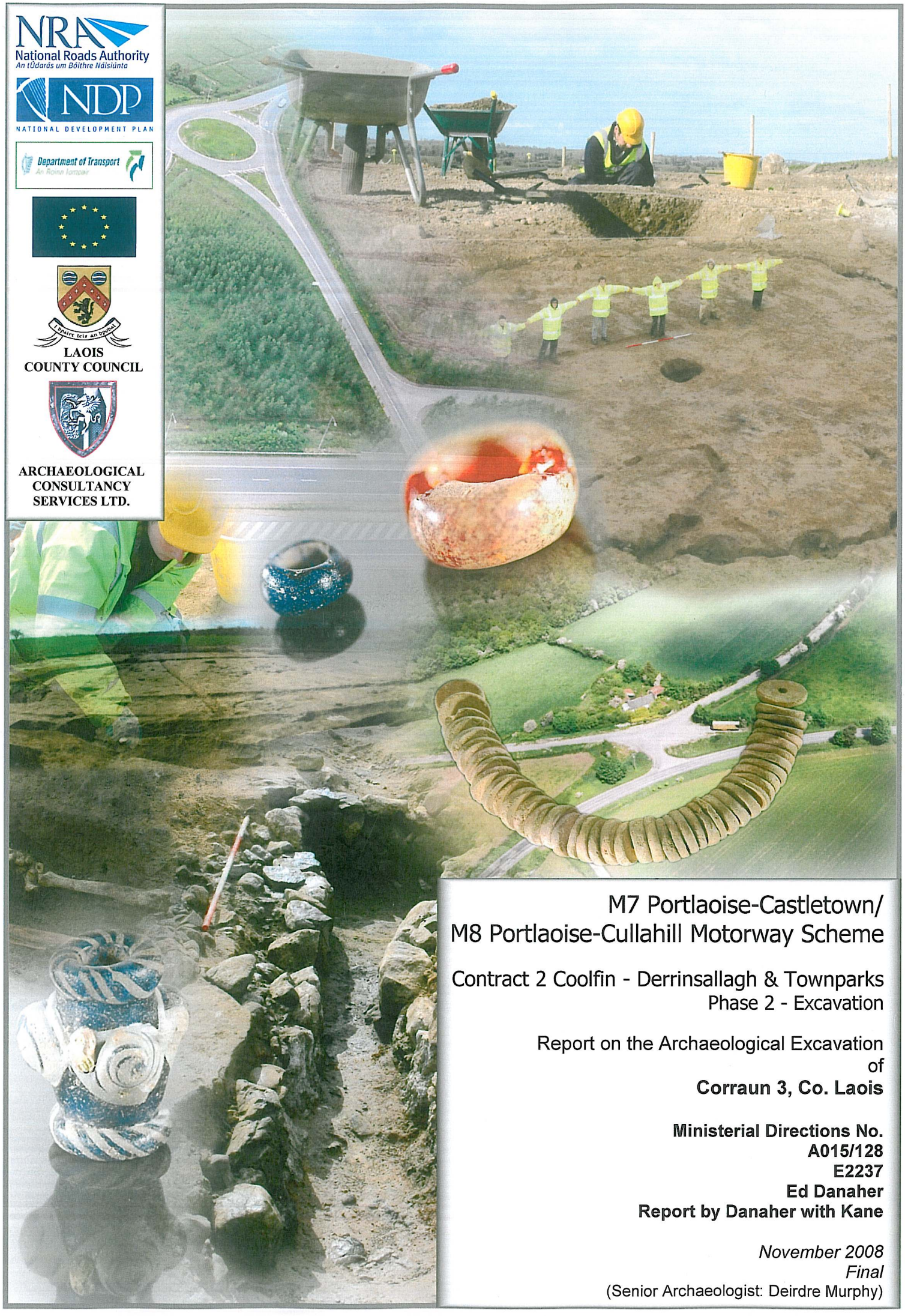

National Roads Authority
An tÚdarás um Bóithre Náisiúnta

NDP
NATIONAL DEVELOPMENT PLAN

Department of Transport
An Roinn Iompair

LAOIS
COUNTY COUNCIL

ARCHAEOLOGICAL
CONSULTANCY
SERVICES LTD.

M7 Portlaoise-Castletown/ M8 Portlaoise-Cullahill Motorway Scheme

Contract 2 Coolfin - Derrinsallagh & Townparks Phase 2 - Excavation

Report on the Archaeological Excavation
of
Corraun 3, Co. Laois

Ministerial Directions No.
A015/128
E2237
Ed Danaher
Report by Danaher with Kane

November 2008
Final
(Senior Archaeologist: Deirdre Murphy)

PROJECT DETAILS

Project	M7 Portlaoise to Castletown/ M8 Portlaoise to Cullahill Motorway Scheme
Client	Laois County Council, County Hall, Portlaoise, County Laois
Contract	Contract 2
Site Name	Corraun 3, Co. Laois
Townland	Corraun
Nat. Grid Ref.	232009, 184605
OS Map Ref.	OS 6 inch sheet 22
Chainage	16950-17200
Ministerial Direction No.	A015/128
Record No.	E2237
Archaeologist	Ed Danaher
Senior Archaeologist	Deirdre Murphy
Report Type	Final
Report Status	Final
Report by	Danaher with Kane
Date of Submission	November 2008
Distribution	Elspeth Logan & Mary Deevy

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The excavation was carried out in accordance with the Directions of the Minister for the Environment, Heritage and Local Government (DOEHLG), in consultation with the National Museum of Ireland (NMI) issued under Section 14 of the National Monuments Acts 1930–2004.

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Irish Antiquities Division, National Museum Of Ireland

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NON TECHNICAL SUMMARY

The proposed M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme consists of approximately 41km of motorway and 11km of single dual carriageway commencing to the southwest of the existing Portlaoise Bypass and running in a southern direction tying into the existing N8 at Oldtown. A portion of the scheme runs to the west tying into the existing N7 near Borris-in-Ossory. The Archaeological Works contract is subdivided into three separate contracts. The following report describes the results of archaeological excavation along one section of the planned M8 Portlaoise to Cullahill Motorway Scheme, at Corraun, County Laois, Contract 2.

Contract 2 consists of 11 km of motorway, which extends east west from Aghaboe to west of Borris in Ossory through the townlands from Coolfin to Townsparks and Derrinsallagh. The site was identified during archaeological testing carried out by Robert O'Hara of Archaeological Consultancy Services Ltd in March-May 2005 under ministerial direction (A015/029) from The Minister of the Environment, Heritage and Local Government, issued in consultation with the National Museum of Ireland (NMI) issued under Section 14 of the National Monuments (Amendment) Act 2004. 27 trenches were excavated within this field and a spread of burnt mound material was identified. The site was designated Corraun 3.

Archaeological resolution of Corraun 3 (A015/128) commenced on 18th April 2006 by Ed Danaher of Archaeological Consultancy Services Ltd. For recording purposes, the site was designated the scheme no. A015/128 and record no. E2237. Topsoil stripping revealed the remains of a *fulacht fiadh*/burnt mound activity. No artefacts were recovered.

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1. INTRODUCTION

1.1 Site Location

This report details the results of the archaeological excavation of a site on the M7 Portlaoise – Castletown/M8 Portlaoise-Cullahill Motorway Scheme at Corraun 3, Contract 2, County Laois (Ordnance Survey six-inch sheet 22, National Grid Co-ordinates 232009, 184605; Figures 1-7). The site at Corraun 3 was situated *c.*2km to the southwest of Aghaboe monastic complex, *c.*11km to the west of Abbeyleix and *c.*10km to the east of Borris-in-Ossory. It was located at Chainage 16950-17200 of the proposed scheme, in the townland of Corraun and within the Parish of Aghaboe. Corraun 3, situated 20m from Corraun 2, was located on the north-eastern slope of a low hill on the periphery of an area of wetland with Palmershill situated upslope to the southwest. A tertiary road truncated these fields.

1.2 Scope of the Project

The purpose of the Archaeological Services Project was to conduct Archaeological Site Investigations within the lands made available for the scheme and to assess the nature and extent of any new potential archaeological sites uncovered (Phase 1). This phase of the project was carried out in March-June 2005 and throughout 2006 when access to land became available. The principal aim of this phase of the project was to test the known sites, including sites of potential identified in the EIS and through aerial photography. It sought to test for any previously unknown sites that may by virtue of their size or complexity lead to significant delays and costs if revealed during construction works. This phase of the project also tried to assess the archaeological risk across the scheme by examining the volume, range, complexity and distribution of archaeology identified during testing.

The second phase of the project involved the resolution of all archaeological sites identified within the proposed road corridor prior to commencement of the construction of the motorway (Phase 2). The aim of this phase of works was to clear the entire route of archaeology in order to avoid delays and costs during construction works. This phase of the project was carried out from July 2005-October 2006 and excavations were conducted by seven licensed directors under the management of a Senior Archaeologist, Deirdre Murphy. In total ninety-two sites were excavated during this phase of works and all excavations were given separate record numbers issued by The Department of the Environment, Heritage and Local Government.

Following completion of fieldwork a programme of post-excavation analysis was necessary as reports on the archaeological findings must be published. A dissemination strategy also

forms a crucial part of this phase of the project. It is proposed that all final reports will be submitted to the relevant authorities by February 2009 and that publication and public lectures/seminars will follow thereafter. Both the format and time-scale for publication and seminars will be decided in consultation with the Project Archaeologist.

1.3 Circumstances of Discovery

An archaeological assessment of this site was carried out in advance of the construction of the M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, on behalf of Laois County Council by Robert O'Hara. The site was identified during archaeological testing carried out by Robert O'Hara of Archaeological Consultancy Services Ltd in March-May 2005 under ministerial direction number A015/029. 27 trenches were excavated within this field and some potential archaeology was identified. The site was designated Corraun 3.

1.4 Date and Duration of Excavation Works

Topsoil stripping of the site began on 22nd March 2006 while the initial clean back started on 18th April. All site works were completed by 12th May 2006.

1.5 Size and Composition of the Excavation Team

The excavation team was composed of:

One site director
One supervisor
Seven archaeological assistants
Seven general operatives

2. RECEIVING ENVIRONMENT

2.1 Detailed Overview of the receiving environment

2.1.1 Topographic

Corraun 3 was located *c.*20m to the northwest of Corraun 2. These sites are situated in undulating land on the slopes of a low hill which peaks in Palmershill. There are no streams in the immediate vicinity of the sites, although there is a stream *c.*600m to the southwest of Corraun 1 and one located *c.*500m to the south of Corraun 1 & 2. Located in an area of carboniferous limestone, southwest Laois enjoys some of the best soils in Co. Laois. With grey brown podzolics, which are medium textured and moderately deep (Feehan 1983, 93), these well drained soils have a wide range of use. Capable of high levels of production including farm, fruit and vegetable crops over a long grazing season, they are also excellent grassland soils suitable for animal grazing. Corraun townland itself however, was situated in a low-lying area more suited to burnt mound activity than agriculture.

2.1.2 Archaeological

The earliest evidence for human occupation in county Laois consists of a small number (eight) of recorded megalithic tombs. One such possible tomb was recorded in the townland of Cuffsborough, east of Corraun, though no such monument was recorded in this townland. Graves (1852, 358) documented the discovery of a 'beehive-shaped chamber' beneath a mound of earth. The chamber measured *c.*1.50m in diameter and was reputedly built with large orthostats supporting tiers of corbelling and a roof stone *c.*1.05m high (Sweetman *et al* 1995, 1). The bones of two skeletons were found on the floor of the chamber. The location of this possible tomb was not properly documented or dated and no longer exists. It is possible that this tomb, like other chamber tombs recorded under mounds of earth in Leinster, could date to the Neolithic Period or early Bronze Age (Sweetman *et al* 1995, 1). The evidence for early Bronze Age activity consists of a documented cist burial, also located in the Cuffsborough area. A crouched inhumation accompanied by a pottery vessel was discovered within a short cist at this site (Sweetman *et al* 1995, 5). Although this find was documented, the original location of the cist burial was not properly recorded. In the townland of Kilminfoyle, southeast of Corraun, a *fulacht fiadh* was recorded (Candon 1987, 23).

