

**Great Lemhill Farm, Lechlade  
Gloucestershire**

**Archaeological Field Assessment**

**Oxford Archaeological Unit  
1990**



## ARCHAEOLOGICAL ASSESSMENT

### GREAT LEMHILL MANOR

#### INTRODUCTION

A survey of the proposed development area outlined areas of known archaeology (fig 1). A field assessment was then undertaken as part of the environmental assessment on two fields (OS 0451 & 9080) south of Great Lemhill Farm in order to clarify the significance of this identified archaeology. Cropmarks had been recorded on the area which had led to the definition of three archaeological sites on the County's Sites and Monuments Record (SMR): PRN's 3217, 3219, 3220.

Topographically the land gently slopes to the south and consists of two basic geological subsoils: predominantly gravel but in field OS 9080 Oxford Clay forms the northern segment. The present land use is arable and aerial photography indicates that medieval ridge and furrow cultivation also occurred.

#### Summary

- 1) An extensive prehistoric boundary runs through field OS 0451 from the vicinity of the Rough Grounds Farm villa. A probably contemporary boundary runs in from the west. The prehistoric boundary is cut by, but also respected by, a set of parallel Roman ditches.
- 2) Small scale Roman activity (possibly second century onwards) has been identified in field OS 9080. No structural features were identified and finds including carbonized material were very sparse. It is likely that this represents a peripheral part of a small Roman settlement possibly sited to the east.
- 3) A pair of parallel Roman boundary ditches (late Roman?) were identified to the west of field OS 9080.
- 4) Saxon pottery (6-10th century) was recovered either in the plough soils or in the tops of features. No definite Saxon features were recognised. This derived from the north and east side of the field. It may indicate a Saxon origin for Great Lemhill Manor.
- 5) Some discrete or shallow features exist that do not show on the cropmarks. Archaeological features are also hidden in the clay sub soils.

- 6) From the sample of features excavated in both fields finds of the prehistoric and Roman periods appear to be sparsely distributed.
- 7) Both fields OS 0451 and 9080 have been extensively disturbed by medieval ridge and furrow cultivation.

#### Archaeological Context and Importance

- 1) Extensive late Bronze Age/ early Iron Age boundaries have been identified to the south at Butler's Field (OAU excavations 1985) and to the south east at Rough Grounds Farm (Rough Grounds Farm: A Prehistoric & Roman Landscape, T G Allen et al., forthcoming). The prehistoric boundary at Great Lemhill may well be contemporary. This further documents the extensive and intensive land management that succeeds the early prehistoric ceremonial complex on these second terrace gravels.
- 2) The Roman landscape in this area is becoming well documented. Roman sites seem to be occurring less than a kilometre distance from each other. They seem to be interrelated with trackways and fields. Great Lemhill fits into this pattern perhaps representing a small farm established in the early Roman period. Similar sites are known to exist in the vicinity (e.g. Whelford Bowmoor, OAU excavations 1985). These lower status sites are not usually well preserved.
- 3) Documented early Saxon activity from excavations in this area is not common. Saxon settlements have been recognised from aerial photography and field work to the west and east of Butler's Field c. one kilometre to the south. Butler's Field itself was an extensive Saxon cemetery dating from c 500 AD to c 650 AD (OAU excavations 1985). Lechlade itself presumably represents the late Saxon focus for the area; Great Lemhill being an outlying farmstead. Its origin as an estate of Broughton Poggs however is of interest.
- 4) The Great Lemhill area fits in to a landscape well documented from the late prehistoric period. Its peripheral or minor settlement status has obvious continuity down to the present day. Areas like Great Lemhill are of great importance for the understanding of continuity and changing patterns of land use; this is particularly enhanced by the "group value" factor provided by the intensive study of adjacent areas.



## ARCHAEOLOGICAL BACKGROUND (fig 1)

No archaeology has been identified from the immediately adjacent fields although Great Lemhill Farm was certainly a medieval foundation - the present farm house dates from the 16/17<sup>th</sup> century and medieval barns are still extant.

However the area has seen extensive research and excavations in recent years, and a variety of sites lie within 600 metres:

- a) Great Lemhill Roman villa (PRN 311) - 600 m to the north east.
- b) Rough Grounds Farm Roman villa (PRN 3209, 3215) - 600 m to the south east. Excavations have also produced early and late prehistoric activity.
- c) An early prehistoric ceremonial complex (comprising henge, cursus and barrow cemetery) and later prehistoric settlements and boundaries lie from 600 m to 1500 m away.

The cropmarks will be discussed and treated as two distinct sites, PRN 3217 and 3220 in field OS 9080 and PRN 3219 in field OS 0451 to the south.

### PRN 3217, 3220

The SMR records cropmarks defining enclosures; fieldwalking has produced medieval pottery scatters and burnt stone. PRN 3220 to the west, but within the same field, is formed by linear ditches which appear to tie into the enclosure system.

### PRN 3219

Cropmarks define a linear boundary running south east to north west and then curving north east south of the enclosure group defined in PRN 3219. Ditches run in from the west and apparently respect it: a faint double ditched cropmark to the south of the field and a larger ditch towards the north of the field (fig 2).

## ASSESSMENT OBJECTIVES

- 1) To clarify the nature and date of the visible archaeology and place it in its local and regional context.
- 2) To determine the state of preservation of stratigraphy and shallow archaeological features and assess the effects of later cultivation on the site.
- 3) To assess the potential for the survival of metallic, faunal, floral and other organic remains and determine the density of other archaeological material.
- 4) To assess the likelihood of hidden archaeological features that may be associated with the visible archaeology.

## METHOD (fig 2)

### PRN 3219

- 1) Three trenches of limited area were machine stripped of overburden. Archaeological sections were cut through archaeological features and sampled.
- 2) A recorded geophysics scan (v. geophysical survey report) was carried out across the field with some areas selected for more intensive survey and the soil tested for magnetic susceptibility.

### PRN 3217/3220

- 1) The area was subjected to machine trenching up to a 2% sample level in order to clarify the real extent of the archaeology. Trenches were generally 30 m x 1.50 m.
- 2) Extra trenches were placed specifically across the area of enclosures (fig 2) to clarify the interpretation of these features.
- 3) Sufficient archaeological features were excavated and sampled to achieve aims 1 to 3 above.
- 4) The geophysics survey was continued across this area.



## RESULTS

### Soils

The modern plough soil varied in depth between 0.30 and 0.35 m deep. This overlay in field OS 9080 an earlier and truncated plough soil which survived between 0.10 to 0.15 m in depth above the natural gravel or clay. This earlier soil horizon appeared generally to be associated with medieval ridge and furrow which has been completely levelled by more recent arable activity. Only the furrows survived cutting into the gravel in field OS 0451.

Within field OS 9080 ridge and furrow was orientated south west to north east with furrows approximately 10 m apart and cutting up to 0.20 m into the underlying deposits. In field OS 0451 it was orientated south east to north west with furrows approximately 11 m apart and similarly cutting up to 0.20 m into the underlying deposits.

### PRN 3219

#### Trench 1 (fig 3)

An area c. 20 x 25 m was stripped to reveal the intersection of the major linear boundary and the double ditched cropmark joining it from the west. The linear boundary (1/5) was shown to be a large multi-recut ditch (max. 2.50 by 1.00 m deep). It contained sparse amounts of later prehistoric pottery (a shelly limestone fabric but of undiagnostic form).

The double ditched boundary was stratigraphically later and cut across ditch 1/5 before turning north west to run along its line and parallel to it. It contain several fragments of early Roman pottery. Each ditch consisted of several recuts: 1/2, 1/4, 1/9 formed the western side and 1/10, 1/11 formed the eastern. The distance between the two sets varied from between 2 m and 5 m.

Adjacent to the point of intersection between the boundary ditch 1/5 and the eastern ditch 1/10 a further large ditch 1/16 (2.00 m wide by 1.00 m deep) terminated. This produced no dating evidence. It can be traced on the aerial photographs running north west intermittently parallel to ditch 1/5.

Trenches 18 and 19 were machine stripped to initially locate the ditch intersections. The double ditched boundary was not excavated within these trenches.

