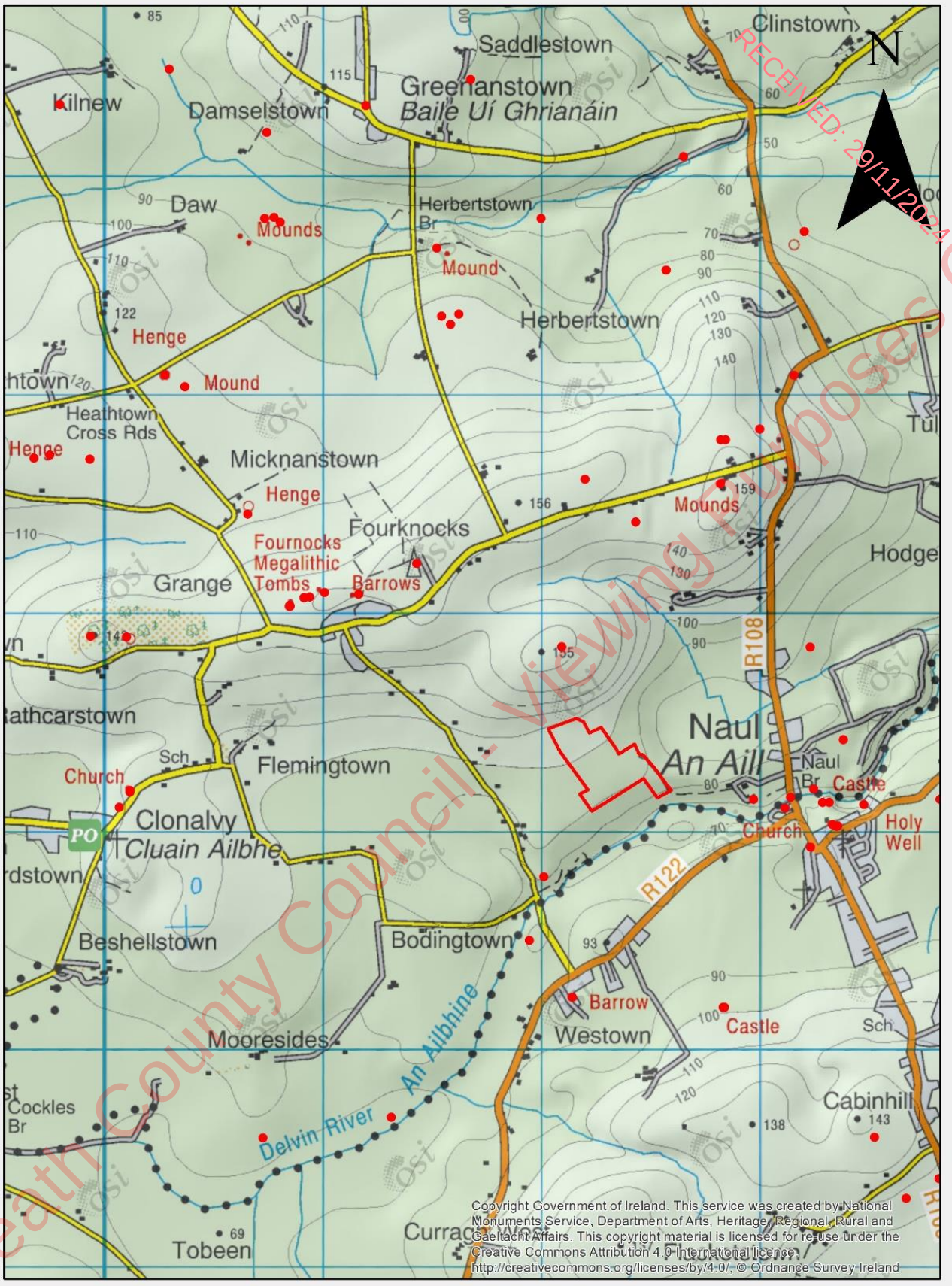








**Figure 1: Site Location map.**

# 3 STATUTORY CONTEXT

## 3.1 CURRENT LEGISLATION

**Archaeological monuments** are safeguarded through national and international policy, which is designed to secure the protection of the cultural heritage resource. This is undertaken in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention). This was ratified by Ireland in 1997.

Both the National Monuments Acts 1930 to 2004 and relevant provisions of the Cultural Institutions Act 1997 are the primary means of ensuring protection of archaeological monuments, the latter of which includes all man-made structures of whatever form or date. There are a number of provisions under the National Monuments Acts which ensure protection of the archaeological resource. These include the Register of Historic Monuments (1997 Act) which means that any interference to a monument is illegal under that Act. All registered monuments are included on the Record of Monuments and Places (RMP).

The Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments (Amendment) Act 1994 and consists of a list of known archaeological monuments and accompanying maps. The Record of Monuments and Places affords some protection to the monuments entered therein. Section 12 (3) of the 1994 Amendment Act states that any person proposing to carry out work at or in relation to a recorded monument must give notice in writing to the Minister (Environment, Heritage and Local Government) and shall not commence the work for a period of two months after having given the notice. All proposed works, therefore, within or around any archaeological monument are subject to statutory protection and legislation (National Monuments Acts 1930-2004).