Two further *fulachta fiadh* were recorded east in the townlands of Fearagh and Ballygeehin Lower. However, no visible surface traces of any are evident (Sweetman *et al* 1995, 12). In total, nineteen *fulachta fiadh* or burnt mound sites (including one possible site) were recorded in Co. Laois (Sweetman et al 1995, 12-3), prior to the M7 Portlaoise to Castletown/M8 Portlaoise to Culahill Motorway Scheme. While there is definite evidence for prehistoric

settlement activity in the vicinity of Corraun prior to recent excavations we do not know the exact (scientific) nature of this activity or where it was located. A hillfort situated *c.*1km to the northeast of Corraun in the townland of Boley Upper comprised a circular enclosure on high ground commanding views of the entire surrounding area. It is defined by a bank of earth and stone and has an external fosse (Sweetman *et al* 1995, 17). No other diagnostic Neolithic, Bronze Age or Iron Age monuments occur within the vicinity besides that which was excavated during the M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme recently. While there is a dearth in the range and number of prehistoric monuments and sites in the surrounding area, the chance recovery of a number of diagnostic artefacts (e.g. two bronze axeheads were found at Aghaboe, to the northeast of Corraun) indicates that other activities took place in the region. A stray find of bog butter within a wooden vessel at Cuddagh may belong to the Iron Age, although these items can vastly range in date.

2.1.3 Historic

The famous 6th century foundation of St. Canice at Aghaboe is located *c.*1.5km to the northeast of Corraun, which became the most important monastery in the kingdom of Ossory. St. Canice also founded the ecclesiastical centre at Kilkenny ('The church of Canice') during this period. In Cross townland, a cross shaped depression in a field is recorded in the Archaeological Inventory. An altercation reputedly occurred between St. Canice's followers at Aghaboe and those at Kilkenny as they argued over which group would receive his remains for burial. While they argued, a stranger appeared with two coffins, so each group could take some of his remains. The cross in this townland supposedly marks the spot where this happened (Sweetman et al 1995, 92). Aghaboe was linked to the island retreat of Monahincha by a pilgrim road (Kennedy 2003, 9). The road reputedly passed though Lismore and Bushfield, where recent excavations have revealed a large early medieval enclosure with a cemetery and metalworking area. The monastery at Aghaboe was raided in 845 and 913 AD by Vikings, after which it was restored until 1116 AD, when it was almost burned to the ground. Becoming the Episcopal See of the Diocese of Ossory in the early 12th century, Aghaboe enjoyed power until the Normans took control at the end of the century in which Strongbow granted the monastic lands to Thomas de Hereford, one of his Norman Knights. A motte and bailey dating to the time of the Anglo-Norman occupation here has been recorded (Sweetman et al 1995, 101). In 1234, the monastery was rebuilt as a priory church for the canons regular of St. Augustine. The church was attacked again in the 14th century by the MacGillapatricks during the Irish resurgence which saw the shrines, bones and reliquaries of St. Canice destroyed (O'Hanlon and O'Leary, vol I, 1907, 167). They took control of the area and in 1382 a Dominican Friary was established there by Florence MacGillapatrick, Lord of

Ossory (Kennedy 2003, 12). The friary was suppressed in 1540 and was subject to unrest during the suppression of religious houses in the 16th and 17th centuries. In 1556, Laois and Offaly were renamed the Queen's County and the King's County respectively and the area was targeted for plantation. About one third of the marginal land in Laois was granted back to the O'Connors and the O'Moores on the condition that they were loyal to the crown and they abandoned their Gaelic ways. The rest of the county was colonised by English settlers and plantation towns were established (Kennedy 2003, 13). Several sites dating to the Post-Medieval period have been excavated recently in advance of the M7 Portlaoise to Castletown/M8 Portlaoise to Culahill Motorway Scheme. These include a smithy/forge at Cuffsborough 5, an industrial site at Gortnagroagh 1, a possible Post-Medieval well at Cuffsborough 3 and a Post-Medieval trackway with wheel ruts at Cuffsborough 4. A protestant parish church was also built there in 1818 (Kennedy 2003, 14).

3. RESEARCH FRAMEWORK

The research framework for Corraun 3 will address the following topics:

(i) The construction date or date of initial site occupation/use
(ii) The date of site abandonment
(iii) The extent of the archaeological site/activity
(iv) The extent of the viable (local/regional) economic catchment area, i.e. the nearest viable contemporary sources of water, food, raw materials, centres of trade, transportation routes, etc.
(v) What cultural group/unit would have occupied the site
(vi) Why the site location would have been chosen
(vii) How the site would have been constructed and what activities would have taken place at and within the site
(viii) The likely social status of the builders/occupiers of the site
(xvi) The longevity of the site, its success (or otherwise) and the reasons for the site being abandoned

4. EXCAVATION RESULTS

4.1 Excavation Methodology

Excavation began on 18th April 2006 under Ministerial Direction Number A015/128. Topsoil stripping on this site was carried out by means of a twenty tonne mechanical excavator equipped with a grading bucket. Spoil was managed by a dumper and was stored on archaeologically sterile areas within the limits of the site. The recording techniques employed were based on a recording system that best suits a rural environment. All potential archaeological features exposed were cleaned, recorded (by plan, photographs, levels, feature sheets etc.) and removed by hand excavation. The site was recorded using multi-context planning of all features exposed. An appropriate sampling strategy was employed. Any finds were washed (where appropriate), treated and catalogued on site and left ready for any further post excavation analysis deemed necessary. They were numbered according to the requirements of the National Museum of Ireland from 1 to 99 according to record number and feature number, i.e. E2237:3:1 represents find number 1 within feature number 3 in Corraun 3, which was excavated under record number E2237. Unless otherwise stated, the features have been measured length-width-depth. All measurements are in metres. Upon completion of excavation all cuttings were surveyed using GPS equipment and only areas within the CPO were resolved.

4.2 Full Stratigraphic Report

4.2.1 List of Features

F001 Topsoil

F002 Natural subsoil

F003 Main spread of burnt mound material

F004 Fill of F005

F005 Cut of linear ditch filled with F004

F006 Non archaeological

F007 Non archaeological

F008 Fill of F009

F009 Cut of pit filled with F008

F010 Fill of F011

F011 Cut of pit filled with F010

F012 Fill of F013

F013 Cut of pit filled with F012

F014 Fill of F015

F015 Cut of pit filled with F014

4.2.2 Stratigraphical Matrix

Natural Deposits

F001	Topsoil: Consisted of mid brown, silty clay. Occasional charcoal, heat shattered stones and other stones included. No artefacts recorded.
F002	Natural subsoil: Consisted of compact, mottled orange-yellow, silty sand. Occasional circular stones included.

Area of *fulacht fiadh*//burnt mound activity

Pit 1 (Late Neolithic-Early Bronze Age) (Figure 9)

F015	Cut of oval pit, with rounded corners. Measured 3.30m x 1.80m x 0.18m. Orientated east-west. Had a sharp break of slope at top, concave sides leading to a flat base. Filled with F014and sealed by F3. Located to the southeast of F011. Above F002, below F014.
F014	Fill of F015, with loose, mottled grey-orange-black clay. Frequent heat shattered stones and charcoal included. Measured 3.30m x 1.80m x 0.18m. No artefacts recorded. One charcoal sample taken returning a radiocarbon date of Cal BC 2880 to 2570 (See Appendix 10.2). Above F015, below F003.

Pit 2 (Early Bronze Age) (Figure 9)

F009	Cut of sub-circular pit. Measured 1.40m x 1.12m x 0.38m. Orientated east-west. Had a sharp break of slope at top, concave-vertical sides leading to a relatively flat base. Filled with F008. Enclosed by F003. Located to the west of the site. Above F002, below F008.
F008	Fill of F009, with compact, grey clay. Occasional charcoal included. Measured 1.40m x 1.12m x 0.38m. No artefacts or samples taken. Above F009, below F003.

Pit 3 (Figure 9)

F011	Cut of crescent-shaped pit. Measured 4.00m x 3.60m x 0.14m. Orientated northeast-southwest. Had a gradual break of slope at top, concave sides leading to a rounded base. Filled with F010. Originally a smaller pit that suffered from later disturbance altering its extent. Located to the east of the site, southeast of F013. Above F002,

	below F010.
F010	Fill of F011, with loose, mottled grey-orange-black clay. Frequent heat shattered stones included. Measured 4.00m x 3.60m x 0.14m. No artefacts recorded. One charcoal sample taken returning a radiocarbon date of Cal BC 2210-2010 (See Appendix 10.2). Above F011, below F003.

Pit 4 (Figure 9)

F013	Cut of oval pit. Measured 2.00m x 1.40m x 0.25m. Orientated east-west. Had a gradual break of slope at top, concave sides leading to a rounded-flat base. Filled with F012. Enclosed by F003. Located northwest of F011. Above F002, below F012.
F012	Fill of F013, with compact, mottled grey-orange-black clay. Occasional charcoal included. Measured 2.00m x 1.40m x 0.25m. No artefacts or samples taken. Above F013, below F003.

Burnt spread (Figures 7, 8 & 9)

F003	Large irregular deposit of compact, black, clayey silt. Frequent charcoal and heat shattered stones included. Measured 10-15m x 10-15m x 0.03-0.25m. No artefacts recorded. Three samples taken (heat shattered stones, charcoal and animal bone). Charcoal (Oak) returned a radiocarbon date of Cal BC 2050-1880 (See Appendix 10.2). Sandstone, limestone and quartzite were identified (See Appendix 10.1) Enclosed the majority of features on site. Similar spread to F003 at Corraun 2. Truncated by F005. Above all features except F005, below F005.

Modern features

Modern ditch

F005	Cut of linear ditch, with sharp corners. Measured 3.00m x 0.70m x 0.20m. Orientated northeast-southwest. Had a gradual break of slope at top, vertical leading to a flat-rounded base. Filled with F004. Truncated F003. Above F003, below F004.
F004	Fill of F005, with compact, grey clay. Occasional charcoal included. Measured 3.00m x 0.70m x 0.20m. No artefacts or samples taken. Above F005, below F001

4.2.3 Stratigraphic Sequencing

Table … Stratigraphic Groups		
Site Name: Corraun 3		**Record No.: E2237 – Scheme No.: A015/128**
Period	**Phase**	**Composition**
I	1	Formation of subsoil
II	1	Late Neolithic period: Formation of pit F015
III	1	EBA: Cutting of *fulacht fiadh*/burnt mound features
IV	1	Modern period: Cutting of linear ditch

This report details each unit in the stratigraphic sequence, starting with the earliest.

Period 2

Phase 1 Late Neolithic period (Figure 9)

Concentrated towards the south of Corraun 3, four large pits were revealed in association with the burnt mound spread F003 (Figure 9). These pits varied in size from a relatively average-sized trough F009 to larger, more irregular pits, F011, F013 & F015 (of which only F013 may have functioned as a trough). Pit F015 appeared to have been extended at some point with the original pit being much smaller than that displayed in Figure 9. It was oval in shape measuring 3.30m x 1.80m x 0.18m, while it was filled with a mixture of heat shattered stone and mottled dark clay. Radiocarbon analysis of charcoal from this pit suggests that it originated in the Late Neolithic (F014: Cal BC 2880 to 2570, see Section 4.5 & Appendix 10.2) and was possibly unwittingly extended/truncated during the Early Bronze Age when the burnt mound at this location was formed.

Period 3

Phase 1 Early Bronze Age (Figure 9)

A *fulacht fiadh* comprising a spread of burnt mound material and four pits was established during the Early Bronze Age. This activity involved heating water through 'hot stone technology' within a pit/trough. Burnt mound material comprising heat shattered stones and charcoal was a by-product of this type of technology and will be referred to as such below.

Pit F009 (Figure 9)

Situated to the west of the site, east-west sub-circular pit (1.40m x 1.12m x 0.38m) comprised sharp break of slope at the top, concave-vertical sides, and a rounded-flat base. It was filled with a single deposit of grey clay and occasional flecks of charcoal. This pit may have functioned as a trough. No artefacts were recorded.

Larger pits (Figure 9)

F011, F013 and F015 (2.00-4.00m x 1.40-3.60m x 0.14-0.25m) were located east of F009. Largely oval in plan, they comprised gradual-sharp breaks of slope at top, concave sides and flat-rounded bases. Each was filled with a single deposit of mottled grey-orange-black clay, occasional flecks of charcoal and heat shattered stones. Of these, only F013 may have functioned as a trough. F011 returned a radiocarbon date of Cal BC 2210-2010 from its fill (F010) (See Appendix 10.2). No artefacts were recorded.

Burnt mound spread (Figures 7, 8 & 9)

One large irregular spread of burnt mound material (F003: 10-15m x 10-15m x 0.03-0.25m) sealed most of the pits. It consisted of black, clayey silt, with frequent flecks of charcoal and heat shattered stones consisting of limestone, sandstone and quartzite (See Appendix 10.1). A radiocarbon date of Cal BC 2050-1880 was returned (See Appendix 10.2). No artefacts were recorded.

Period 3

Phase 1 Modern period

Prior to excavation of the site, this field was used for pasture. A single small northeast-southwest linear ditch (F005: 3.00m x 0.70m x 0.20m) was noted on site. Comprising gradual breaks of slope, vertical sides, and a flat-rounded base, it was filled with compact, grey clay and occasional flecks of charcoal.