#### Trench 2 (fig 3)

A trench 20 m x 15 m was stripped at the point of intersection between the linear boundary from trench 1 (2/3) and a another linear ditch (2/5) running in from the west. This latter ditch (2/5) appeared to terminate before reaching it although at this point a modern pipe trench (2/6) and a medieval furrow cut across. A set of soil marks, probably natural, were recorded but not excavated. No finds were produced from this trench.

#### Trench 3 (fig 3)

A trench 20 m x 14 m was excavated at the north end of field OS 0451 to recover the relationship between the above mentioned linear boundary (3/3) and a set of parallel ditches running north south across it from field OS 9080 (ditches 3/5 and 3/6). The latter parallel ditches cut across ditch 3/3; their southerly extent was not clearly visible from the cropmarks. The western ditch 3/6 had an irregular eastern edge and on the north side of boundary ditch 3/3 was cut by a series of short gullies or pits (3/4). It was unclear whether these formed a separate episode or were in fact associated with the main ditch line 3/6, one cut of which continued north into field OS 9080. Two sherds of Roman pottery (Oxford ware mortaria - late third century AD) were recovered from 3/4.

### PRN 3217, 3220 (fig 4)

#### Trenches 4, 8, 9, 10 and 15

These trenches on the south western side of field OS 9080 produced no archaeological features apart from the medieval ridge and furrow.

#### Trench 5

Three shallow gullies 5/3, 5/5, 5/6 were located running south west to north east and a single pit 5/4. None of these features were discernable on the aerial photographs. All features were sectioned but produced no finds. They were, however, cut through by the medieval furrows.

#### Trench 6

This trench was placed to locate the continuation of the linear boundary from field OS 0451. This was sectioned and was of similar dimensions previously recorded. Two prehistoric sherds (shelly limestone fabric) were recovered.

#### Trench 7

This trench was designed to cut across four separate features within the area of enclosures. Three ditches were located towards the north eastern end; two of these can be recognised on the aerial photographs. The trench probably fell short of locating the two ditches showing to the south west. A small ditch 7/5, at the north east end, did not show as a cropmark. It was sectioned but produced no finds. Ditch 7/4, however, produced several fragments of early Roman pottery (Samian). Ditch 7/7 ran obliquely across the trench and was cut by a modern pipe trench. It appeared to cut the earlier plough soil which contained a sherd of 13th century AD pottery. Ditch 7/7 also cut an earlier pit 7/8 which was sealed beneath the earlier plough soil; finds from the top layer within the pit included both Roman and early-middle Saxon pottery. Feature 7/9 was a shallow gully, sealed beneath the earlier plough soil, which cut the edge of pit 7/8. It contained no finds.

#### Trench 11

This trench contained only one archaeological feature - ditch 11/6 which ran south west to north east. It appears from the aerial photographs to be on the same alignment as the ridge and furrow. It contained no dating evidence.

#### Trench 12 & 13

Trenches 12 and 13 were cut perpendicular to each other through the main area of cropmark enclosures. Three ditches were located in trench 12 (12/4, 12/5, 12/6). The latter two ran south east to north west while 14/4 ran east to west. No dating evidence was recovered but they were all sealed beneath the ridge and furrow. Trench 13 contained two archaeological features: ditch 13/5 (the continuation north west of ditch 11/6) and gully 13/4. Both were undated. A further ditch showing on the cropmarks may have been sealed beneath a medieval plough furrow and not recognised as such on site.

#### Trench 14

This was positioned at the north end of the field over the clay subsoil. No features were apparent from aerial photography. One ditch 14/4, however, was located at the north east end of the trench. This was a multi-recut ditch running south east to north west. Large quantities of stone overlay and had slumped into the latest ditch cut although stone was also present in the earlier cuts. Small quantities of late Saxon pottery were recovered from the top fills of the ditch but none from a securely stratified position within it. Ditch 14/4 was recorded as cutting the earlier plough soil.

#### Trench 16

Trench 16 was positioned on the north of the field to further examine the parallel ditches excavated in trench 3 and trench 20 to the south east. Only one feature was recognised 16/3 which produced no finds. The western ditch on the aerial photographs may not have been recognised within the clay subsoil in the narrow trench width.

#### Trench 19

Trench 19 was an additional trench excavated over a stone spread within the main area of enclosures. The stone seems likely to have derived from a modern stone trough reported to have existed once in this area. However several archaeological features were encountered. At the north end ditch 19/6 was interpreted to be the continuation of ditch 11/6 and 13/5; it was not excavated. Ditch 19/4 lay beneath the stone spread and contained two fragments of early to mid Saxon pottery in the top fills. It appeared to cut the earlier plough soil. A shallower earlier cut 19/5 lay to one side. A small gully running south east to north west lay at the southern end of the trench and was undated.

#### Trench 20

This was excavated at the south of field OS 9080 to locate the two linear ditches running north west from trench 3 (ditches 3/5 and 3/6). Ditch 20/5, corresponding to 3/6, was a multi-recut feature over 1.00 m deep. It contained a single sherd of Roman pottery. Ditch 20/4 to the east (= 3/5) was a single cut and 0.50 m deep. A fragment of clay pipe was recovered from the top layer - presumably intrusive as both these features were sealed by the earlier plough soil.



LECHLADE GREAT LEMHILL FARM  
SITE CONCORDANCE

Context	Type	Breadth	Depth	Pot	No Bone	No Charcoal	Grain	Date
** Trench 1								
1/ / 0	PLOUGHSOIL	0.00	0.33	0	0			
2/A/ 0	DITCH	1.25	0.35	0	0			
3/A/ 0	FURROW	0.80	0.10	0	0			
4/A/ 2	DITCH	1.45	0.50	1	0			LATE IA / EARLY ROMAN
5/A/ 1	DITCH	0.00	0.00	3	5			PREHISTORIC
6/A/ 0	DITCH	0.00	0.60	0	0			
7/A/ 0	DITCH	0.00	0.70	0	0			
8/A/ 0	DITCH	0.00	0.60	0	0			
9/A/ 0	DITCH	1.00	0.35	0	0			
10/A/ 0	DITCH	1.00	0.40	0	0			
10/B/ 0	DITCH	0.75	0.30	0	0			
10/C/ 0	DITCH	0.90	0.35	0	0			
11/A/ 0	DITCH	1.25	0.61	0	0			
11/B/ 0	DITCH	1.25	0.30	0	0			
12/A/ 1	DITCH	3.50	0.80	0	5			
13/A/ 1	DITCH	3.50	1.00	0	7			
13/A/ 2	DITCH	3.50	1.00	11	0			IA
14/A/ 0	DITCH	3.50	1.30	0	0			
14/B/ 0	DITCH	0.00	0.00	0	0			
15/ / 0	FURROW	0.00	0.00	0	0			
16/A/ 0	DITCH	3.00	0.95	0	0			
17/A/ 0	DITCH	0.00	0.90	0	0			
** Trench 2								
1/ / 0	PLOUGHSOIL	0.00	0.21	0	0			
2/A/ 0	FURROW	1.20	0.09	0	0			
3/A/ 0	DITCH	4.00	0.00	0	0			
3/B/ 3	DITCH	4.00	0.00	0	0	SMALL		NONE
4/ / 0	FURROW	0.00	0.10	0	0			
5/ / 0	DITCH	0.00	0.00	0	0			
6/A/ 0	DRAIN	0.50	0.40	0	0			
7/ / 0	PIT	1.20	0.00	0	0			
8/ / 0	PIT	0.50	0.00	0	0			
9/ / 0	FURROW	1.50	0.00	0	0			
10/ / 0	FURROW	1.50	0.00	0	0			
11/ / 0	GULLY	0.25	0.00	0	0			
12/ / 0	GULLY	1.20	0.00	0	0			
** Trench 3								
1/ / 0	PLOUGHSOIL	0.00	0.23	0	0			
2/ / 0	FURROW	0.00	0.00	0	0			
3/A/ 1	DITCH	4.00	0.00	0	0	VERY SMALL		NONE
4/A/ 2	GULLY	3.40	0.70	2	0	VERY SMALL		NONE LATE ROMAN
5/ / 0	DITCH	0.00	0.00	0	0			
6/ / 0	DITCH	4.00	0.00	0	0			
** Trench 4								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.11	0	0			
3/A/ 0	FURROW	1.40	0.30	0	0			
4/A/ 0	FURROW	0.00	0.30	0	0			
** Trench 5								
1/ / 0	PLOUGHSOIL	0.00	0.30	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.05	0	0			
3/A/ 0	DITCH	0.60	0.33	0	0			
4/A/ 0	PIT	0.60	0.40	0	0			
5/A/ 0	GULLY	0.65	0.13	0	0			
6/A/ 0	DITCH	1.65	0.65	0	0			
7/A/ 0	FURROW	0.00	0.22	0	0			
8/A/ 0	FURROW	0.00	0.26	0	0			

