



Northamptonshire Archaeology

Archaeological geophysical survey at
Martin's Down Reservoir, Long Bredy, Dorset
June 2012



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**Northamptonshire
County Council**

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Report 12/134
July 2012



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OASIS REPORT FORM 130482

PROJECT DETAILS		
Project name	Archaeological geophysical survey at Martin's Down Reservoir, Long Bredy, Dorset	
Short description	Northamptonshire Archaeology was commissioned by Wessex Water to conduct a gradiometer survey close to Martin's Down Reservoir, on Long Barrow Hill, Long Bredy, Dorset. The proposed survey area covered approximately 7.8ha, of which 5.8ha was actually suitable for survey. The survey mapped magnetic anomalies arising from a group of scheduled prehistoric barrows, and from a number of associated ditches. Further anomalies, which were detected to the west of Long Barrow Farm, suggested the possible presence of small undated pits.	
Project type	Geophysical survey	
Site status	Scheduled Monument No: DO 145; HA 1002723	
Previous work		
Current Land use	Pasture and Arable	
Future work	Unknown	
Monument type/ period	Neolithic bank barrow, Bronze Age round barrows, undated ditches	
Significant finds		
PROJECT LOCATION		
County	Dorset	
Site address	Long Barrow Hill, Long Bredy	
Study area	7.8ha (5.8ha surveyed)	
OS Easting & Northing	SY 571 125	
Height OD	c 133 - 187m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Northamptonshire Archaeology	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Ian Fisher	
Project Manager	Mark Holmes	
Sponsor or funding body	Wessex Water	
PROJECT DATE		
Start date	12 June 2012	
End date	18 July 2012	
ARCHIVES	Location	Content
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey at Martin's Down Reservoir, Long Bredy, Dorset June 2012	
Serial title & volume	Northamptonshire Archaeology Reports 12/134	
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Contents

1	INTRODUCTION	1
2	TOPOGRAPHY AND GEOLOGY	1
3	ARCHAEOLOGICAL BACKGROUND	1
4	METHODOLOGY	3
5	SURVEY RESULTS	4
5.1	Field 1	
5.2	Field 2	
5.3	Fields 4 and 5	
6	CONCLUSION	6
	BIBLIOGRAPHY	6

Figures

Cover Long Bredy bank barrow

Plate 1 The bank barrow and round barrows on Martin's Down in the 1950s

Fig 1	Site location	1:20,000
Fig 2	Map of scheduled monuments and geophysical survey area	1:5,000
Fig 3	Martin's Down Reservoir geophysical survey results	1:5,000
Fig 4	Martin's Down Reservoir geophysical survey results, Field 1	1:1,000
Fig 5	Martin's Down Reservoir geophysical survey interpretation, Field 1	1:1,000
Fig 6	Martin's Down Reservoir geophysical survey results, Field 2	1:1,000
Fig 7	Martin's Down Reservoir geophysical survey interpretation, Field 2	1:1,000
Fig 8	Martin's Down Reservoir geophysical survey results, Fields 4-5	1:1,000
Fig 9	Martin's Down Reservoir geophysical survey interpretation, Fields 4-5	1:1,000
Fig 10	Stacked trace plots of magnetometer data	
Fig 11	Raw magnetometer data, Field 2	1:1,000
Fig 12	Raw magnetometer data, Fields 1, 4 and 5	1:1,000

**ARCHAEOLOGICAL GEOPHYSICAL SURVEY
AT MARTIN'S DOWN RESERVOIR
LONG BREDY, DORSET
JUNE 2012**

ABSTRACT

Northamptonshire Archaeology was commissioned by Wessex Water to conduct a gradiometer survey close to Martin's Down Reservoir, on Long Barrow Hill, Long Bredy, Dorset. The proposed survey area covered approximately 7.8ha, of which 5.8ha was actually suitable for survey. The survey mapped magnetic anomalies arising from a group of scheduled prehistoric barrows, and from a number of associated ditches. Further anomalies, which were detected to the west of Long Barrow Farm, suggested the possible presence of small undated pits.

1 INTRODUCTION

Wessex Water commissioned Northamptonshire Archaeology (NA) to carry out a geophysical survey of 7.8ha at Long Barrow Hill, Long Bredy (NGR SY 571 125). The survey area encompassed a group of scheduled barrows (DO 145; HA 1002723), and thus the survey was carried in accordance with a licence (Case No. SL00032056) granted by English Heritage under Section 42 of the 1979 Ancient Monuments and Archaeological Areas Act (as amended by the National Heritage Act 1983).