4.2.4 Stratigraphic Discussion

The excavations at Corraun 3 exposed the presence of a *fulacht fiadh* during the Early Bronze Age (Figures 7-10, Plates 1-4) (See Appendix 10.2). A technical description of each can be found in the matrix and sequencing above. At Corraun 3, four pits (F009, F011, F013, F015) all containing some evidence of burnt mound material, the by-product of hot stone technology, were exposed beneath a large spread of burnt mound material (F003). While pits F009 and F013 appear to be the more convincing troughs the function of the other two pits remains unclear. It is possible that they may have been used for storage or roasting though no *in-situ* burning was evident within either pit. No hearth or fire-spot was recorded on site.

4.2.5 Stratigraphic Conclusion

Through the various stages of archaeological investigation *fulacht fiadh*/burnt mound activity was recorded. Four pits interpreted as possible troughs were noted in association with a relatively large burnt mound spread. This interesting arrangement of features provides good evidence of occupation at Corraun 3. When comparing this site with neighbouring archaeological sites (Corraun 2, Palmershill 1 etc), a pattern of human activity across the townland emerges, which shall be dealt with in much greater detail below.

4.3 Artefactual evidence

No artefacts were recovered.

4.4 Environmental Evidence

4.4.1 Charcoal analysis

Charcoal from the burnt mound spread F003, pit F011 and pit F015 were all identified as Oak.

4.5 Dating Evidence

Three radiocarbon dates were retrieved for this site, one Late Neolithic and two Early Bronze Age dates suggesting a minimum of two phases of activity for this site. All three dated charcoal samples were oak, therefore the old wood effect has to be taken into consideration when considering these dates (See Appendix 10.2).

4.5.1 Table of Radiocarbon dates for Corraun 3

Lab	Code	Site	Wood Specie	Date (2 Sigma)
SUERC	18491	Corraun 3 :E2237:F3:S1	Oak	2050BC (88.4%) 1880BC
SUERC	18492	Corraun 3 :E2237:F10:S2	Oak	2210BC (93.9%) 2010BC
SUERC	18496	Corraun 3:E2237:F14:S3	Oak	2880BC (95.4%) 2570BC

4.6 Petrographical Analysis

Table 4.6.1 Results of Assessment (Taken from Mandal, Appendix 10.1)

Site	MD #	Sample	Description
Corraun 3	A015/128	?	Coarse angular and rounded yellow and red sandstone / quartzite and limestone cobbles

4.6.1 Potential Sources (Taken from Mandal, Appendix 10.1)

All of the materials identified within the samples are readily available at the site, in bedrock and in the overlying glacial tills.

However, the closest bedrock source for quartzite occurs in the Clay Gill Sandstone Formation which occurs in the upland areas *c.*3km east of Durrow. Whilst it is possible that quartzite occurs in the glacial tills, the importing of quartzite from other areas, or the preferential extraction of quartzite from the tills cannot be ruled out.

5. DISCUSSION

Fulachta fiadh or burnt mounds have been identified throughout Ireland and are the most common prehistoric monument in the country. At present, over 4,600 have been recorded though this number will undoubtedly increase with further field survey and development led excavations. The largest concentrations of these sites are in Munster with over 2,500 examples alone in County Cork (Buckley 1990, 3), approximately one per 2.97 sq km. Power (1990) notes that in County Cork, as elsewhere in the country, the location of *fulachta fiadh* shows a preference towards streamside sites. They are also to be found close to other water sources such as lakes, rivers and marshes.

It is probably true to say that the basic function of a *fulacht fiadh* was to provide hot/boiling water. Once the trough had been constructed and filled with water, the primary function of the *fulacht fiadh* could begin. Although formal hearths have been identified at a number of sites, they are not extremely common. Most hearths would probably have been placed close to the trough to allow for the easy transportation of the heated stones. Although no traces of a hearth were present in association with this site, it may have been destroyed as a result of later activity.

The precise function of burnt mounds is as yet not fully clear, but it is generally regarded that *fulachta fiadh* were cooking sites where the process by which the meat was cooked involved the digging of a pit or trough that may have been lined with clay or timber (Buckley 1991,

88). This was filled with water while situated close by was a fire where stones were heated until red hot. These stones were then placed into the water bringing it to the boil. In 1952, Professor M.J. O'Kelly demonstrated this process when a 4.5kg leg of mutton wrapped in straw was cooked in three hours and forty minutes. After the meat was cooked, the burnt stones were removed from the trough and dumped on three sides of the hearth and trough, giving rise to the characteristic shape of the mound (Buckley 1991, 88).

Although the cooking hypothesis is the most widely accepted, it has come under increased scrutiny in more recent times due to the scarcity of food waste and artefacts associated with excavated *fulachta fiadh*. However, an increasing number of sites have produced animal bone such as Fahee South, Co Clare (O'Drisceoil 1988), and Curraheen 4, Co Cork (Russell 2004). Alternative suggestions that have been put forward regarding their function include brewing, textile-processing and leather working. However, Diarmuid O'Drisceoil is of the opinion that there is little sustainable supporting evidence for these suggestions (O'Drisceoil 1988, 671–80).

A strong case for the interpretation of burnt mounds as prehistoric saunas or bathing places has been put forward by Barfield and Hodder (1987, 370–79). Examination of numerous excavated burnt mounds led them to suggest that these sites were the remains of steam or sauna baths and they used ethnographical and historical evidence to support their argument. There are two main types of bath: dry-heat sweat baths and baths which use water to produce steam. The use of hot stones is the most common method of heat production in sweat baths. Stones heated in an open fire can be brought into simple tented structures with wooden tongs or can be simply rolled in. An alternative method is to light a fire, heat the stones, remove the ashes and then erect a structure covered with skins above the hot stones (Barfield and Hodder 1987). These steam or sweat baths were likely to have had a practical, ritual and social function. An examination of the archaeological, literary, experimental and ethnographical evidence for the possible uses of these sites would suggest that cooking was the primary function while bathing by immersion or sweating may have been a secondary activity. While this suggests that the sites were multi-functional, some may have had a single role, i.e. their use either as a sauna or for cooking.

The terms *fulacht fiadh* and *fulacht fian* may have been in use in Ireland for over a millennium (O'Drisceoil 1988, 671–80). When translated, the word *fulacht* originally meant recess or cavity but later came to mean cooking place. *Fiadh* can be translated as of the deer

or of the wild while *fian* means of a roving band of hunters or warriors or also of the Fianna or Fionn Mac Cumhail, mythical figures of Irish folklore. The above terms are referred to in the literature of ancient Irish law tracts prior to AD 800. Of the many references, one in particular stands out. Geoffrey Keating in The History of Ireland, written in the early seventeenth century, refers to the Fianna thus:

> *And it was their custom to send their attendants about noon with whatever they had killed in the morning's hunt to an appointed hill…and to kindle raging fires thereon, and put into them a large number of emery stone; and to dig two pits in the yellow clay of the moorland, and put some of the meat on spits to roast before the fire; and to bind another portion of it with sugans in dry bundles, and to set it to boil in the larger of two pits, and keep plying them with the stones that were in the fire…until they were cooked. And these fires were so large that their sites are today in Ireland burnt to blackness, and these are now called Fulacht Fian by the peasantry.*

> *As to the Fian…each of them stripped off, and tied his shirt around his waist; and they ranged themselves around the second pit…bathing their hair and washing their limbs, and removing their sweat, and then exercising their joints and muscles, thus ridding themselves of their fatigue* (O'Drisceoil 1988).

Keating's description of the cooking pit and cooking process matches the archaeological evidence. From the text, it is clear that cooking is the primary function of the site but that bathing also occurs. This dual function is referred to in other Irish texts. Keating's account sees the site being used by hunters but the large number of these sites and the density of their distribution cannot be explained by hunting alone. This would give us an abundance of evidence for hunting with little evidence for more permanent settlement being present.

While *fulachta fiadh* cannot be described as settlement sites, they may indicate settlement patterns. A wider picture of settlement in the Bronze Age may be gleaned from the precise dating of settlement sites contemporary with the span of the *fulachta fiadh*/burnt mound radiocarbon dates as is the case with sites such as Curraghtoor and Ballyvealish in Co Tipperary, Carrigillihy in Co Cork and possibly Coolfin in Co. Laois. The suggestion that *fulachta fiadh* are evidence for transient settlement appears to be untenable (Buckley 1990, 7). Cooney and Grogan propose that these sites may be part of an integrated system including

domestic and burial sites as is evident in south Limerick where "*a complex landscape organisation with extensive cemeteries, domestic sites and fulachta fiadh form an integrated pattern*" (Cooney and Grogan 1999, 141).

Corraun 3 comprised a burnt mound spread and four pits, at least two which may have functioned as troughs. *Fulachta fiadh* are generally recognised through a number of consistent features: a mound of heat-fractured stones, a trough and traces of fires, sometimes represented by a formal hearth. Other components, such as post-built structures and roasting-pits, can also be associated with these sites (Waddell 1998). Generally, for a site to be called a *fulacht fiadh* it should contain a spread of burnt mound material and an associated trough (see Brindley and Lanting 1990, 55). Owing to the nature of development-led archaeology, however, some sites are not fully exposed and important features such as troughs may lie outside the roadtake. Therefore spreads of burnt mound material discovered without an associated trough may originally have formed part of a *fulacht fiadh*; alternatively, portable troughs may have been used, leaving no trace in the archaeological record. Water may have been boiled in containers of wood, bronze or leather; the shallow circular pits associated with many burnt mound spreads may have acted as receptacles for these containers, likewise they may have been used for dry-roasting. For the purposes of discussion, any site not containing these two elements (a spread of burnt mound material and a trough) will not be referred to as a *fulacht fiadh* but as either a spread of burnt mound material or pit(s) containing burnt mound material, depending on the nature of the evidence. This, however, does not imply that these sites did not originally function as *fulachta fiadh*. The evidence from Corraun 3 conforms to Brindley's and Lanting's (1990, 55) definition of a *fulacht fiadh*. Corraun 3 would appear to have originated during the Early Bronze Age incorporating and, possibly inadvertently re-using an earlier pit, F015 that dated to the Late Neolithic period (See Appendix 10.2). As all three radiocarbon dates for this site were from fragments of oak charcoal the 'Old Wood Effect' has to be taken into consideration when discussing these dates.

6. INTERPRETATION AND RECONSTRUCTION

This site conforms to the definition of a *fulacht fiadh* outlined above it. The burnt mound spread and associated troughs and their respective fills clearly demonstrate that hot stone technology took place at this site. The pits identified as troughs at this site are not as convincing when compared to other sites and may have been truncated at some point.

7. ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL AND SIGNIFICANCE

In order to assess the archaeological potential and significance of this site it needs to be discussed in association with the sites discovered at this, the neighbouring townland of Palmershill and those further on at Boherard, Coolfin, Cross, Springfield and Cuffsborough. Testing and subsequent excavation in Corraun townland revealed one other area of archaeological potential, a *fulacht fiadh* dating to the late Middle Bronze Age situated *c*.20m northwest of this site. This site was designated Corraun 2. Both Corraun 2 & 3 were located on the north-eastern slope of a low hill on the periphery of an area of wetland.

The neighbouring townland of Palmershill contained the remains of sporadic small scale settlement that spanned much of the Middle Bronze Age (Palmershill 1) and a 19th Century vernacular cottage. Other *fulacht fiadh* discovered in relatively close proximity to Corraun included Boherard 1, 2 & 3 and Friarsland 1 & 2 to the east of Corraun. Boherard 1 was situated only 600m to the east of Corraun 2. An enclosure site is recorded to the west of Springfield at Boherard. This site was identified as a cropmark of a circular enclosure, visible on aerial photographs. Another enclosure was noted further to the east in Boherard and was identified as a circular area with a diameter of 27.5m. The enclosure is defined by a low scarp *c*.1.3m in height (Sweetman et al 1995, 40). A circular enclosure is recorded in Corraun townland, although it is difficult to determine a date for the feature. To the north of Corraun at Aghaboe, there is possible prehistoric evidence in the form of a cairn, although it is possible that this feature is actually a leacht (Sweetman et al 1995, 43, 7). Two bronze axeheads were uncovered in a field wall at Aghaboe and were recorded in the NMI topographical files. One was a broad flat axehead and the other was a flanged axehead and the discovery of these items could consolidate a Bronze Age presence in the area.