LECHLADE GREAT LEMHILL FARM  
SITE CONCORDANCE

Context	Type	Breadth	Depth	Pot	No Bone	No Charcoal	Grain	Date
** Trench 6								
1/ / 0	PLOUGHSOIL	0.00	0.30	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.10	0	0			
3/ / 0	NATURAL	0.00	0.00	0	0			
4/A/ 2	DITCH	2.30	1.10	2	0	SMALL		NONE IA
** Trench 7								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.10	0	0			
3/A/ 1	? PIT	2.25	0.36	7	8			2ND CENTURY SAMIAN SHERD
4/A/ 0	DITCH	2.90	0.86	0	0			
5/A/ 0	DITCH	1.05	0.45	0	0			
6/A/ 0	DRAIN	0.30	0.00	0	0			
7/A/ 2	DITCH	2.00	0.95	0	13			
8/A/ 1	PIT	2.50	0.90	2	0			1 ROMAN 1 6TH-8TH CENTURY
8/A/ 4	PIT	2.50	0.90	0	0	VERY SMALL		SMALL
9/A/ 1	DITCH	1.20	0.20	0	5			
10/A/ 2	FURROW	1.80	0.20	5	0			MID-LATE 13TH CENTURY
** Trench 8								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
** Trench 9								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
** Trench 10								
1/ / 0	PLOUGHSOIL	0.00	0.30	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.20	0	0			
3/ / 0	NATURAL	0.00	0.10	0	0			
4/A/ 0	FURROW	0.00	0.02	0	0			
** Trench 11								
1/ / 0	PLOUGHSOIL	0.00	0.00	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.00	1	0			6TH-8TH CENTURY
3/A/ 0	GULLY	0.80	0.12	0	0			
4/A/ 0	FURROW	0.80	0.08	0	0			
5/A/ 0	FURROW	0.60	0.08	0	0			
6/A/ 1	DITCH	1.04	1.40	0	4			
6/A/ 2	DITCH	1.04	1.40	0	0	MEDIUM		SMALL
** Trench 12								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.07	0	0			
3/ / 0	NATURAL	0.00	0.10	0	0			
4/A/ 0	DITCH	1.20	0.40	0	0			
5/A/ 5	DITCH	2.30	1.30	0	2			
6/A/ 0	DITCH	1.50	0.94	0	0			
7/A/ 0	TREE HOLE	2.00	1.30	0	0			
** Trench 13								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.10	0	0			
3/ / 0	NATURAL	0.00	0.10	0	0			
4/A/ 0	GULLY	0.60	0.35	0	0			
5/ / 0	DITCH	3.70	0.00	0	0			
** Trench 14								
1/ / 0	PLOUGHSOIL	0.00	0.25	1	0			MID-LATE 13TH CENTURY
2/ / 0	PLOUGHSOIL	0.00	0.14	0	0			
3/A/ 1	DITCH	1.20	0.45	8	0			MID 11TH CENT POSS 10TH
4/A/ 1	DITCH	3.10	0.60	9	0			PRE 11TH + SAMIAN
5/A/ 0	DITCH	0.00	0.80	0	0			
6/A/ 0	DITCH	2.10	0.80	0	0			



LECHLADE GREAT LEMHILL FARM  
SITE CONCORDANCE

Context	Type	Breadth	Depth	Pot	No Bone	No Charcoal	Grain	Date
** Trench 15								
1/ / 0	PLOUGHSOIL	0.00	0.18	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.20	0	0			
3/ / 0	NATURAL	0.00	0.30	0	0			
** Trench 16								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.15	0	0			
3/A/ 0	DITCH	1.40	0.45	0	0			
** Trench 17								
1/ / 0	PLOUGHSOIL	0.00	0.24	0	0			
2/ / 0	FURROW	4.00	0.00	0	0			
** Trench 18								
1/ / 0	PLOUGHSOIL	0.00	0.25	0	0			
2/ / 0	DITCH	4.00	0.00	0	0			
3/ / 0	FURROW	6.00	0.00	0	0			
4/ / 0	DITCH	1.00	0.00	0	0			
5/ / 0	DITCH	0.80	0.00	0	0			
6/ / 0	DITCH	0.40	0.00	0	0			
7/ / 0	DITCH	0.90	0.00	0	0			
8/ / 0	DITCH	1.20	0.00	0	0			
9/ / 0	PIT	1.20	0.00	0	0			
** Trench 19								
1/ / 0	PLOUGHSOIL	0.00	0.30	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.15	0	0			
3/A/ 0	GULLY	0.50	0.12	0	0			
4/A/ 2	DITCH	0.90	1.15	2	0			6TH-8TH CENTURY
5/A/ 0	GULLY	0.50	0.40	0	0			
6/ / 0	DITCH	0.00	0.00	0	0			
** Trench 20								
1/ / 0	PLOUGHSOIL	0.00	0.30	0	0			
2/ / 0	PLOUGHSOIL	0.00	0.20	0	0			
3/ / 0	NATURAL	0.00	0.15	0	0			
4/A/ 1	DITCH	1.70	0.50	1	0			CLAY PIPE
5/A/ 3	DITCH	2.20	0.80	1	0			1ST-2ND CENTURY SAVERNAKE

WATER MEADOW SURVEY  
GREAT LEMHILL FARM, LECHLADE

1990

OXFORD ARCHAEOLOGICAL UNIT



EARTHWORK SURVEY (fig 5)

WATER MEADOWS AND ROMAN VILLA, GREAT LEMHILL FARM

The earthworks surveyed at Great Lemhill Farm cover an area of approximately 5 ha, and are centred on SP 213024. The geology of the area is Kimmeridge Clay mixed with gravel, and lies at approximately 83 m O.D. These earthworks consist of water meadows and a Scheduled Ancient Monument (a Roman villa PRN 311). Both the villa and the water meadows continue across the development boundary to the north. The water meadows as surveyed form less than half of this present surviving system.

The water meadows are situated along the west side of the River Leach and consists of feeder channels which range from 0.35 m to 0.75 m deep. These are fed by the River Leach and supply a network of shallow channels, ranging from 0.20-0.40 m deep and 0.70 to 1.00 m wide. The flow of water is controlled by a series of sluices.

One main feeder channel runs off the River Leach in a north east-south direction, and is controlled by Sluice No. 1 which is the best preserved of the five sluices. The stonework stands about 1.0 m high, forming a channel 2.5 m wide. The framework for one sluice gate still remains.

This feeder channel from the River feeds into another channel which runs approximately north-west to south east. The flow of water to the rest of the meadows is controlled by sluice no. 2. There is only one wall of this sluice remaining, and it would have formed one side of the channel which leads into the stream that runs down the north west side of the site.

Sluice no.s 3, 4 and 5 are in a poor state of preservation with only two or three stones in situ. These sluices control the flow of water to various parts of the meadow, enabling specific areas to be flooded.

A bridge over the feeder channel (c. 0.75 m deep at this point) is situated between sluices 3 and 4. This consists of four stone buttresses which support large flat stone slabs.

The network of shallow channels which form the main bulk of the water meadows are generally well preserved. The pattern of channels is slightly distorted at the south-east end of the field where farm machinery has entered the meadows across the bridge at this end of the field.

The Roman Villa is situated at the extreme north-west end of the site, standing about 1.5 m above the surrounding meadow. The earthwork is sub-rectangular in shape (only the area to the south of fence was surveyed). The state of preservation of the earthwork is poor. Badgers and rabbits have tunnelled into the villa, and as these tunnels collapse, they form scars which become enlarged by grazing animals.