Under the Heritage Act (1995) **architectural heritage** is defined to include '*all structures, buildings, traditional and designed, and groups of buildings including street-scapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents…*'. A heritage building is also defined to include '*any building, or part thereof, which is of significance because of its intrinsic architectural or artistic quality or its setting or because of its association with the commercial, cultural, economic, industrial, military, political, social or religious history of the place where it is situated or of the country or generally*'.

The Planning and Development Act 2000 (as amended), sets out the legal framework for the protection of buildings/structures which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Such protection is afforded through the mechanism of the Record of Protected Structures (RPS). In relation to a protected structure or proposed protected structure, the term 'structure' includes the interior of the structure, the land lying within the curtilage of the structure, any other structures lying within that curtilage and their interior, and all fixtures and features which form part of the interior or exterior of that structure. The protection also extends to any features specified as being in the attendant grounds.

# 4 ARCHAEOLOGICAL PLANNING REQUIREMENTS

This report will be submitted in response to point number 2 of the further information request issued by Meath County Council (Pl. Ref. AA191263) which specified the following in relation to archaeology:

'2. The Applicant shall submit an Archaeological Impact Assessment as per the following:

a) The applicant is required to engage the services of a suitably qualified archaeologist to carry out an archaeological assessment including a geophysical survey of the sections of the development site not previously assessed. No sub-surface work should be undertaken in the absence of the archaeologist without his/her express consent.

b) The archaeologist should carry out any relevant documentary research and inspect the site. Test trenches may be excavated at ;locations chosen by the archaeologist (licensed under the National Monuments Acts 1930-2004), having consulted the site drawings.

c) Having completed the work, the archaeologist should submit a written report to the Planning Authority and to the Department of Culture, Heritage and the Gaeltacht in advance of the planning decision. Where archaeological material/features are shown to be present, preservation in situ, preservation by record (excavation) or monitoring may be required.'

# Proposed quarry development at Naul Td., Co. Meath



## Part 2 – Archaeological Testing at Naul, County Meath - FINAL REPORT

**Excavation Licence No. 20E0053 (Annette Quinn)**



**April 2020**

# 5 ARCHAEOLOGICAL ASSESSMENT

## 5.1 ARCHAEOLOGICAL BACKGROUND



One monument included in the Sites and Monuments Record (SMR) (ME034-031, Ringfort) is located within the proposed development site boundary. The monument was detected on aerial photography taken in 2018 and subsequently added to the Historic Environment Viewer (*www.webgis.archaeology.ie/hirtoricenvironment*) in February 2020. The monument was added to the record after the application for excavation licence 20E0053 was made in January 2020.

The monument was also detected through the geophysical survey carried out over this area in 2019 and was one of the anomalies tested under this licence (see Section 5.3 below). The monument is described on the Historic Environment Viewer as follows:

**ME034-031----**
Class: Ringfort - rath
Townland: NAUL
Scheduled for inclusion in the next revision of the RMP: Yes
Description: Located at the outer edge of a shelf on a SE-facing slope, at a break in the slope down to a SW-NE section of the Delvin River. The cropmark of a subcircular enclosure (int. diam. c. 30m NW-SE; c. 25m NE-SW) defined by a fosse SE-W-NW is visible only on Apple Maps which utilises a survey undertaken by Bluesky International during June 2018. An outer fosse can also be seen E-S-NW, but the defining features are obscured elsewhere by the tracks of vehicles. It was first reported by Ian Lennon.
See the attached enhanced view from Apple Maps
Compiled by: Michael Moore