Testing and subsequent excavation in the townland of Springfield revealed three distinct areas of archaeological potential within relatively close proximity to each other. These comprised the remnants of a possible palisade enclosure along with a small pen-annular structure, a small hearth and a number of cultivation furrows (Springfield 1), a shallow pit filled with burnt mound material (Springfield 2) and six pits containing burnt mound material (Springfield 3). The neighbouring townland of Cuffsborough was also an archaeologically rich area. Cuffsborough 2 was located 300-400m to the south of Springfield 1 and consisted of possible Bronze Age settlement and cremation activity. Further south, Cuffsborough 1 & 3 revealed burnt mound activity. The settlement at Cuffsborough 4 consisted of an Early-

Middle Bronze Age 17m ring of large posts, which were interconnected by a narrow slot trench. These remains may represent different phases of activity and may actually have functioned as a timber ceremonial enclosure. Also present at this site was: an oval structure; a horse-shoe shaped structure and a C-shaped structure. There are records of a cist containing an Early Bronze Age crouched inhumation with a food vessel at Cuffsborough that has since been destroyed (Sweetman et al 1995, 5). Most of the archaeology recently excavated in this general area dates to the Bronze Age and it appears that this area was subject to continuous settlement and use during this period.

At Springfield 1, at least four phases of activity were uncovered, two of them dated through C14 analysis. The hearth at Springfield 1 would appear to be much earlier in date, Cal BC 2870 to 2570 (BETA 218629), than the surrounding palisade, Cal BC 1130 to 910 (SUERC 17594), while from on-site stratigraphic associations it is evident that the small pen-annular structure was truncated by the palisade is therefore earlier in date, but to what period it originated remains unknown. At Springfield 2, charcoal from this isolated pit was dated to Cal BC 1690 to 1510 (BETA 218616) while charcoal from one of six pits discovered at Springfield 3 returned a date of Cal BC 2870 to 2800 & Cal BC 2770 to 2460 (BETA 218622), which was similar to the date of the hearth at Springfield 1 suggesting that these two sites may have been contemporary. There is a mound recorded to the east of Springfield at Farraneglish Glebe, which is located on the lower, north facing slope of a hill overlooking marsh to the northwest. The site is a large, tree covered, elongated earth and stone mound (Sweetman et al 1995, 11). There are two enclosures in Dairyhill townland to the southeast of Springfield (Sweetman et al 1995, 44). There is a *fulacht fiadh* site reputedly located to the south of Springfield at Kilminfoyle, although the current location is unknown (Sweetman et al 1995, 12).

Coolfin 1 was situated to the west of Springfield 3 on the higher ground and consisted of a Middle Bronze Age roundhouse. Coolfin 2, 3 & 4 were located in the lower lying ground near Springfield 3 and were all associated with burnt mound activities. Settlement in this area was obviously located in the higher, well drained soil as with Palmershill, while the *fulachta fiadh* were located in the lower lying, wetter soil, adjacent to streams. Cross 1 was sited *c.*300m to the northwest of Springfield 3 and consisted of a substantial spread of burnt stone material which overlay a rectangular trough and an oval pit/trough. Ballycuddahy 1 was located *c.*800m to the northeast of Springfield 3 and consisted of a trough and three associated burnt mound pits.

8. CONCLUSION

This site contained the remnants of a *fulacht fiadh.* It comprised a burnt mound spread and four pits, two of which may have functioned as troughs. Corraun 3 would appear to have originated during the Early Bronze Age incorporating and, possibly inadvertently re-using an earlier pit F015 that dated to the Late Neolithic period (See Appendix 10.2). When considering the evidence outlined above under Section 7, it becomes more transparent that Corraun 3 was a component of a wider Bronze Age settlement pattern that spanned the Late Neolithic to the Late Bronze Age. Cooney & Grogan's (1994, 141) analysis of prehistoric settlement patterns in Limerick suggests that there was an '*emergence of a complex landscape organisation, with extensive cemeteries, domestic sites and fulachta fiadh forming an integral pattern'* during the Bronze Age. Therefore, it is probable that this is what is in evidence at this part of Co. Laois. This area of Corraun was deemed a suitable location to conduct burnt mound activities and was re-visited throughout much of the Bronze Age as it attested by unconnected sites Corraun 2 and 3. This site has been adequately archaeologically assessed and resolved. There are no other archaeological features within the limits of the roadtake. Consequently no further work is required prior to the construction phase of the M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme.

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9.2 Other Sources

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

Topographical Files of the National Museum of Ireland, Kildare Street, Dublin 2.

9.3 Cartographic Sources

1839 1st edition Ordnance Survey Map

1891 2nd edition Ordnance Survey Map

1909 Ordnance Survey Revision edition RMP map

Signed:

Ed Danaher

Licensed Archaeologist

November 2008

10. APPENDICES

10.1 Appendix 1: Petrographical analysis report

Petrographical Report on Stone Samples from Corraun 3, Co. Offaly

(Ministerial Direction No. A015/128)

EurGeol Dr Stephen Mandal MIAI PGeo

Geology of the Site (see Figure 1; Archer *et al*. 1996; Gatley *et al*. 2005)

The geology of the area is dominated by Carboniferous sediments, predominantly limestone, which form a stratigraphical succession generally younging to the southeast.

However, the oldest rocks in the area occur in the northwest of the area and are of Devonian Age, comprising the Cadamstown Formation (CW) of pale and red sandstone, grit and claystone and include the Clonaslee Member (CWcl), which consist of thick flaggy sandstone and thin siltstone.

The oldest rocks of the Carboniferous Period in the area belong to the Lower Limestone Shale (LLS), consisting of sandstone, limestone and mudstone. These unconformably overlie the Ballysteen Formation (BA); Courceyan Age fossiliferous dark grey muddy limestones which make up the majority of the area. Included in the Ballysteen Formation is the Lisduff Oolite Member (BAld) of oolitic limestone. Overlying this is the Waulsortion Limestones, massive bedded limestones of Upper Courceyan Age.

Another unconformity separates the Waulsortion Limestones from the conformable Urlingford Succession of the Crosspatrick Formation (CS), pale-grey cherty crinoidal limestone; the Aghmacart Formation (AG), dark shaly micrite / peloidal limestone; the Durrow Formation (DW), shaly fossiliferous and oolitic limestone; and the Clogrenan Formation (CL), cherty bluish crinoidal limestone.

A further substantial unconformity separates this succession from the Killeshin Siltstone Formation (KN), Upper Namurian muddy siltstone and silty mudstone, in turn unconformably overlain by the Moyadd Coal Formation (MC), Lower Westphalian shale, siltstone and minor sandstone.

The bedrock at the site consists of the Ballysteen Formation of fossiliferous dark grey muddy limestones.

The geology of the area represents the period from the Devonian (*c*. 410 – 355 million years ago), when this part of Ireland was on the edge of a huge continent called Laurussia, formed by the collision of Laurentia and Avalonia – South America at the end of the Silurian. The rocks were derived from the Caledonian mountain uplift which occurred at e start of the Devonian, representing the final erosion of the mountain range prior to the inundation of the

early Carboniferous sea. The Carboniferous sequence of rocks in the area is a result of shallow (sandstones and limestones) and deeper (shales and mudstones) period of deposition on the sea floor.

Results of Assessment

Site	MD #	Sample	Description
Corraun 3	A015/128	?	Coarse angular and rounded yellow and red sandstone / quartzite and limestone cobbles

Potential Sources

All of the materials identified within the samples are readily available at the site, in bedrock and in the overlying glacial tills.

However, the closest bedrock source for quartzite occurs in the Clay Gill Sandstone Formation which occurs in the upland areas *c*. 3k east of Durrow. Whilst it is possible that quartzite occur in the glacial tills, the importing of quartzite from other areas, or the preferential extraction of quartzite from the tills cannot be ruled out.

References

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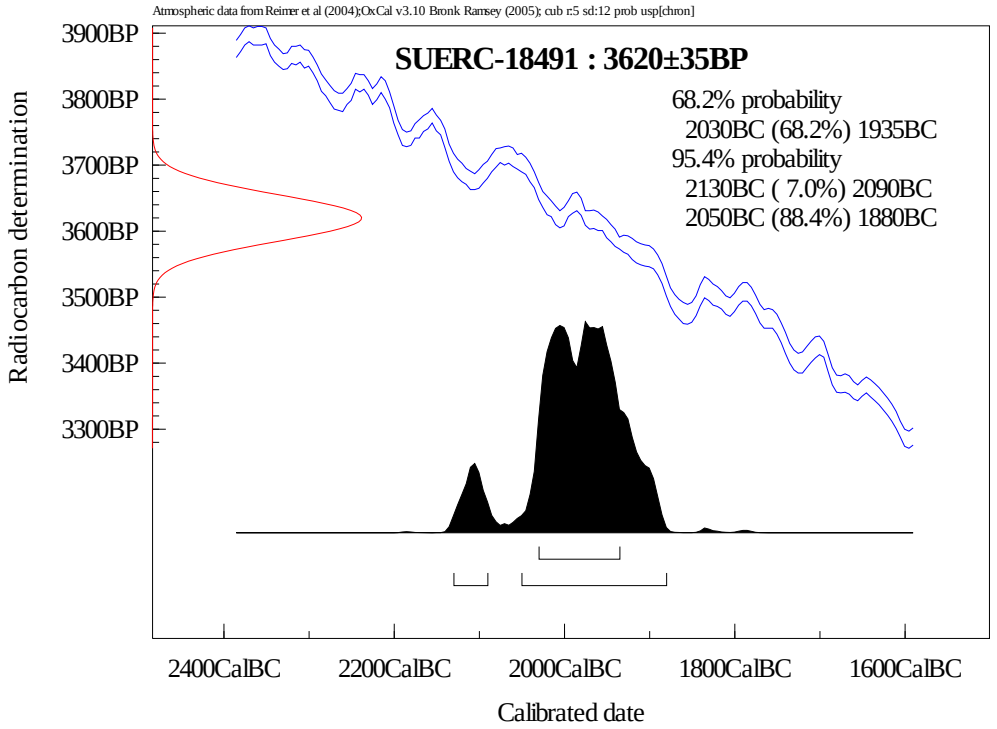
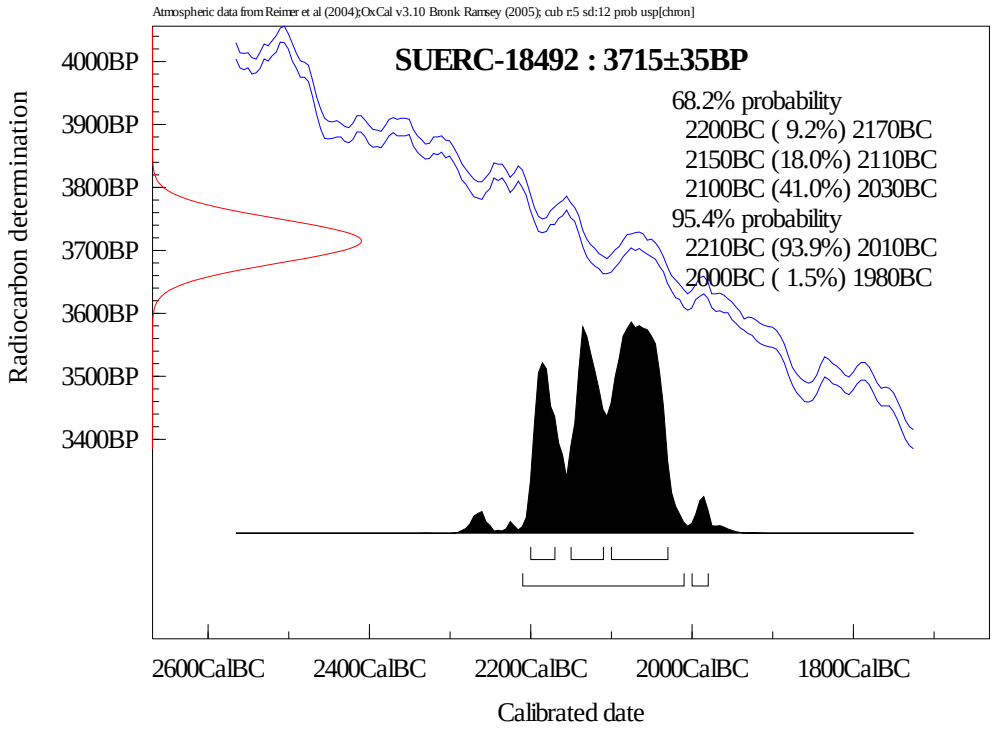
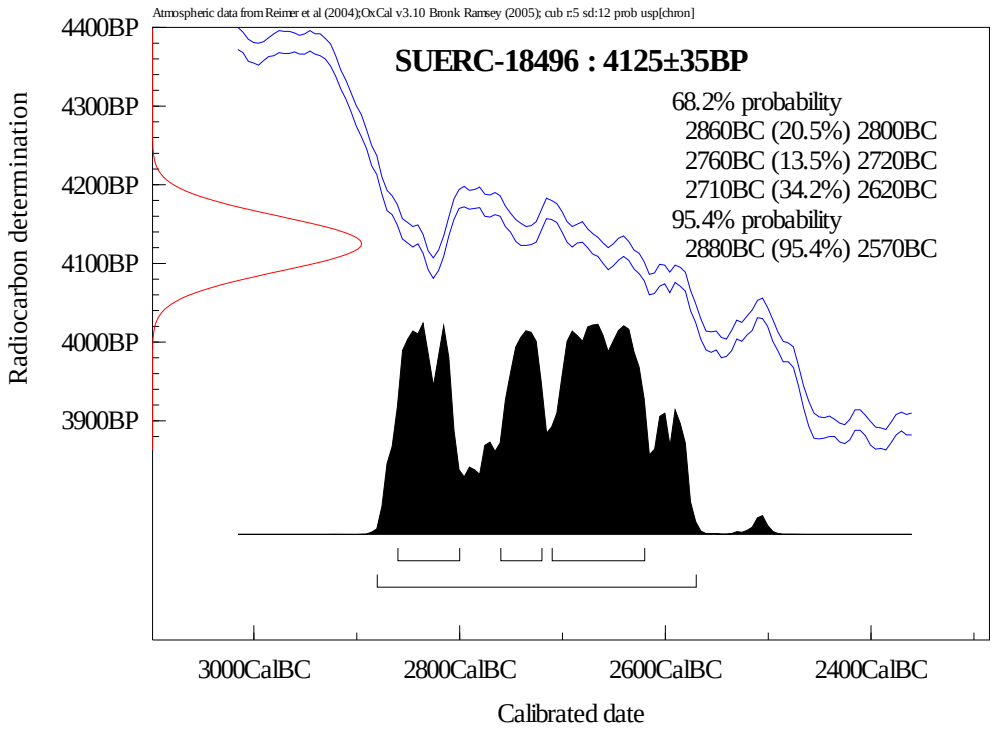
10.2 Appendix 2: Radiocarbon dating analysis report