**GEOPHYSICAL SURVEY**

**GREAT LEMHILL FARM, LECHLADE**

**1990**

**A D H Bartlett**

**B Y Turton**



## Introduction

This geophysical survey of two fields at Great Lemhill Farm (OS numbers 9080 and 0451) was commissioned by the Oxford Archaeological Unit as part of an archaeological evaluation and assessment. The technique used was magnetic surveying, and the fieldwork was carried out between 1 and 5 August 1990.

Archaeological findings from the site as known at the time of the survey include a number of cropmarks, which apparently represent a small settlement site of probable IA/RB date in field 9080, together with probable enclosure boundaries in both fields. Machine trenches opened by the Unit as part of the current exercise have confirmed the presence of ditches and other features approximately as indicated by the cropmarks.

The aim of the survey was if possible to add to this picture, especially by testing for any other areas of significant archaeological interest in addition to the known cropmark settlement site, and also to test the magnetic detectability of the cropmark features. It is common in magnetic surveys for the response to be strongest in the vicinity of settlement or industrial sites where past human activity has caused enhancement of the soil magnetic susceptibility. Field boundaries or other such features remote from any settlement are therefore often not clearly detectable, but a survey should usually locate areas of more concentrated activity.

## Survey Procedure

The site was too large for a fully detailed survey within the constraints of an evaluation exercise of this kind, and so coverage of the greater part of the area was limited to a relatively coarse scan in which traverses across the site were recorded at 10 m intervals. This scanned survey was supplemented by detailed coverage with traverses at 1.0 m intervals of limited test areas alongside the open trenches in field 0451, and of the cropmark site in field 9080. In each case readings were recorded at 45 cm intervals along the survey traverses using a Geoscan fluxgate magnetometer connected to an on-site computer.

Post-survey processing of the survey data included partial suppression of extreme readings, selective fitting of a least-squares baseline to the lines of readings to correct for instrument drift, and smoothing to reduce small-scale noise. The survey was located on a site grid corresponding to the 100m national grid intersections, which were positioned by means of measurements of the field boundaries and to marker pegs previously set out by OAU.

The results of the scanned survey and the locations of the detailed surveys (A, B, C) are shown on fig 6, and the plots of the detailed surveys are shown on fig 7. The scanned survey is displayed in the form of plotted profiles, and the detailed surveys both as profiles and as half-tone plots, which provide a clearer indication of the plan of the features. Soil magnetic susceptibility values across the site were also tested by means of measurements of topsoil samples collected from the 100m grid points. The results are shown by shading on a plot in fig 8.

## Results

The detailed survey A in field 9080 successfully detected a series of linear ditch-like features similar in character to the cropmarks. Some of them are indicated by arrows on plot (7i). Other findings were limited, but a few magnetic anomalies which could represent pits are circled on the plot. There are also strong magnetic disturbances probably caused by iron pipes towards the NE of the survey.

The strength of the archaeological anomalies is in general only 1-2 nT, which is weaker than would be expected, both on the basis of the susceptibility, and given the nature and location of the site. This weak response makes it difficult to recognise the continuity of the features, and when seen in plan on the half-tone plot (7ii), some of the ditches appear to break up into separate pit-like features, which are likely to represent localised variations in the composition of the fill.

The susceptibility readings may in part explain this. The topsoil readings on fig 8 are not abnormally low, but are in most cases between 30 and 45 (IS units), and show relatively little variation between different parts of the site. There is one high reading from the cropmark site in field 9080, but it does not lie significantly outside the range seen elsewhere. This suggests that occupation of the site was of limited intensity or duration, and little enhancement above the background level has occurred. Additional samples were taken from the ditch fill and natural chalky subsoil from the trench close to survey square C in field 0451. These gave very low readings (13 and 3 respectively), which suggests that response from silted features will be strongly dependent on the source of the fill at each point, and they will be undetectable whenever subsoil predominates.

The limitations of magnetic detection in these conditions can be seen in survey squares B and C. One ditch was clearly located in square B, although its strength was no more than 3nT, but there are only faint suggestions of others (arrowed). There may also be pits (circled), but these are very uncertain. There should also be at least two ditches entering the north side of square C from the nearby machine trench, but only one has been tentatively arrowed on the plot. There is a strong disturbance probably caused by modern iron



to the left of square C, but only a few other very doubtful pit-like features can be identified.

The scanned survey confirmed that the site as a whole responds similarly to the areas surveyed in detail. Most of the anomalies noted in surveys A, B, C are at the limit of detectability, and are distinguished from the background noise more by their plan than their intensity. They are not therefore easily recognisable in a sparsely-scanned survey. The scanned results as shown on plan 1 indicate fairly uniform background noise of 1-2 nT, and features which exceed this level are usually narrow and isolated, and therefore likely to be caused by iron. A few wider anomalies which could mean pits have been circled, but they cannot be interpreted with much confidence. Sharp deflections at the edges of the survey are caused by interference from wire fences.

The readings nowhere show any sustained activity in the range ( $> 5\text{nT}$  or  $5\text{mm} +$  as plotted), which on many sites would be likely to be archaeologically significant, but there is some increase in apparent disturbance in the area indicated approximately by shading at the south side of the field 9080.

### Conclusions

The drift deposits of the upper Thames valley appear to be highly variable in their magnetic response. This site lies only a few miles from a similarly situated cropmark site at Latton, which was previously surveyed by the same authors and produced readings some ten times as strong from apparently similar features. Here, in contrast, all the detected features lie at the limit of magnetic detectability, and one of the main findings of the survey has been to show that these conditions apply throughout the whole of the large site. The topsoil magnetic susceptibility is in a range for which reasonable response could be expected, but the very low susceptibility of the subsoil appears to limit the detectability of many features.

The detailed surveys were able to detect a number of features, especially from the settlement site in field 9080, but the weakness of the anomalies and lack of clear susceptibility enhancement suggest that occupation here was of limited intensity. More extensive detailed recording would be needed to try and define the extent of the site, but the scanned survey does show a slight increase in activity suggesting the site extends towards the boundary with field 0451.

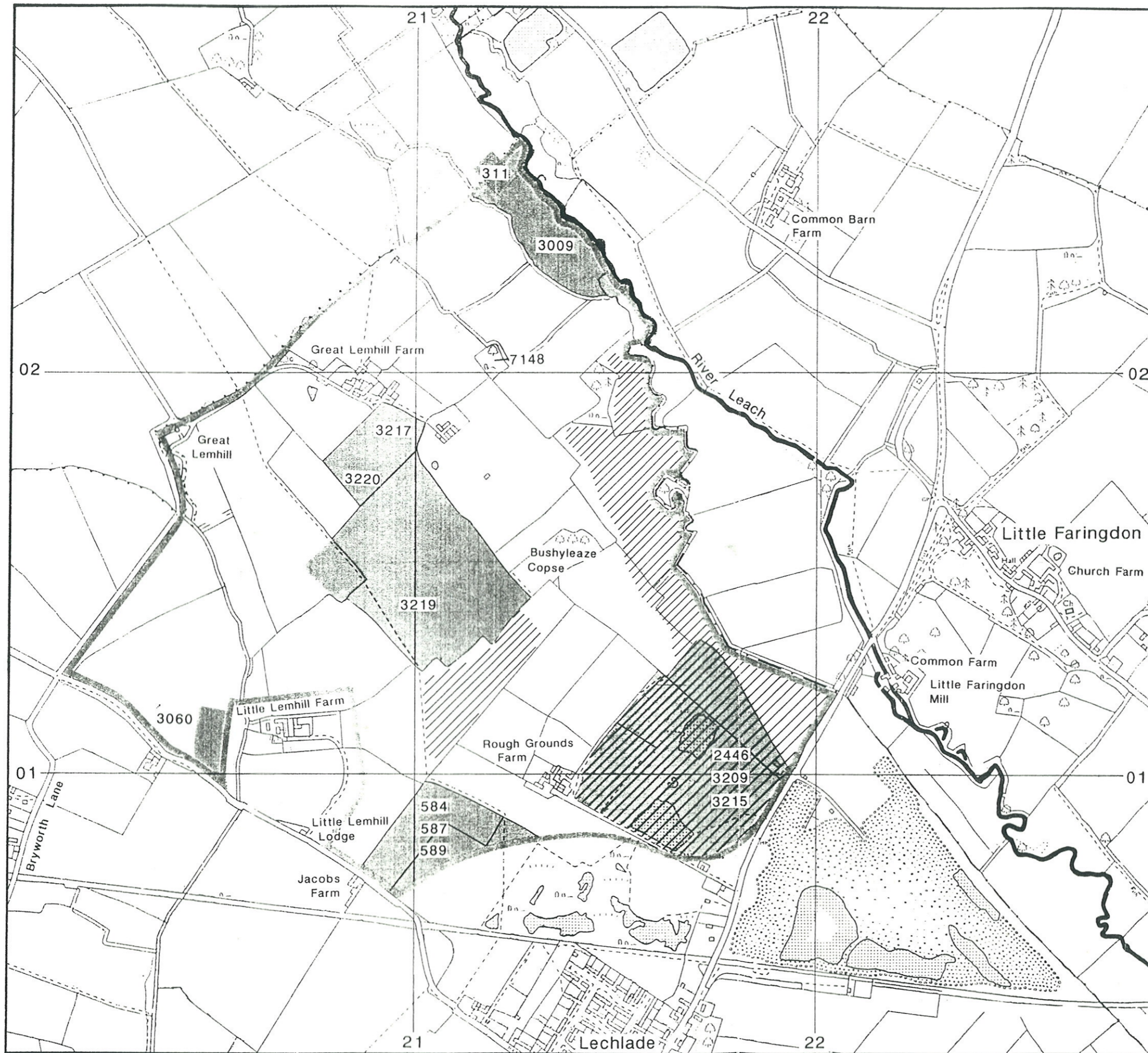
Surveyed by:

A D H Bartlett BSc MPhil

with:

B Y Turton MA  
47 Ducklington Lane

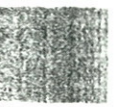




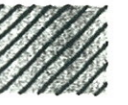
Extent of proposed development



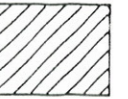
Areas of identified archaeology



Area of identified archaeology - destroyed



Areas of mineral extraction



Scheduled Ancient Monument



Scale 1 : 10 000

Fig. 1



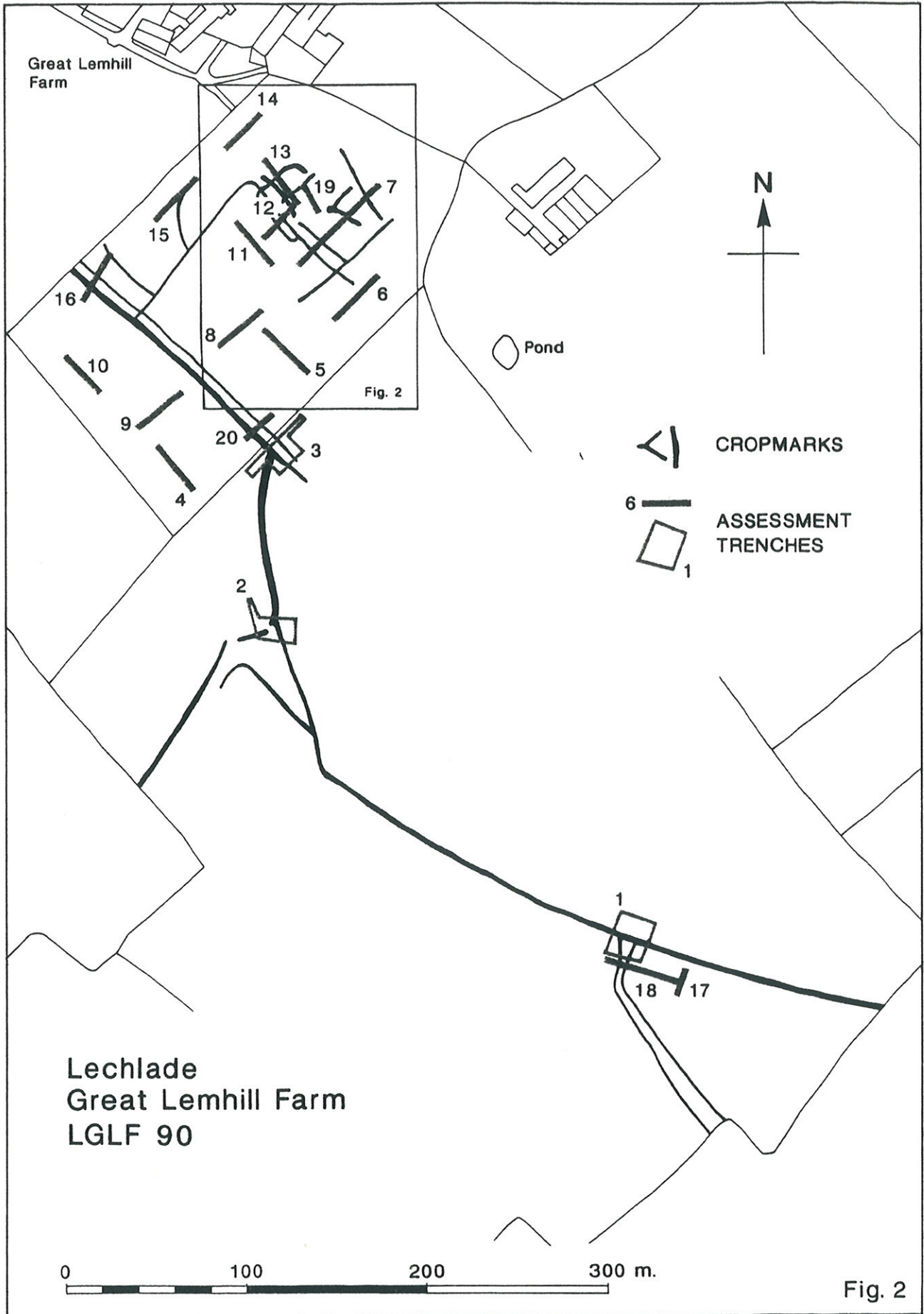


Fig. 2



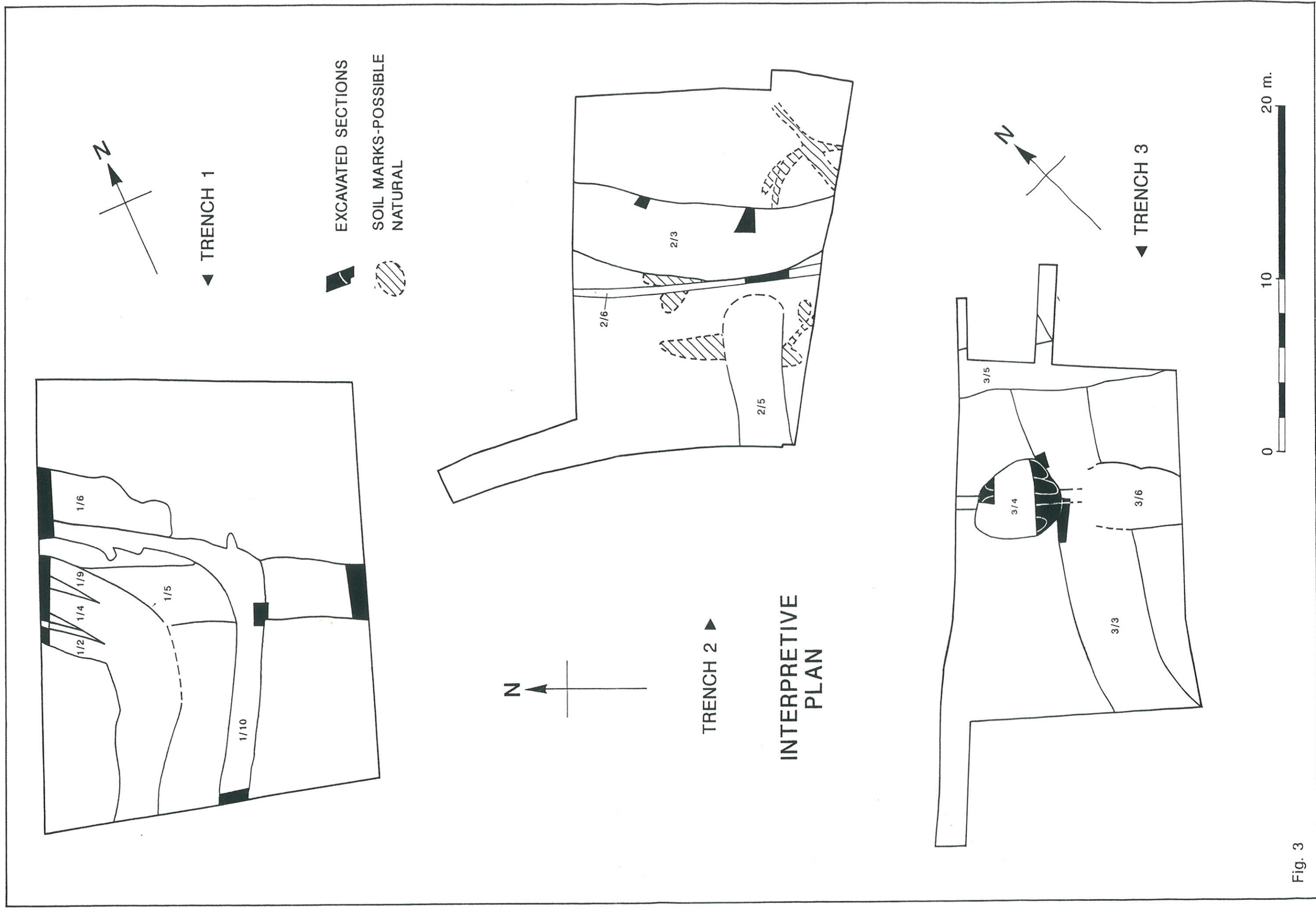


Fig. 3



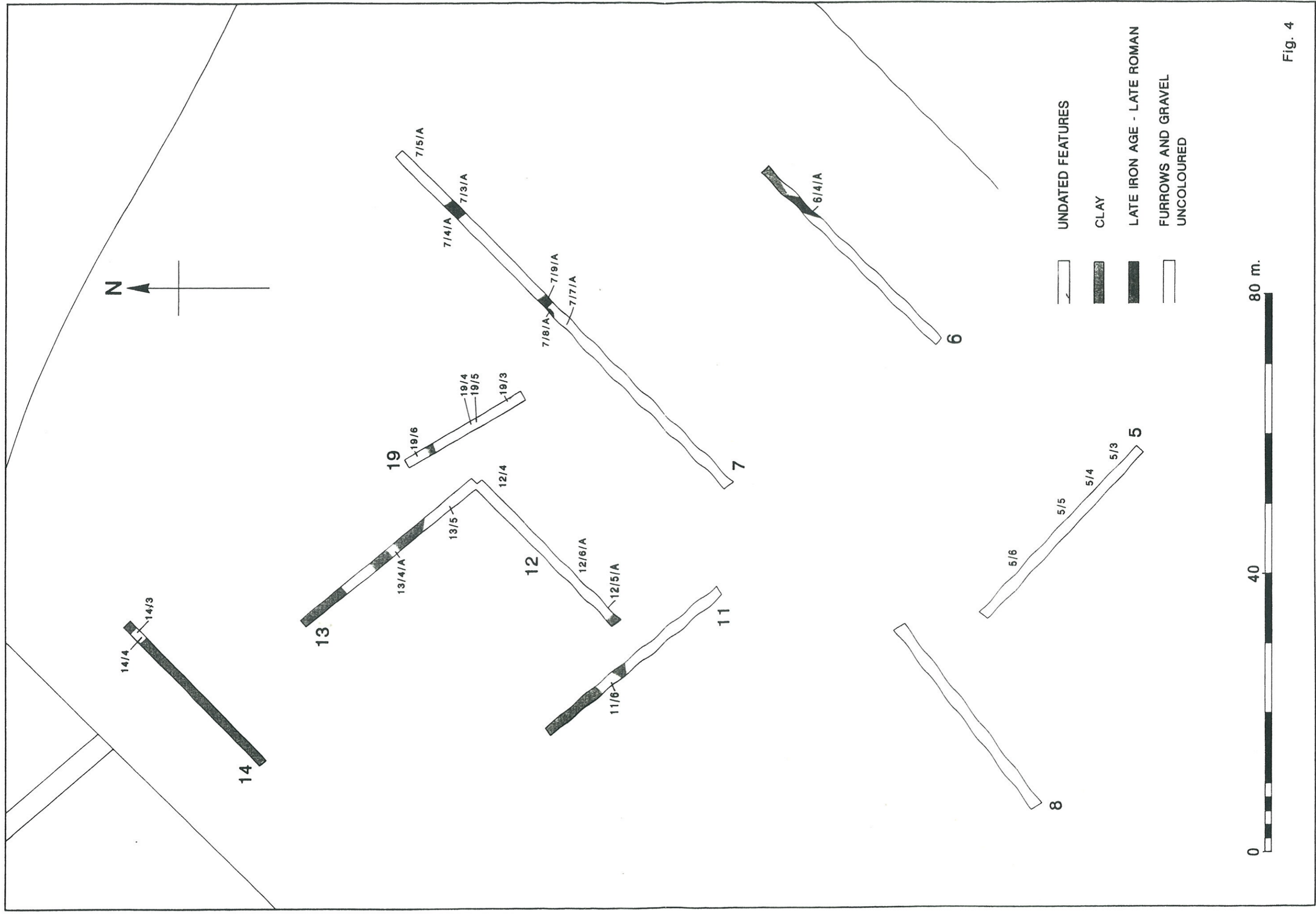


Fig. 4





Fig. 5



# LECHLADE

## Magnetometer Survey, 1990

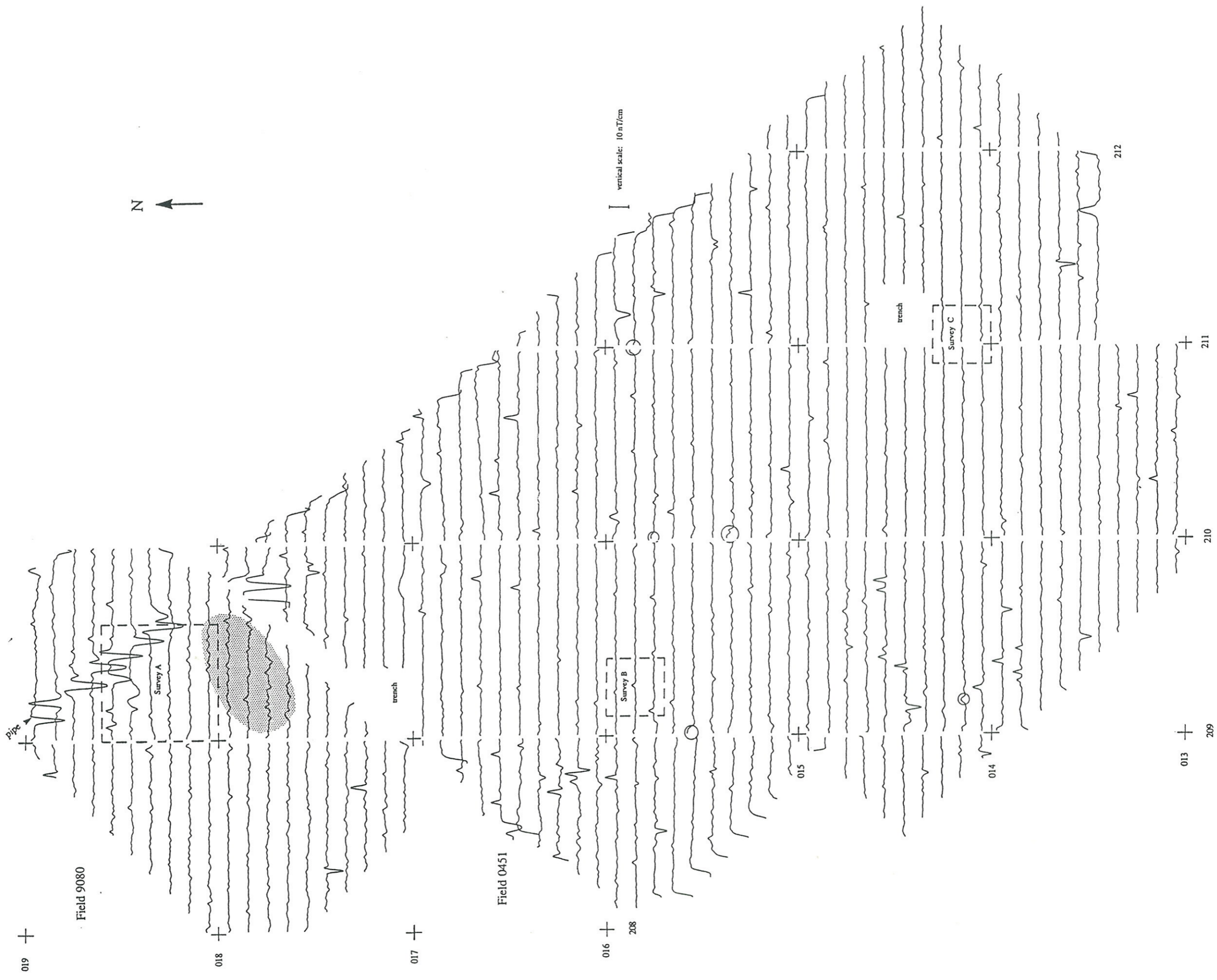


Fig. 6

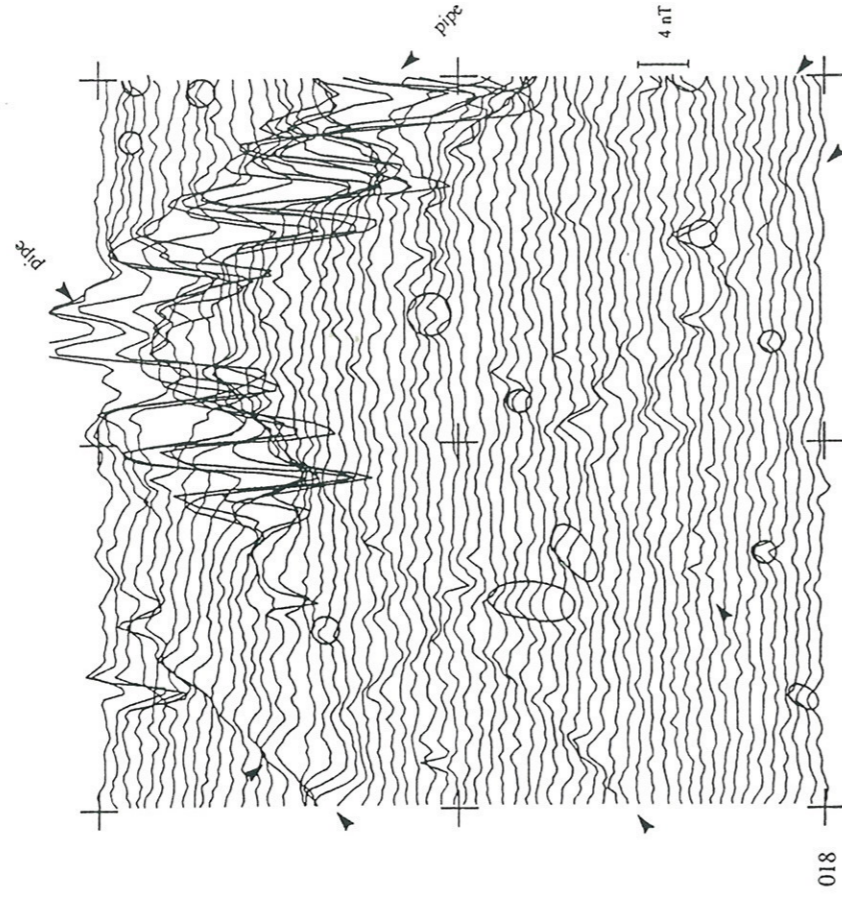
Magnetometer Scan Scale 1:2000

Interpretation marked: see report