Date of upload: 6 February 2020

**Plate 1: Extract from Apple Maps showing crop mark of SMR monument ME034-031.**




**Figure 2: Monuments listed in the SMR within the proposed development site.**

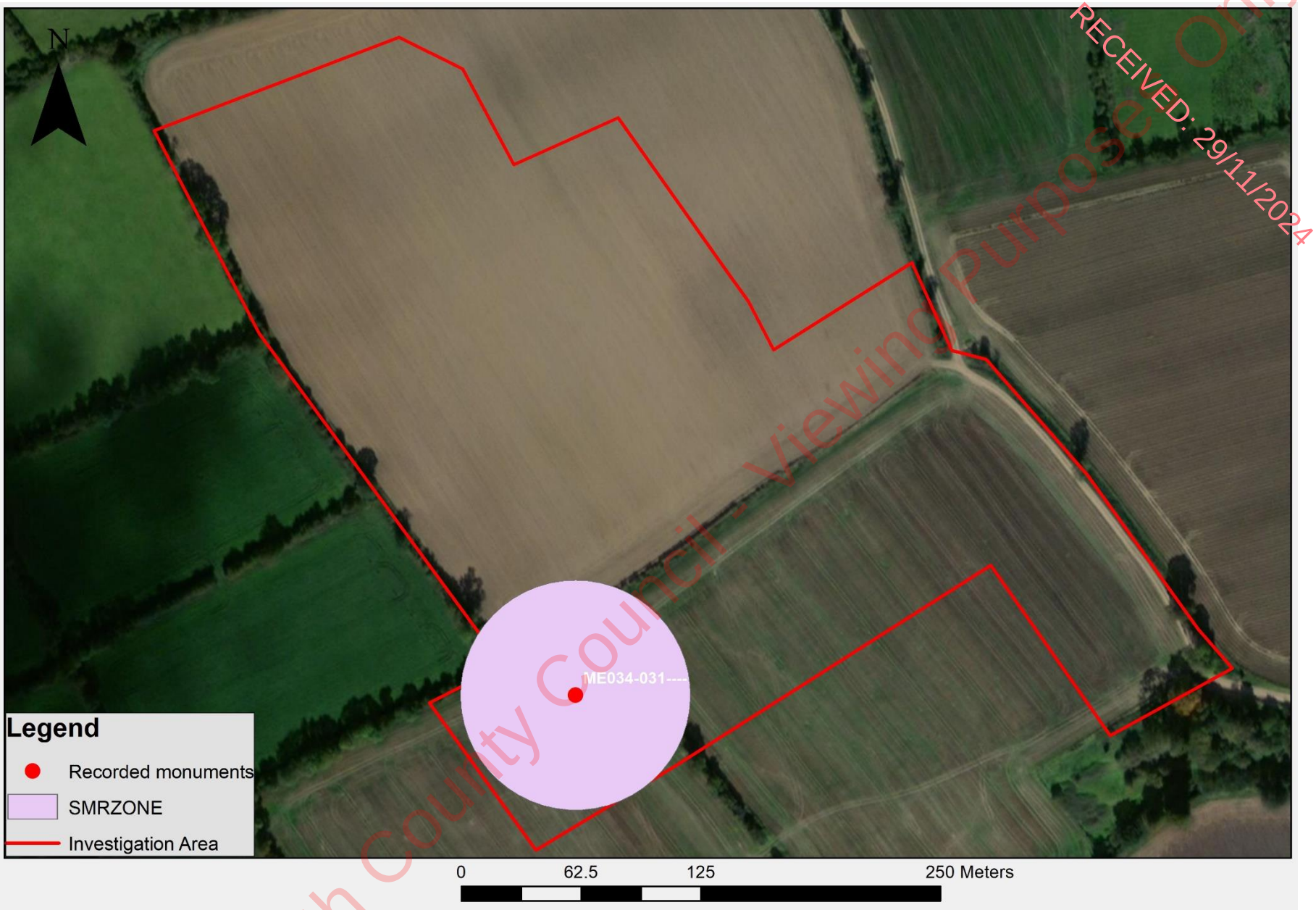


**Figure 3: SMR monument ME034-031 with associated zone of notification.**

## 5.2 REVIEW OF AERIAL MAPPING AND HISTORIC MAPPING

All available aerial photography was consulted to assess the site for the presence of crop marks, in particular in the area of the double-ditched enclosure (now SMR monument ME034-031). As outlined above the ringfort is only clearly visible on the 2018 Apple Maps aerial photograph (Plate 1). No other potential archaeological features are visible on the available aerial photography.

Both the first and second edition OS mapping was reviewed and depict the proposed development site as fields with a similar arrangement that exists today. An additional field division is shown towards the east side of the northern field which is no longer extant.

The 17th century Down Survey maps for the area were also consulted and show a bridge, tower house and mill at Naul on the Delvin River (Figure 4). The associated terrier names John Caddell as the proprietor. Naul townland is located in the barony of Upper Duleek and the parish of Clonalvy, Co. Meath.


**Figure 4: Extract from Down Survey barony map showing the townland of Naul (Barony of Upper Duleek, parish of Clonalvy).**

## 5.3 RESULTS OF ARCHAEOLOGICAL TESTING

A total of 30 archaeological test trenches were excavated across the proposed development site and were positioned in order to target the nineteen geophysical anomalies detected by the geophysical survey. All test trenches were set out using a cm accuracy Leica GS07 plus Smart Antenna with a Leica CS20 3.75G Field Controller. The georeferenced CAD drawing of the archaeological geophysics was uploaded as background mapping for accuracy. Any potential archaeological features encountered in the test trenches were surveyed using the same technology.

The trenches varied in length from 8m to 42m. The majority of trenches excavated did not produce any archaeological results, however, land drains and other evidence of modern agricultural activity were noted throughout the site (see Table 1). Where positively identified archaeological features or potential archaeological features were encountered these trenches are described in detail below. All other trenches are presented in table form (Table 1) and shown on Figure 5, Figure 6, Figure 7 and Figure 8.