GU No.	Reporting Number	Sample Type	Site	Sample Id	Species Dated	d13C	Age % Modern	Ageerror 1 sigma
16222	18491	Charcoal	Corraun 3	Corraun 3 :E2237:F3:S1	Oak	-26.3	3620	35



GU No.	Reporting Number	Sample Type	Site	Sample Id	Species Dated	d13C	Age % Modern	Ageerror 1 sigma
16223	18492	Charcoal	Corraun 3	Corraun 3 :E2237:F10:S2	Oak	-25.3	3715	35



GU No.	Reporting Number	Sample Type	Site	Sample Id	Species Dated	d13C	Age % Modern	Ageerror 1 sigma
16224	18496	Charcoal	Corraun 3	Corraun 3:E2237:F14:S3	Oak	-25.9	4125	35

10.3 Appendix 3: Summary of Fulachta Fiadh on the M7 Portlaoise-Castletown/M8 Portlaoise-Cullahill Motorway Scheme

Townland	Contract No.	Site Type	Description	Provisional Date
Addergoole 1	1	Burnt mound	2 burnt spreads and several paleochannels.	Late Bronze Age
Addergoole 2	1	Burnt mound	Several burnt spreads, 2 troughs and other features	Late Bronze Age
Aghmacart 1	1	Burnt mound	3 burnt spreads	Early Bronze Age
Aghmacart 2	1	Burnt mound	1 burnt spread and 1 trough	Early Bronze Age
Ballycuddahy 1	1	Burnt Mound(s)	2 small burnt spreads, 2 troughs (1 oval and 1 rectangular) and 1 pit	Bronze Age
Ballyhinode 1	1	Burnt Mound	Remains of fulacht/burnt mound	-
Ballyhinode 2	1	Burnt Mound	Remains of fulacht/burnt mound	-
Boherard 1	2	Burnt Mound	Burnt Spread	Bronze Age
Boherard 2	2	Burnt Mound	Burnt Spread and associated pits	Bronze Age
Boherard 3	2	Burnt Mound	Burnt Spread and pit furnace	Bronze Age
Bushfield or Maghernaskeagh 1	2	Burnt Mound	Several burnt spreads and troughs	Bronze Age
Bushfield or Maghernaskeagh 4	2	Burnt Mound	Several burnt spreads and troughs	Bronze Age
Bushfield or	2	Burnt Mound	Several burnt spreads and troughs	Early Medieval period

Maghernaskeagh 5				
Cannonswood 2	1	Burnt Mound	Several burnt spreads and troughs	Bronze Age
Cappaloughlin 5	3	Burnt mound	Remains of three *fulacht*/burnt spreads and two pit-like troughs	Bronze Age
Cappaloughlin 6	3	Burnt mound	Remains of fulachta fiadh activity: 8 troughs and associated spreads	Bronze Age
Clonadacasey 3	3	Burnt mound	A small number of archaeological features including a trough and two *fulacht*/burnt spreads.	Bronze Age
Clonadacasey 4	3	Burnt mound	A small number of archaeological features including a number of *fulacht*/burnt spreads, stakeholes and troughs.	Bronze Age
Clonboyne 2	3	Burnt mound	Remains of a ploughed out *fulacht fiadh.* A possible flint plough pebble and hone stone were recorded	Bronze Age
Clonrud 3	3	Burnt mound activity	Shallow irregular spreads of black charcoal-enriched clay containing heat-shattered sandstone fragments, below which were four large pits or troughs	Bronze Age
Coolfin 2	2	Burnt Mound Activity	Four small pits containing heat shattered stone. The pits ranged from circular to sub-oval in shape and had an average diameter of less than a meter and depth of 200mm.	Bronze Age
Coolfin 3	2	Burnt Mound	Burnt spread (c.12m in length). A large sub-rectangular pit situated to the north of this feature was interpreted as a well (over 3m in length, 2m in width and a metre deep) and contained a timber walkway leading from outside the northern edge to its centre. The cut for this 'U' – shaped well was while a single timber plank supported by uprights provided access into it. A stream apparently truncated the spread in the past.	Bronze Age

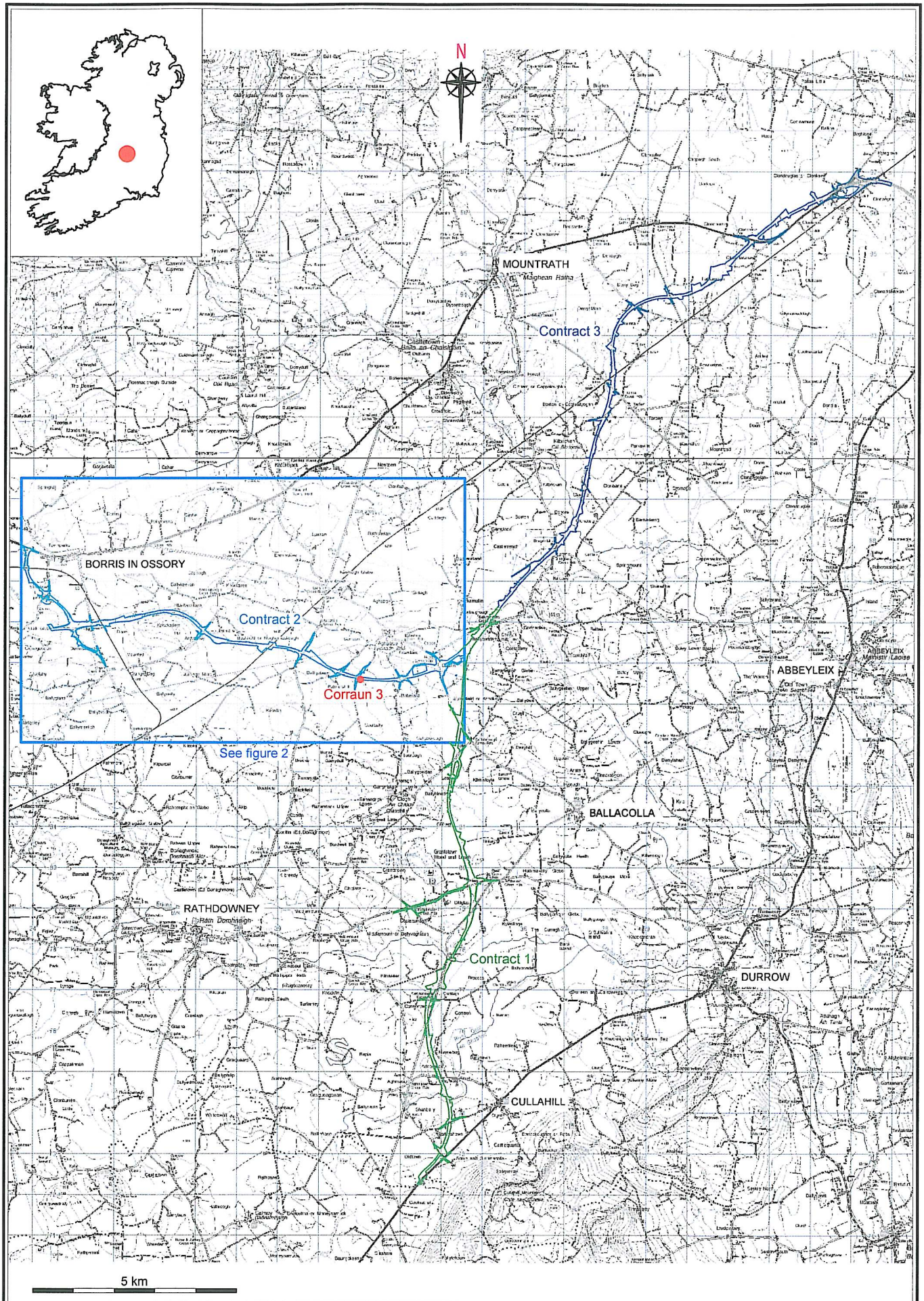
Coolfin 4	2	Burnt Mound	Rectangular pit measuring 1.6m E-W and 1.05m N-S and a depth of 0.15m. The burnt mound material and the four corner postholes suggest that this feature probably held a trough. A north-south orientated stream was situated 8m to the west.	Bronze Age
Corraun 1	2	Burnt Mound	Burnt mound activity	Bronze Age
Corraun 2	2	Burnt Mound	Substantial burnt mound & associated pits, hearths & 3 troughs	Bronze Age
Corraun 3	2	Burnt Mound	Extensive burnt mound activity	Bronze Age
Cross 1	1	Burnt Mound	Burnt stone spread and an associated trough	Bronze Age
Cuffsbororugh 1	1	Burnt Mound Site	Burnt stone spread, 3 sub-rectangular troughs, 1 sub-circular trough & 2 large pits. Linear ditches. Finds included pottery & deer antler.	Bronze Age
Cuffsborough 3	1	Burnt Mound Site Possible well	2 large deep pit features & 2 large shallow pit features (containing burnt stone), associated pits & ditches. Post-Medieval well?	Bronze Age Post-Medieval?
Curragh 1	1	Burnt mound	2 distinct fulachta fiadh	Early Bronze Age
Curragh 2	1	Burnt mound	1 fulacht fiadh and other post medieval features	Late Bronze Age/ Late Medieval period
Friarsland 1	2	Burnt Mound	Burnt spread (15 x 10m). This site very small and was completed during the testing phase.	Bronze Age
Friarsland 2	2	Burnt Mound	Burnt spread (5 x 2m)	Bronze Age

Gortnagroagh 1	1	Burnt Mound/ Industrial Activity	Drains, a large oval pit & a smaller rectangular pit all containing post-Medieval pottery while both pits contained heat shattered sandstone and dated to the Bronze Age. A number of cow-horns were also found on site	Bronze Age/Post-Medieval
Kilcotton 2	2	Burnt Mound	Remains of fulacht/burnt mound and associated pits	Bronze Age
Leap 2	1	Burnt Mound	Ploughed out remains of fulacht/burnt mound or spread	-
Oldglass 1	1	Burnt Mound	Remains of fulacht/burnt mound and a circular structure.	Iron Age
Oldglass 2	1	Burnt Mound	Remains of fulacht/burnt mound and associated pits	-
Oldglass 3	1	Burnt Mound	Remains of fulacht/burnt mound	Bronze Age
Shanboe 1	2	Burnt Mound	*Fulacht*/burnt mound spread, which covered a number of troughs and pits. One chert arrowhead was recovered.	Bronze Age
Shanboe 4	2	Burnt Mound	Ploughed out remains of a *fulacht fiadh*/burnt mound	Late Bronze Age
Shanboe 5	2	Burnt Mound	Ploughed out remains of a *fulacht*/burnt mound spread and associated pits	Early Medieval