# LECHLADE

## Magnetometer Survey, 1990

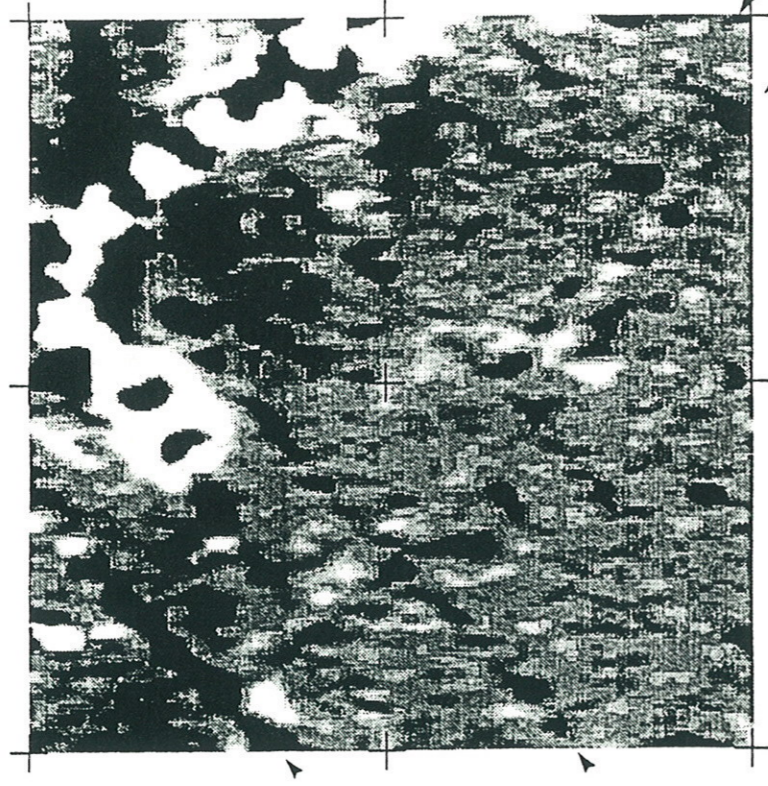


(i) Survey A

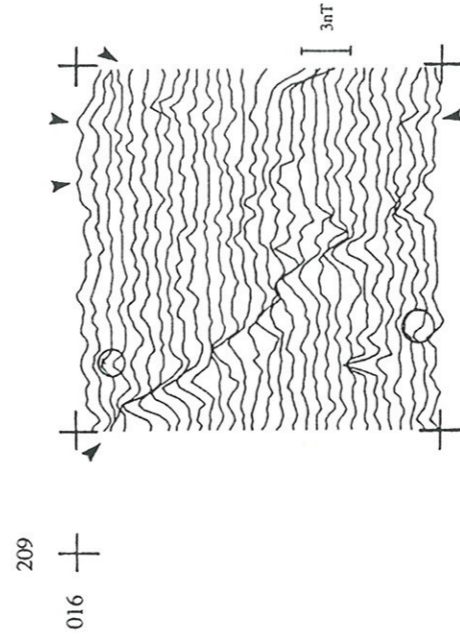
209

018

(ii) Survey A: half-tone plot (display range -0.5 nT to +0.5 nT)



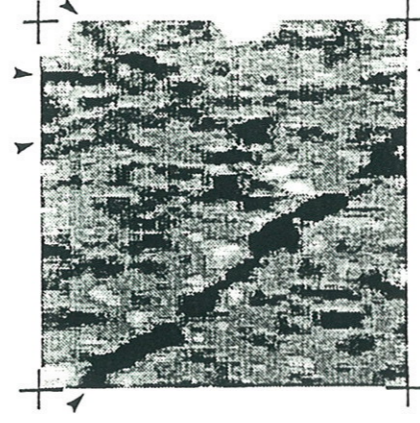
### Field 9080



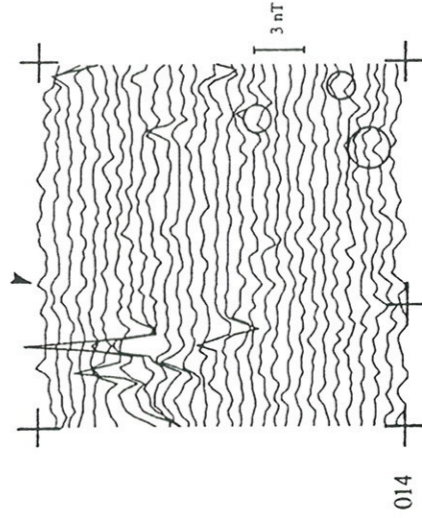
(iii) Survey B

209

016



(iv) Survey B (display range as for ii)