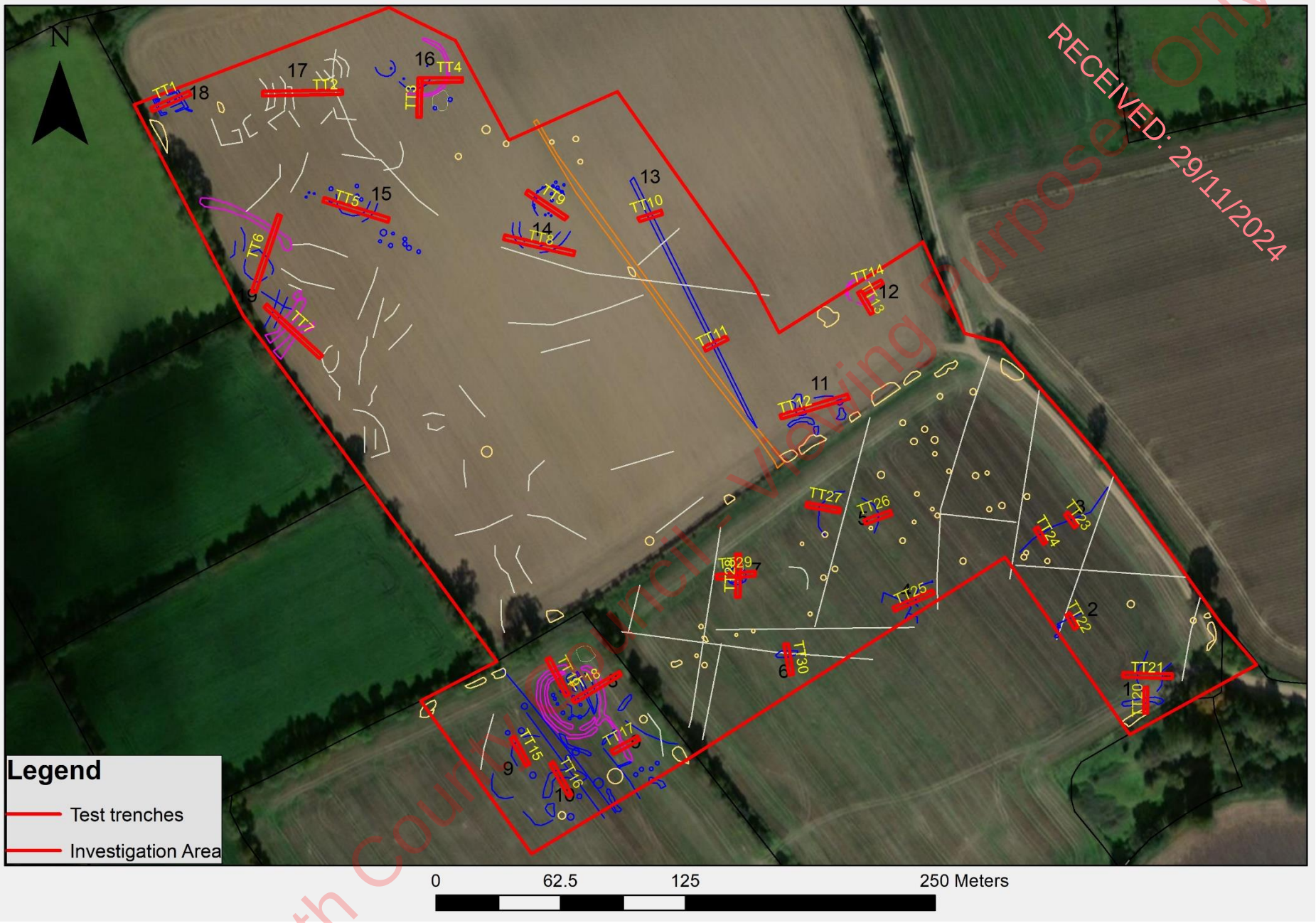




**Figure 5: Test trenches 1-30 excavated across geophysical anomalies.**

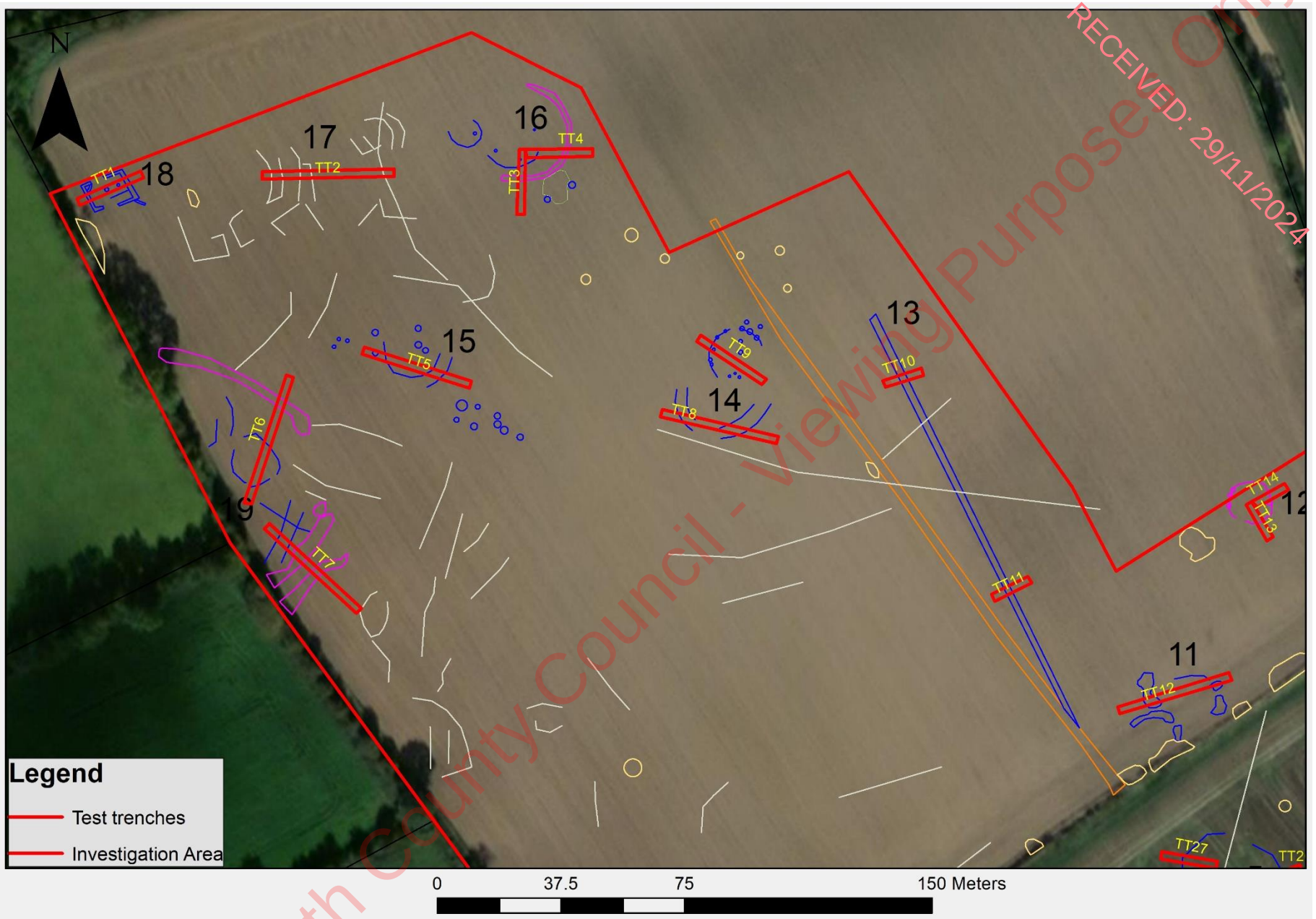




**Figure 6: Trenches 1-14.**

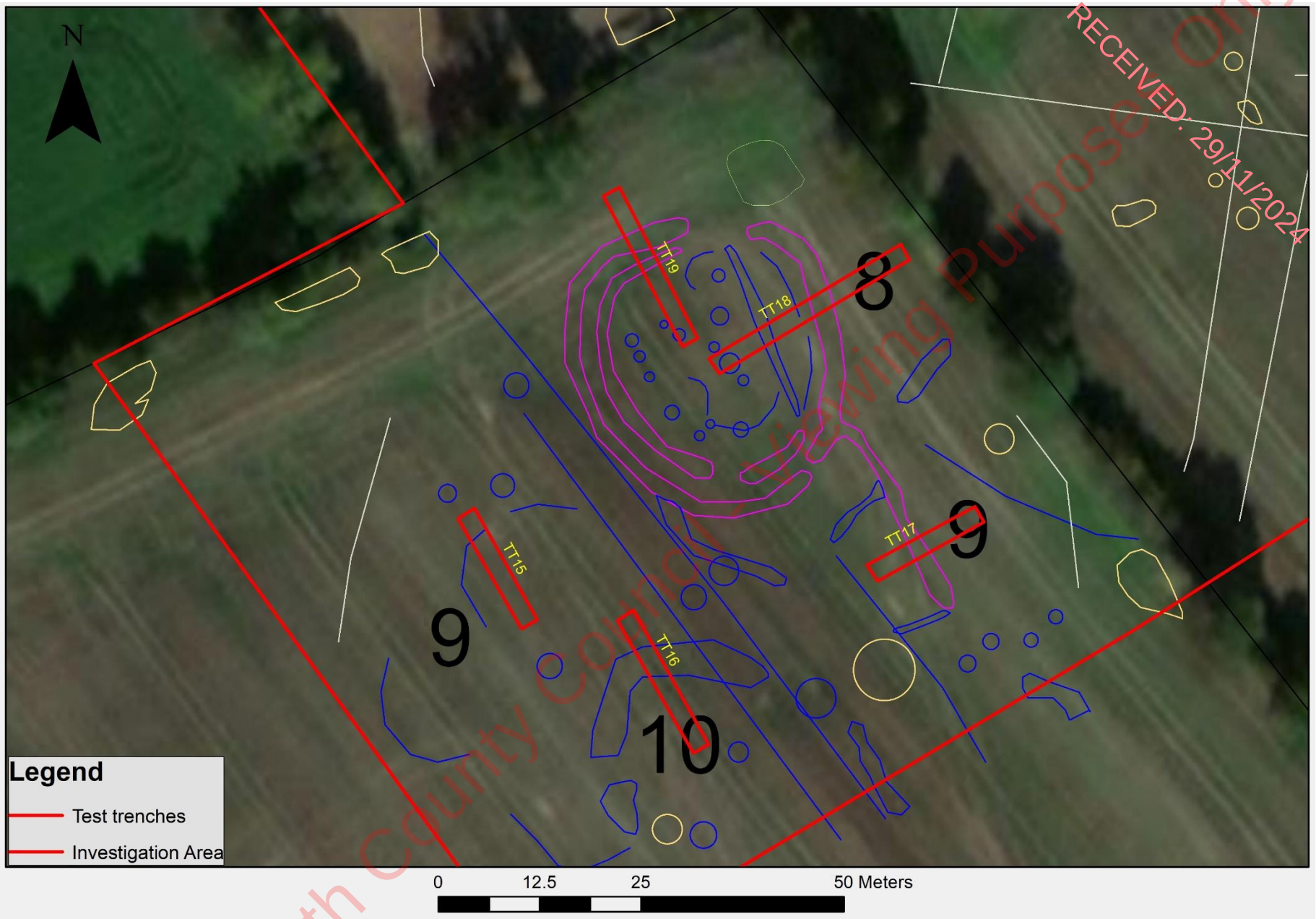


**Figure 7: Trenches 15-19.**

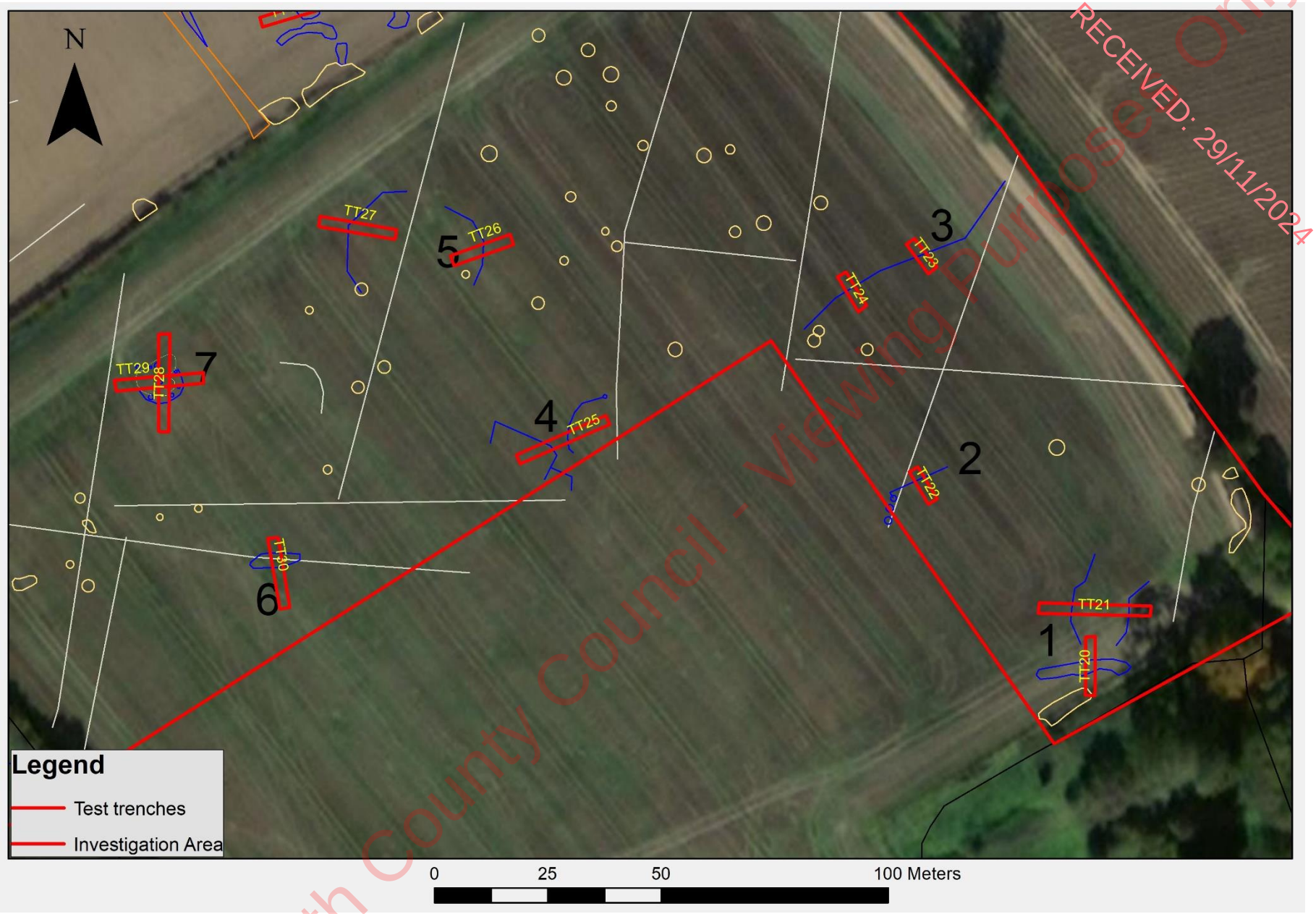


**Figure 8: Trenches 20-30.**

**Table 1: Test trench details**

| Test trench No. | Length (m) | Width | Depth | Archaeology |
|---|---|---|---|---|
| **1** | 21 | 2.2m | 0.4-0.45m | No, Iron panning visible at E end of trench. |
| **2** | 40 | 2.2m | 0.4-0.45m | No. |
| **3** | 20 | 2.2m | 0.45-0.5m | No, patches of decayed stone visible in trench. |
| **4** | 20 | 2.2m | 0.45m | No, patches of decayed stone visible in trench. |