Springfield 2	1	Burnt Mound	Troughs, pits, postholes and associated burnt mound activity	Bronze Age
Springfield 3	1	Burnt Mound	Burnt stone spread and a metalled surface	Bronze Age
Tintore 1	1	Burnt mound	2 fulachta fiadh and troughs	Bronze Age
Tintore 2	1	Burnt mound	Several fulachta fiadh spreads and associated pits	Late Bronze Age

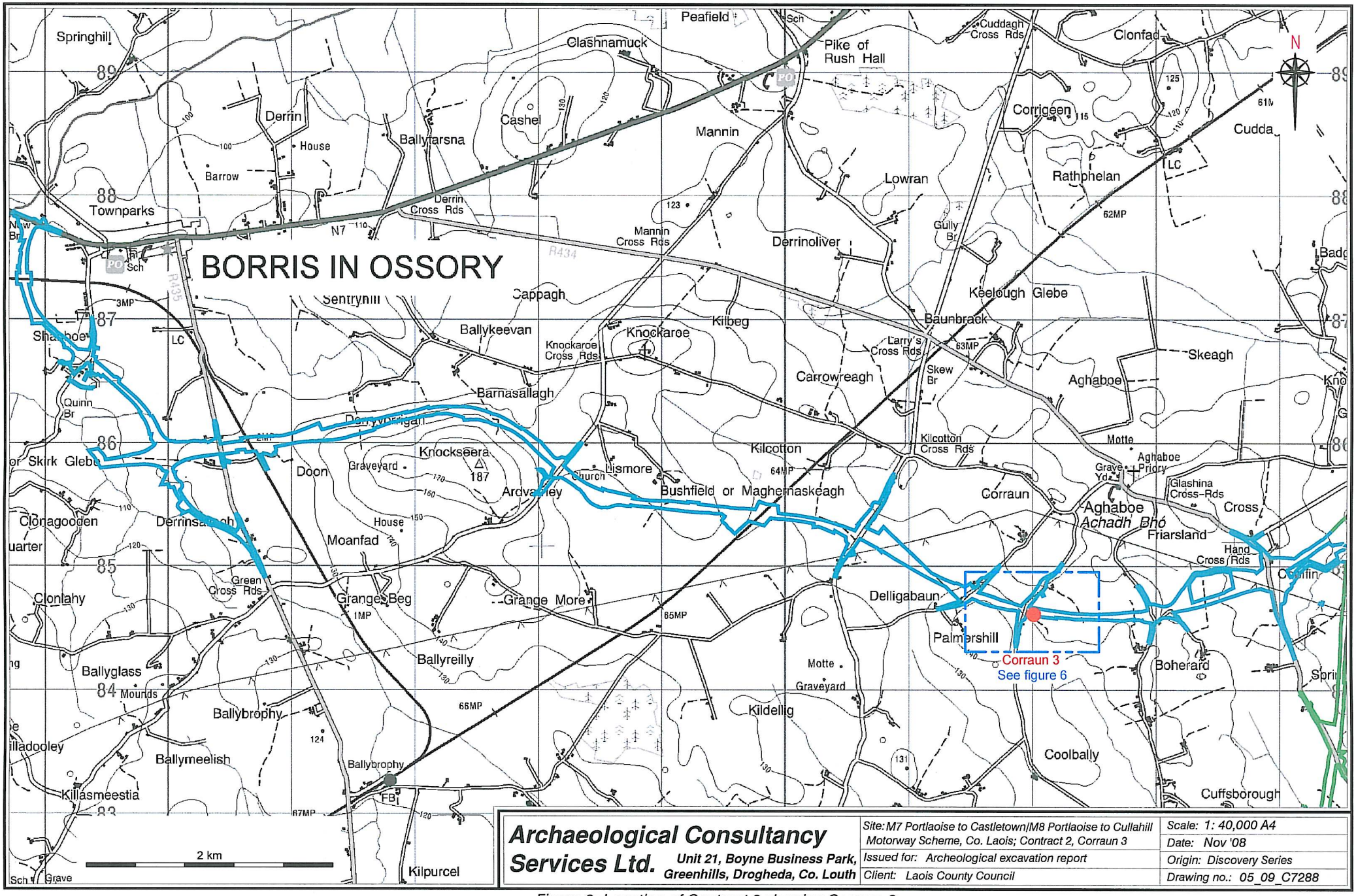
10.4 Appendix 4: Archive contents

Table …. Site Archive (Basic) Summary			
Site Name: Corraun 3		Record No.: E2237 – Scheme No.: A015/128	
Type	Description	Quantity	Notes
Contexts	Validated contexts from excavation	15	All contexts sheets have been checked and cross-referenced.
Plans	'A2' 1:50	5	Post-ex plan.
Sections	'A2' 1:10	4	
Photographs		56	Colour Prints
Registers	Plan Register Photographic Register Finds Register Sample Register	1 1 1 1	All Registers have been checked and cross-referenced.
Diaries	Director's Diary	1	All Diaries have been checked and cross-referenced.



Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, Co. Laois; Contract 2, Corraun 3	Scale: 1: 125,000 A4
		Date: Nov '08
	Issued for: Archaeological excavation report	Origin: ACS Ltd
	Client: Laois County Council	Drawing no.: 05_09_C7287

Figure 1: Location of M7/M8 Motorway Scheme showing location of Corraun 3



Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, Co. Laois; Contract 2, Corraun 3	Scale: 1: 40,000 A4
	Issued for: Archeological excavation report	Date: Nov '08
	Client: Laois County Council	Origin: Discovery Series
		Drawing no.: 05_09_C7288