(v) Survey C

211

014

(vi) Survey C (display range as for ii)

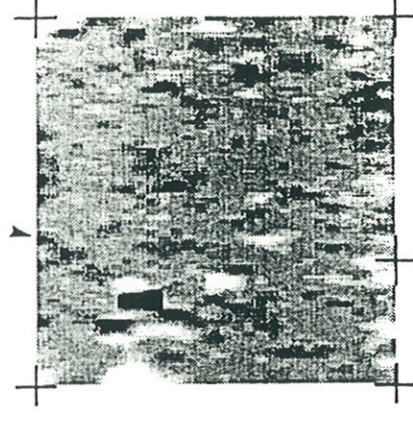
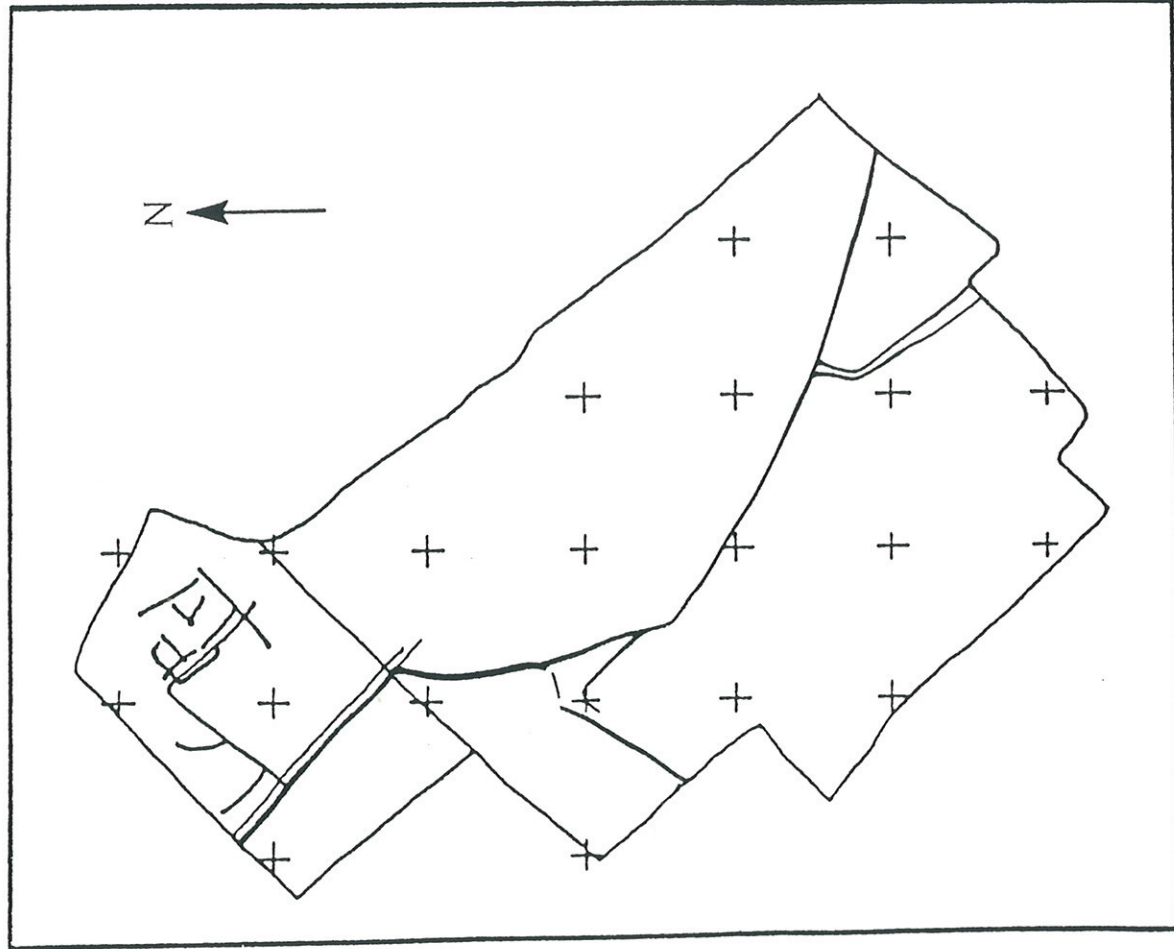


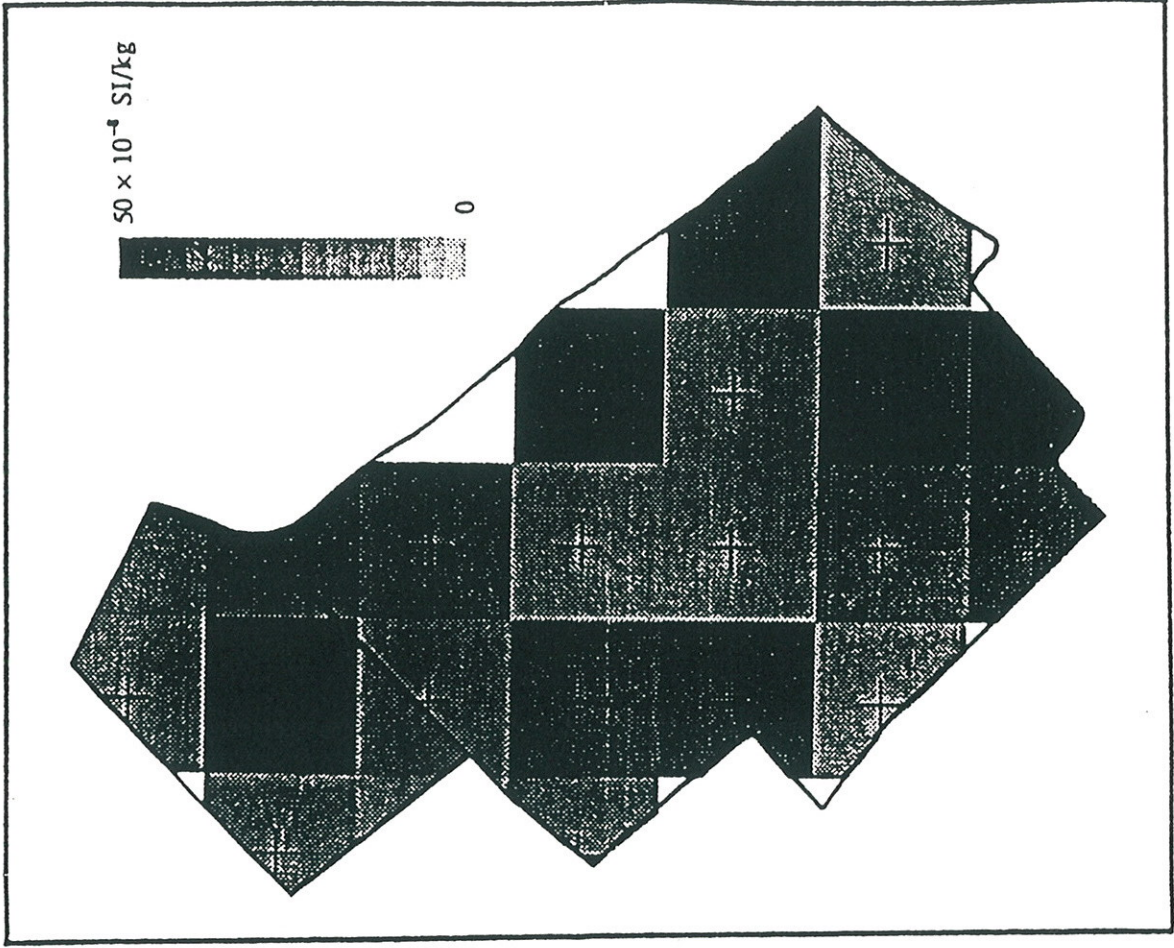
Fig. 7







Cropmarks 1:5000



Magnetic susceptibility tests 1:5000