| **5** | 34 | 2.2m | 0.4-0.45m | Yes, pit (F2) uncovered at E end of trench. |
| **6** | 40 | 2.2m | 0.4m | Yes, linear features F4, F6 and F8 and possible pit F9 |
| **7** | 38 | 2.2m | 0.45m | No, frequent plough scars. |
| **8** | 36 | 2.2m | 0.4m | No. Two land drains present. |
| **9** | 24 | 2.2m | 0.35m | No, frequent plough scars. |
| **10** | 12 | 2.2m | 0.4m | Linear feature (F10) (see Tr. 11). |
| **11** | 12 | 2.2m | 0.4m | Linear feature, F12. |
| **12** | 35 | 2.2m | 0.35m | No. |
| **13** | 12.5 | 2.2m | 0.4m | No. Land drain present. |
| **14** | 11 | 2.2m | 0.4m | No. |
| **15** | 15 | 2.2m | 0.35m | No. |
| **16** | 18 | 2.2m | 0.5m | No. Land drain present. |
| **17** | 15 | 2.2m | 0.4m | Linear feature F13 |
| **18** | 27 | 2.2m | 0.45m | Yes, ditch F14, linear F16, pit F20 and linear F18 |
| **19** | 21 | 2.2m | 0.4m | Yes, ditches F21 and F24 |
| **20** | 13 | 2.2m | 0.45m | No. |
| **21** | 25 | 2.2m | 0.4m | No. |
| **22** | 8 | 2.2m | 0.3m | No. |
| **23** | 8 | 2.2m | 0.4m | No. |
| **24** | 9 | 2.2m | 0.4m | No. |
| **25** | 22 | 2.2m | 0.4m | No. Land drain present. |
| **26** | 14 | 2.2m | 0.35m | No. Narrow linear present. |
| **27** | 17 | 2.2m | 0.35m | No. Land drain present. |
| **28** | 22 | 2.2m | 0.35m | No. |
| **29** | 20 | 2.2m | 0.35m | No. |
| **30** | 15 | 2.2m | 0.35m | No. Land drain present. |

### 5.3.1 Trenches containing potential archaeological features

*5.3.1.1 Test Trench 5*

Trench 5 was excavated across anomaly 15 towards the north-west side of the proposed development site. The overburden in the trench comprised 0.4-0.45m of ploughsoil which overlay a sandy natural. A possible pit (F2) was uncovered towards the south-east end of the trench. The pit was manually half-sectioned showing it to be filled with a mid brown sandy fill (F1) which contained inclusions of very occasional charcoal flecks and a tiny fragment of burnt bone. No artefactual material was recovered from the excavated portion of the pit. The cut (F2) displayed a sharp break of slope at the top on all sides. The sides of the pit were steep and gradually sloped in towards the base which was deepest at the west. F2 measured 0.94m in length N/S x 0.7m in width E/W x 0.45m in depth. A narrow and very shallow linear feature was uncovered c. 4m to the north-west and appears to be a plough furrow.