Figure 2: Location of Contract 2 showing Corraun 3

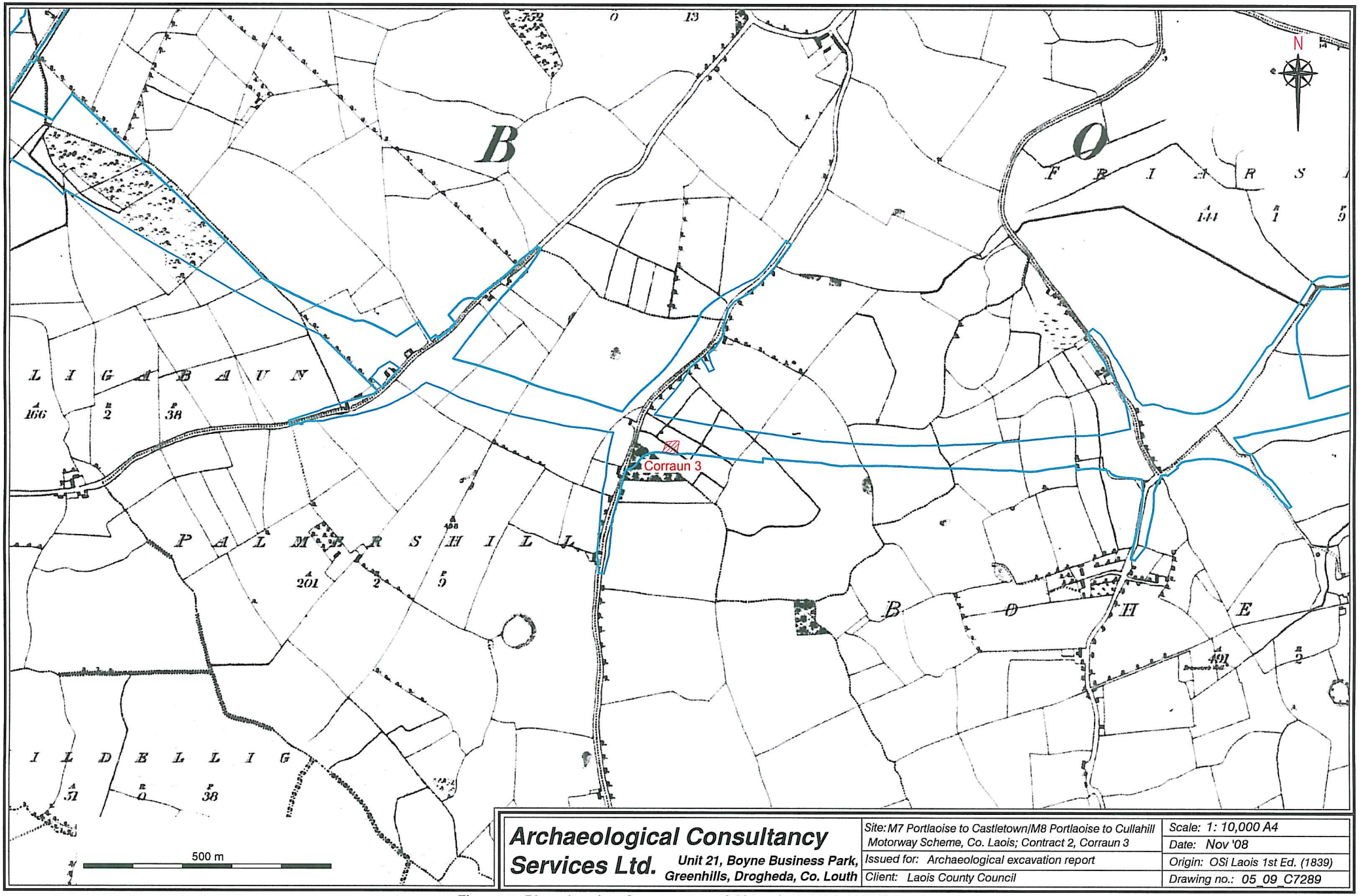


Figure 3: Plan showing Corraun 3 on OSi Laois 1st Ed. (1839) background

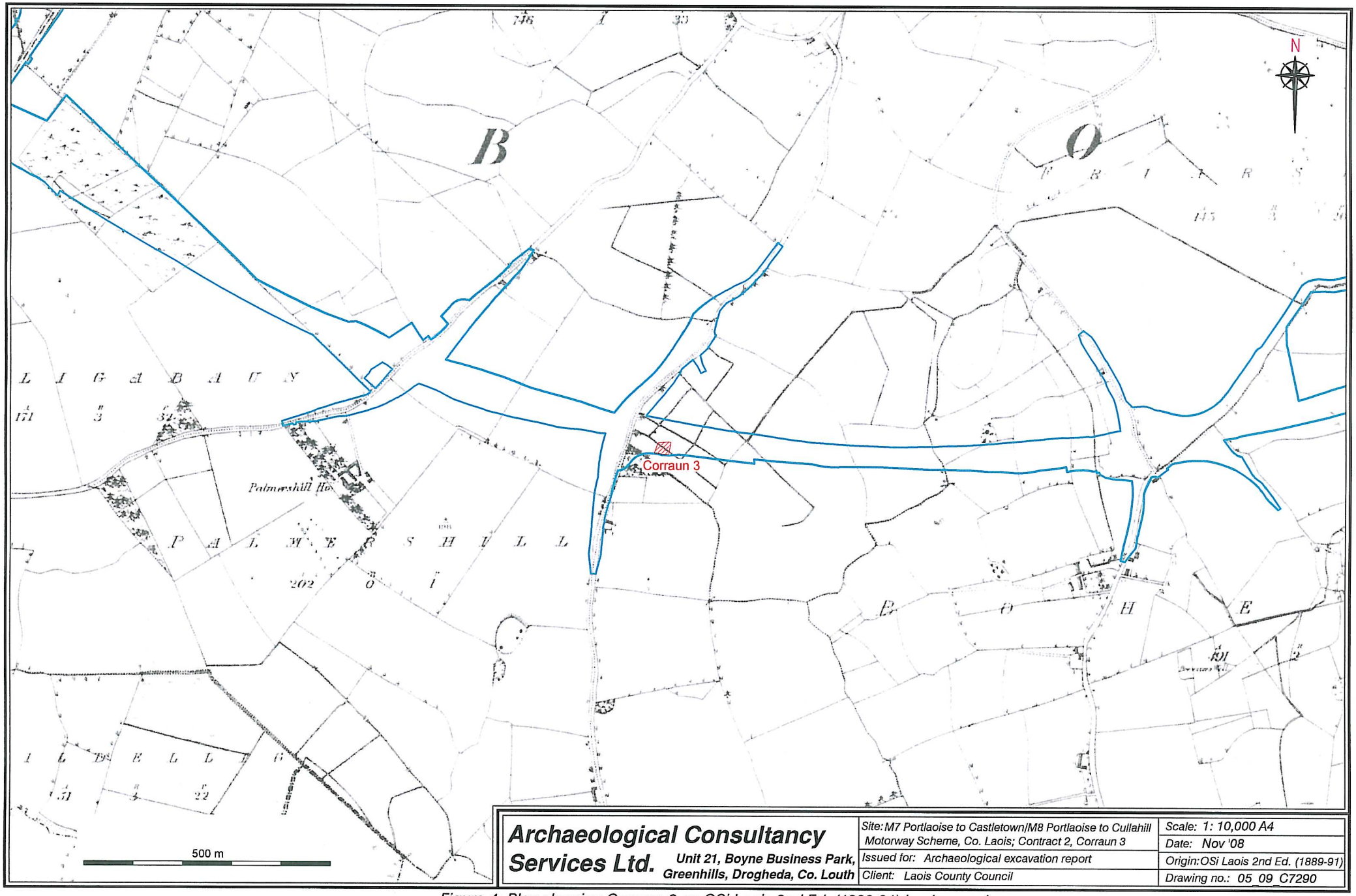


Figure 4: Plan showing Corraun 3 on OSi Laois 2nd Ed. (1889-91) background

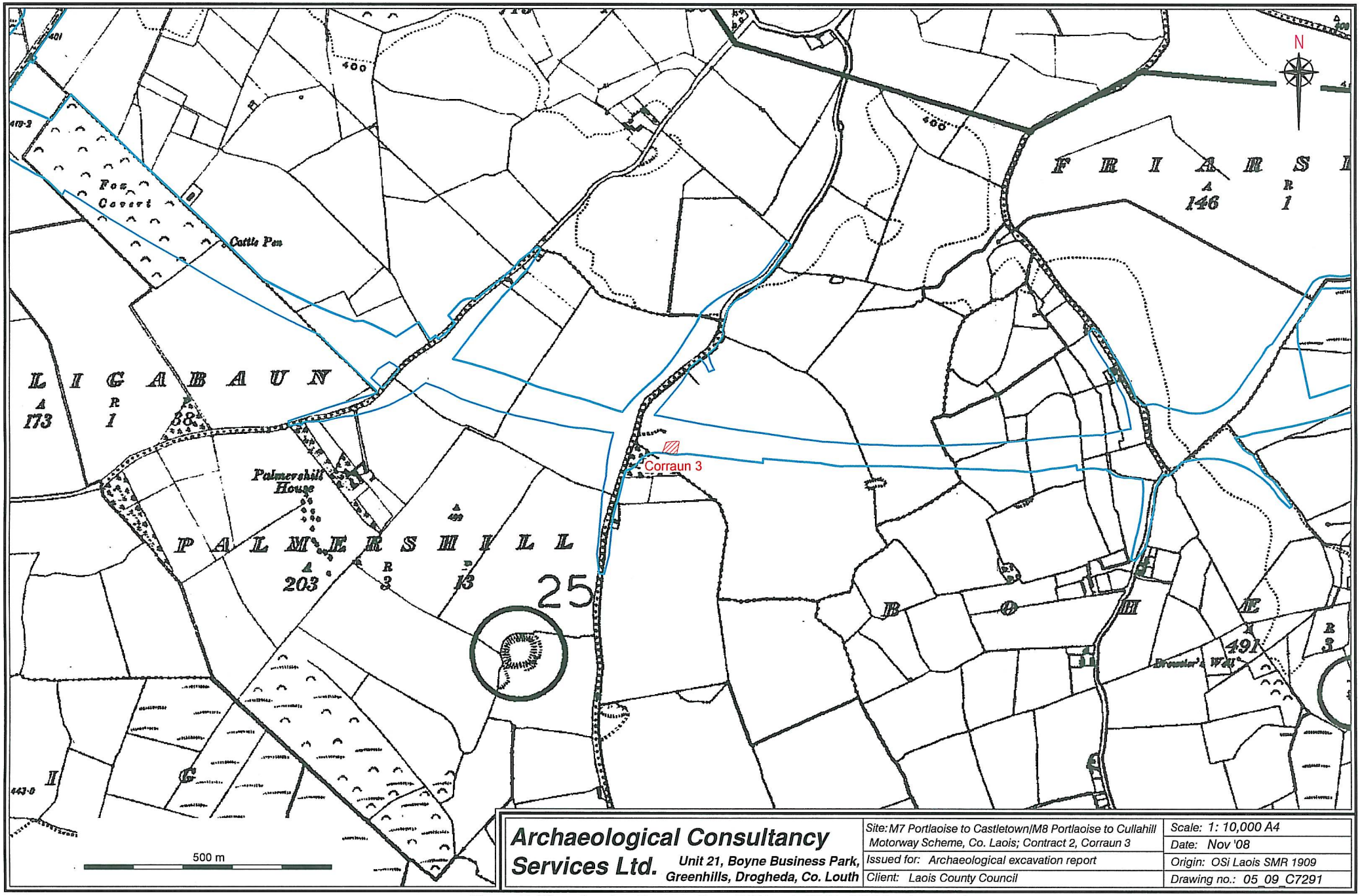


Figure 5: Plan showing Corraun 3 on OSi Laois SMR 1909 background

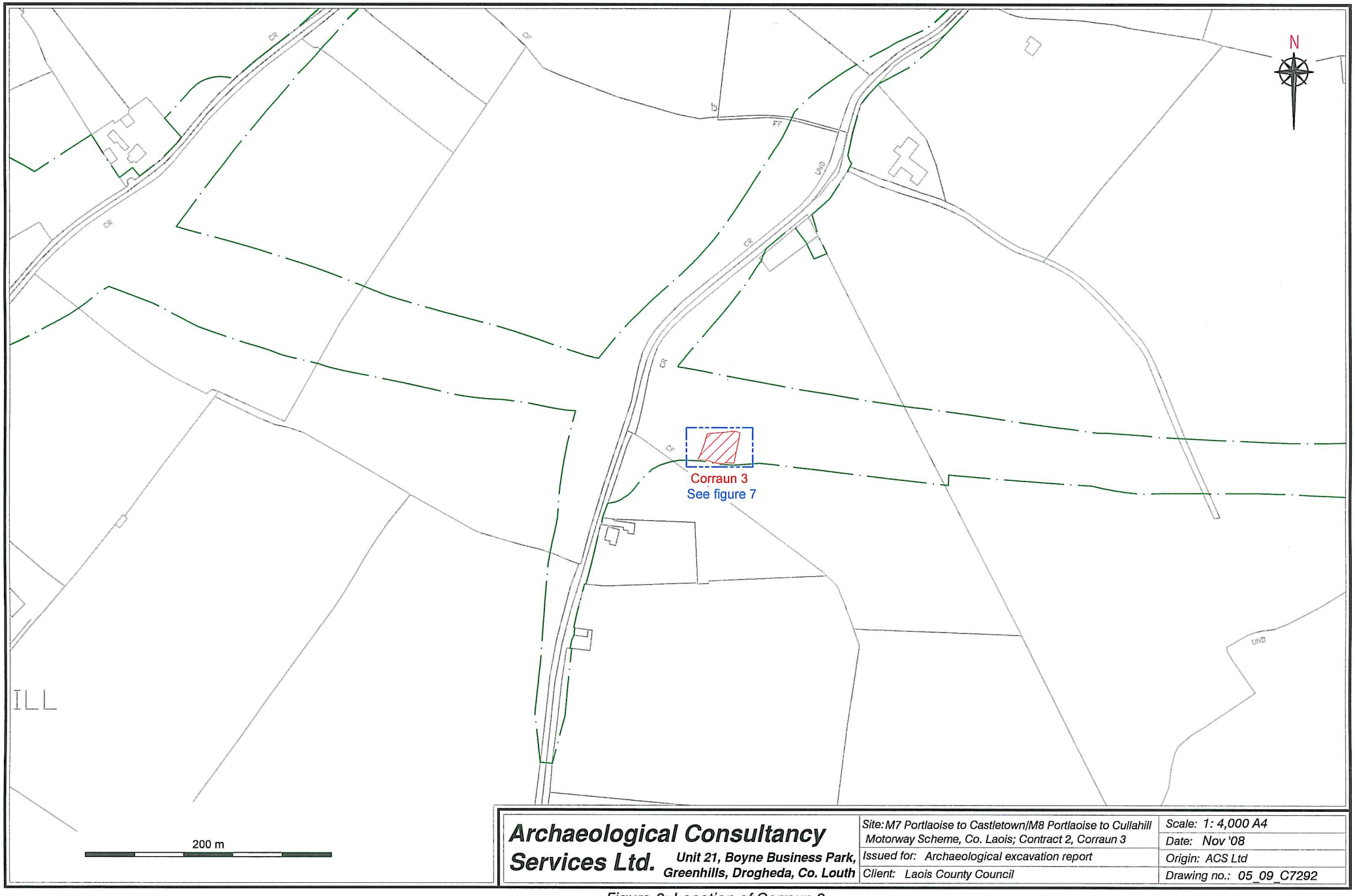


Figure 6: Location of Corraun 3

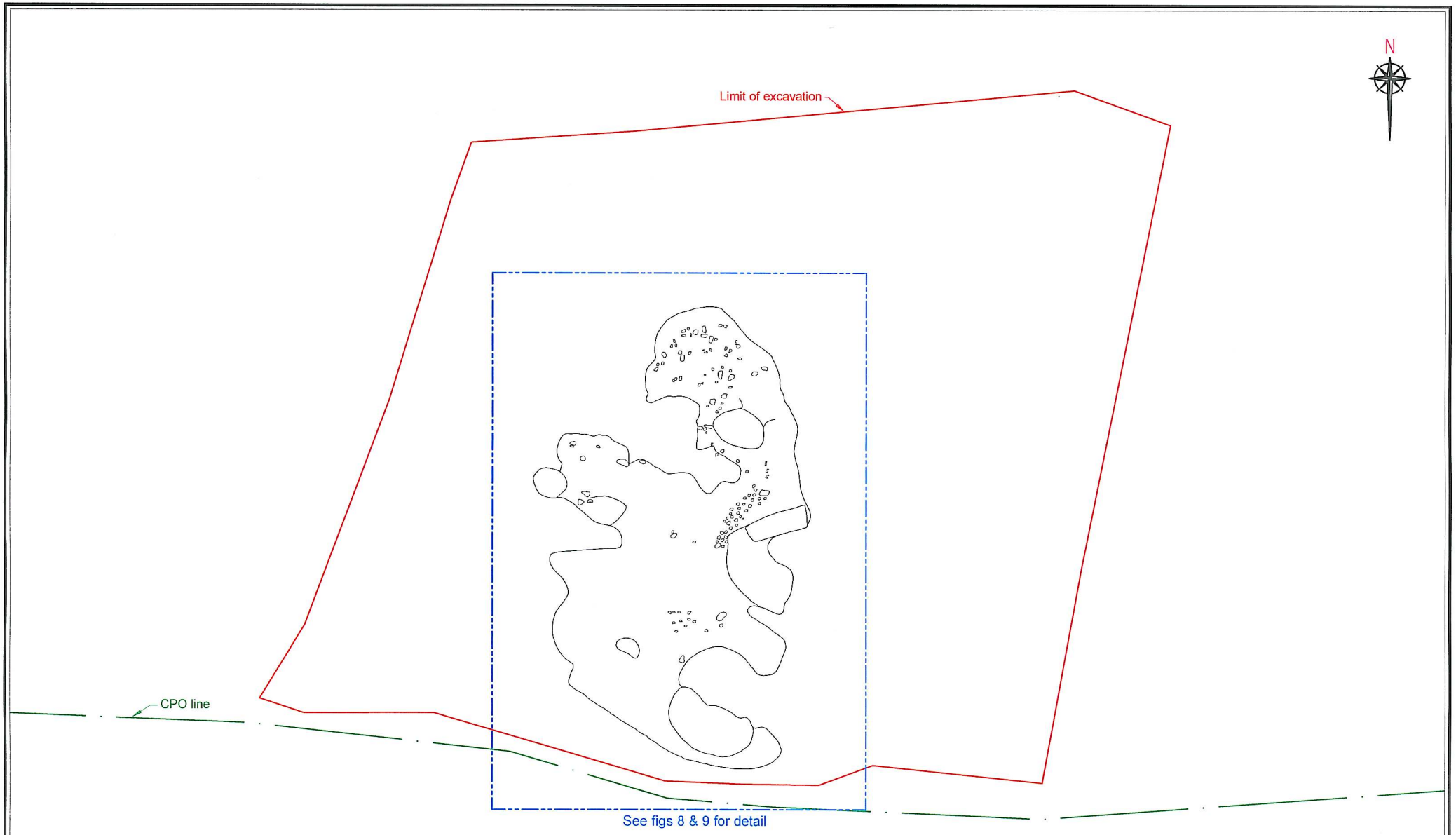
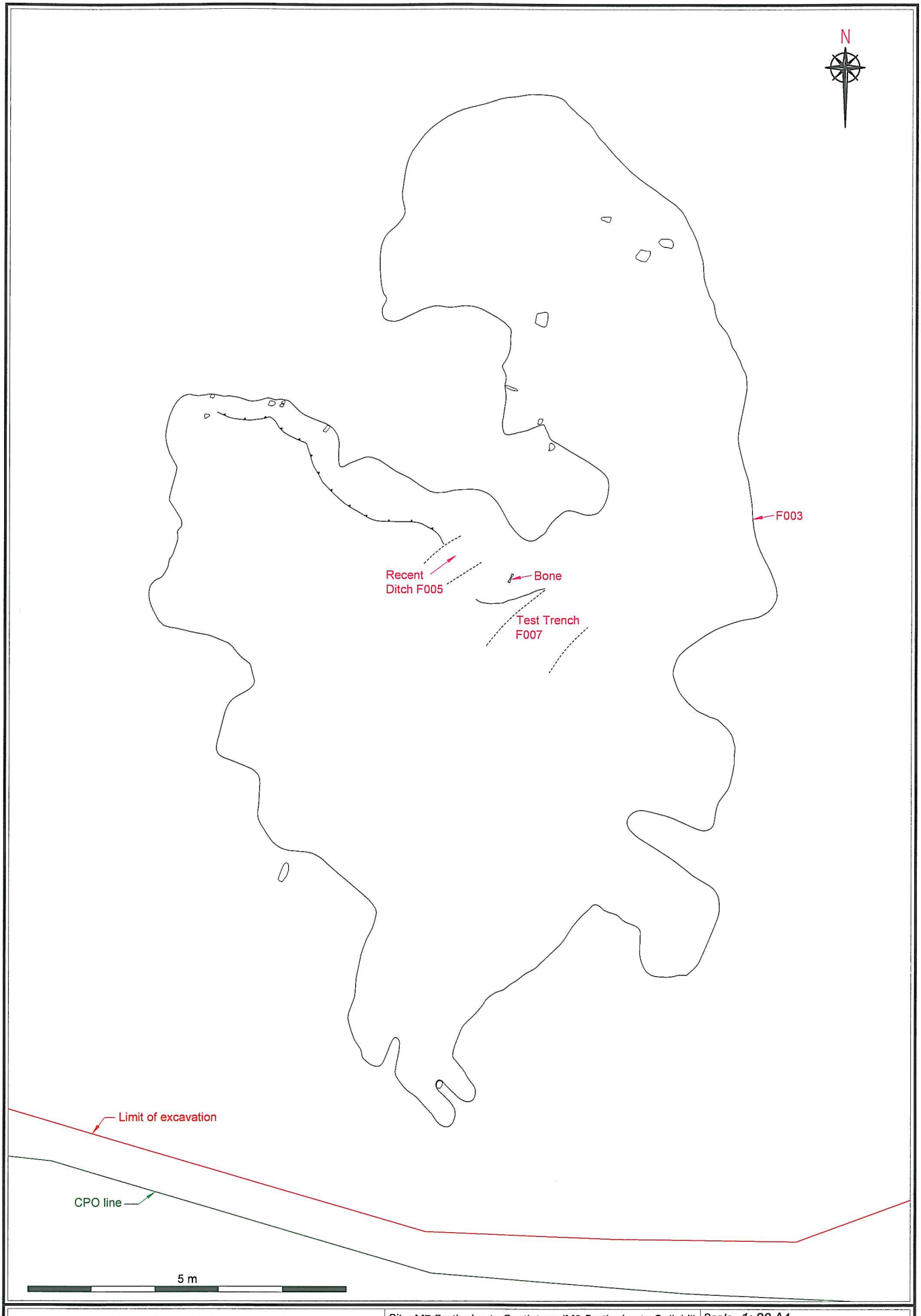
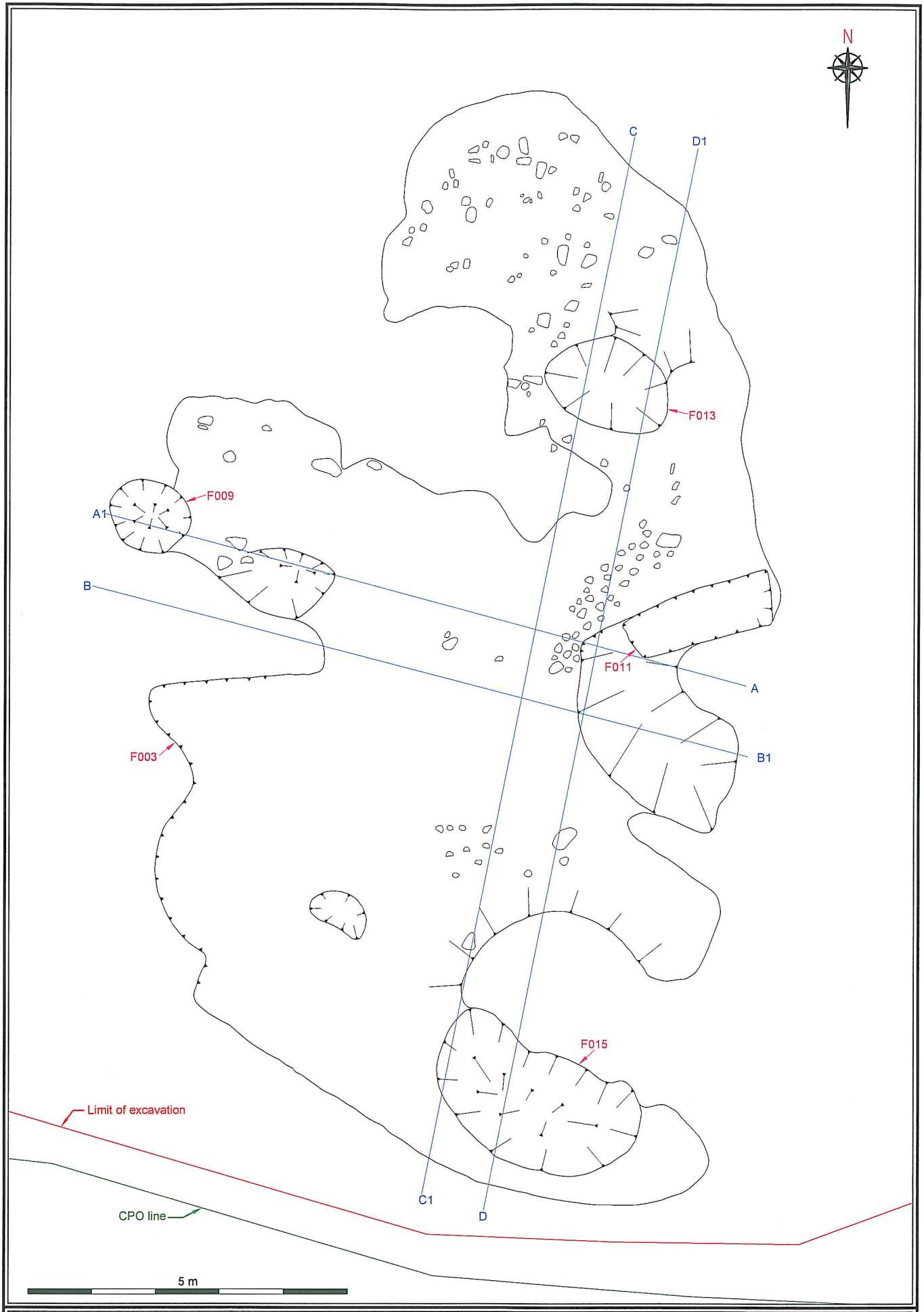


Figure 7: Plan showing extent of site



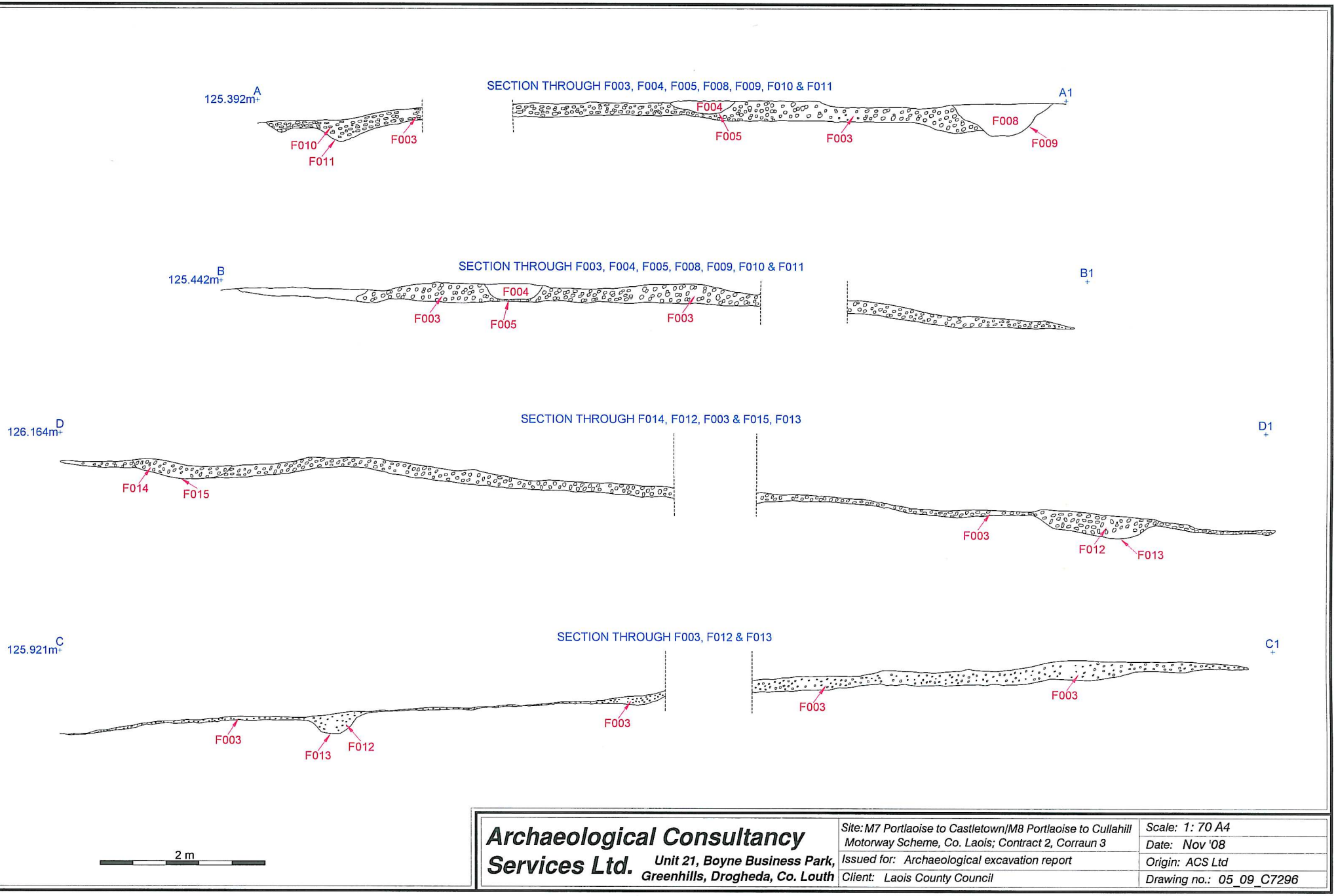
Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, Co. Laois; Contract 2, Corraun 3	Scale: 1: 80 A4
		Date: Nov '08
	Issued for: Archaeological excavation report	Origin: ACS Ltd
	Client: Laois County Council	Drawing no.: 05_09_C7294

Figure 8: Pre-excavation plan of Corraun 3



Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, Co. Laois; Contract 2, Corraun 3	Scale: 1: 80 A4
		Date: Nov '08
	Issued for: Archaeological excavation report	Origin: ACS Ltd
	Client: Laois County Council	Drawing no.: 05_09_C7295

Figure 9: Post-excavation plan of Corraun 3



Archaeological Consultancy Services Ltd. *Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth*	Site: M7 Portlaoise to Castletown/M8 Portlaoise to Cullahill Motorway Scheme, Co. Laois; Contract 2, Corraun 3	Scale: 1: 70 A4
	Issued for: Archaeological excavation report	Date: Nov '08
	Client: Laois County Council	Origin: ACS Ltd
		Drawing no.: 05_09_C7296

Figure 10: Sections

Plate 1: Pre-excavation shot of site with Corraun 2 visible to the left of photo, from southeast (05_09_CP322_11)

Plate 2: Mid-excavation shot of site with Corraun 2 visible in the background, from southeast (05_09_CP324_11)

Plate 3: Mid-excavation shot of site from northeast (05_09_CP324_12)

Plate 4: Mid-excavation shot of site from northwest (note its location on the slope of the hill) (05_09_CP324_13)