**Plate 2: Trench 5, looking NW.**

**Plate 3: Pit F2, half-sectioned, looking south.**

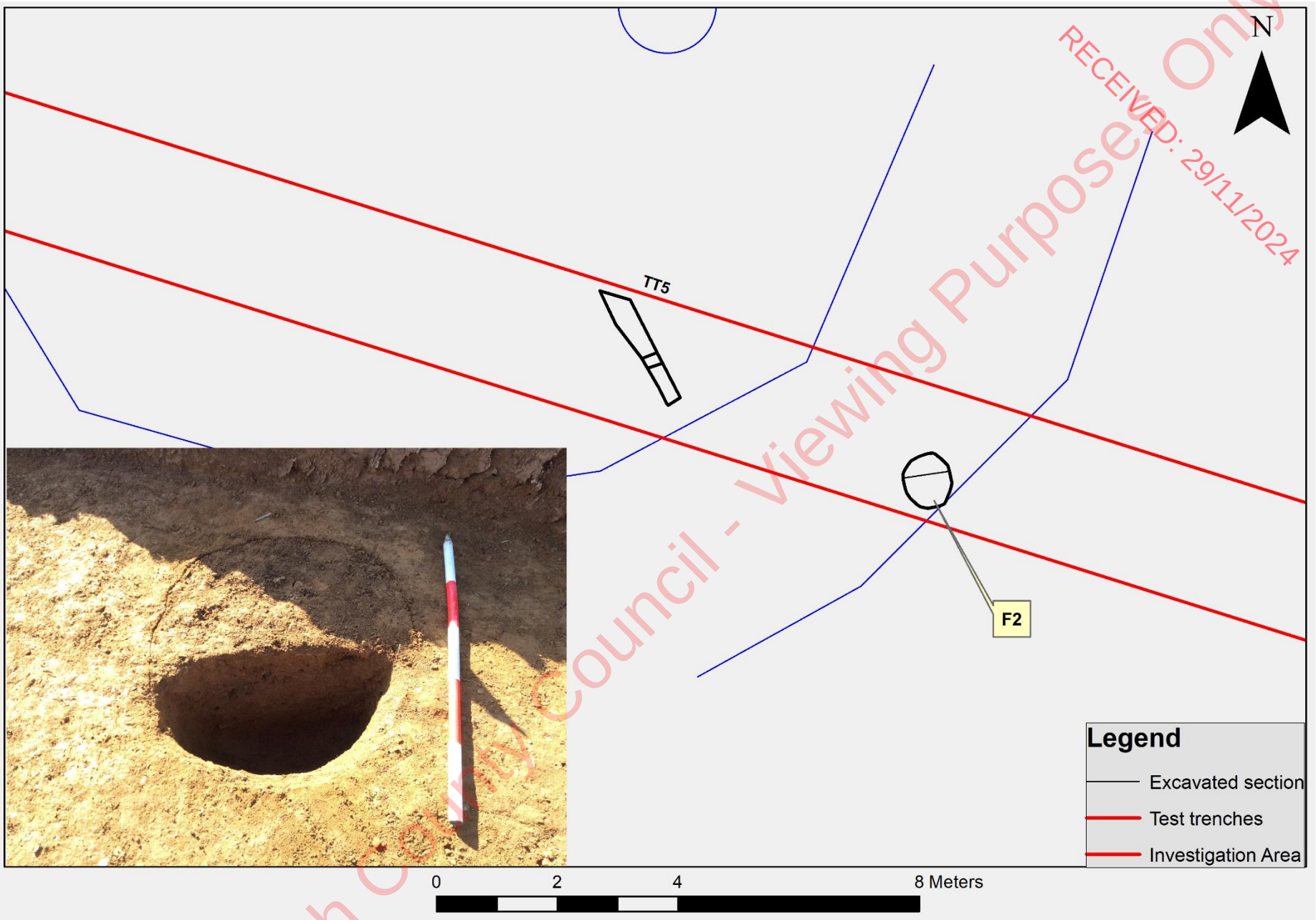




**Figure 9: Trench 5 showing pit F2.**

*5.3.1.2 Test Trench 6*

Trench 6 was located to the south-west of Trench 5 and was excavated across geophysical anomaly 19. Three linear features F4, F6 and F8 were uncovered in the trench after the removal of c. 0.4m of ploughsoil. Linear F4 was uncovered towards the north-east end of the trench. What initially was identified as a linear feature extending across the width of the trench was subsequently shown to be an L-shaped feature. An investigative section manually excavated across the linear showed it to be filled with a mixed brown sandy silt with lenses of dark brown-black material throughout. Four sherds of pottery were recovered from the fill (F3). The pottery has been identified as later 12th-13th century in date and was used as a cooking pot given the presence of black accretions on its outer surface (Clare McCutcheon pers. comm.). The shallow cut of F4 comprised a broad U-shaped profile with a gradual break of slope at the top on the north side, sharper at the south. The sides sloped gradually to a slightly uneven base. The cut measured 0.7m in width x 0.15m in depth. A stakehole cut the base towards the west side of the investigative section. It measured 0.15m N/S x 0.13m E/W x 0.13m in depth.

**Plate 4: General view of Trench 6, looking NE.**

**Plate 5: Linear F4, pre-ex, looking NE.**

**Plate 6: F4 showing investigative section and stakehole at base, looking west.**


**Plate 7: Two rim sherds of later 12th-13th century pottery recovered from the fill of linear F4.**

Approximately 4.8m to the south-west a second linear (F6) was exposed crossing the width of the trench in a roughly E-W direction. An investigative section was manually excavated across same. It was filled with a seemingly sterile brown silty sand (F5) with occasional charcoal flecks. No artefactual material was recovered from the section excavated. The cut of F6 was relatively shallow and had a broad U-shaped profile. It displayed a sharp break-of slope at the top on the north side, being more gradual at the south. The base was even and slightly rounded. It measured c. 0.55m in width x 0.3m in depth.

**Plate 8: Linear feature F6, looking WNW.**

Approximately 10m to the south-west a third linear feature (F8) was exposed after the removal of the ploughsoil. A section was excavated across F8 showing it to contain a single brown silty sand material (F7)

with inclusions of charcoal flecks and pebbles. No artefactual material was recovered from the fill. The cut of F8 was shallow with a broad U-shaped profile. The sides sloped gradually down to a gently rounded base. F8 measured 1.35m in width x 0.17m in depth.

**Plate 9: Linear F8 in Trench 6, looking NE.**

Towards the north end of Trench 6 a possible pit (F9) was noted extending under the east baulk. It appeared to be filled with a dark-brown/black material with frequent charcoal flecks. It was not manually investigated and appeared to measure 0.5m in length NE/SW x 0.16m in width but was not fully exposed.

**Plate 10: Possible pit F9 extending under E baulk of Trench 6.**