A magnetic gradiometer survey was undertaken on the site on 13 to 14 June 2012. An area of 5.8ha was surveyed. The remaining 2ha were unsurveyable due to crop cover and excessively steep slopes.

2 TOPOGRAPHY AND GEOLOGY

Long Barrow Hill attains an elevation of approximately 187m AOD and is located c 800m north of Long Bredy. It is bounded to the north by the A35 trunk road, and by Long Bredy Hut Lane to the west. Arable and pasture fields extend to the south and east. Field 1 slopes sharply away from Field 2 to the north-west and south-west. Due to the nature of the slope, part of Field 1 was not surveyed. The remaining fields slope gently to the south-east.

The geology of the area consists of Newhaven Chalk Formation – Chalk and Seaford Chalk Formation – Chalk (BGS 2012).

3 ARCHAEOLOGICAL BACKGROUND

The South Dorset Ridgeway Barrow Group by Andy Chapman

South Dorset to the north of Weymouth is dominated by a sharply defined ridge at the south edge of the chalk downs; dramatically truncated to the south by the Ridgeway fault and the escarpment to the Jurassic beds. The ridge, which is defined by the 120m contour, has a domed top and is quite narrow in places. It extends for 12 miles (19km)

from the higher end in the west, at the Long Bredy bank barrow, to the Broadmayne bank barrow in the east. In addition to the terminal bank barrows of Neolithic date, there are a number of associated long barrows and possible cursus monuments.

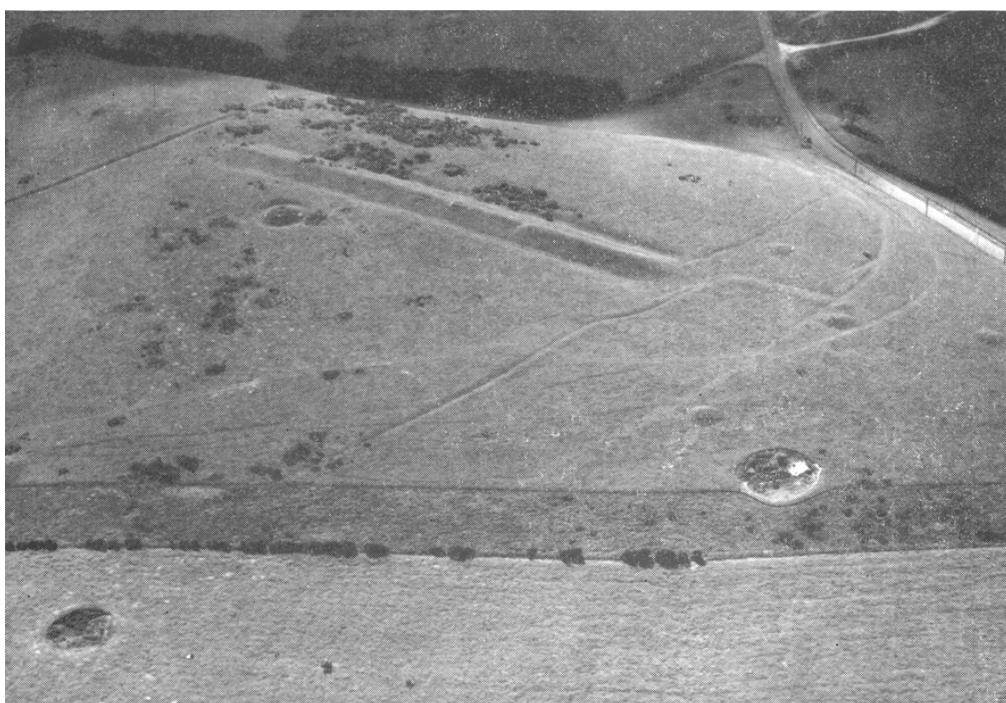
However, the dominant visual features along the Ridgeway are the Bronze Age round barrows, with around 250 known examples, some well preserved and others now levelled by ploughing. They have been divided into 14 major groups, along with satellite groups, and form one of the most marked concentrations of round barrows in the British Isles. They have been the subject of numerous studies (RCHME 1952, Grinsell 1959), and most recently as part of the National Mapping Programme (2011).

One mile (1.7km) to the east of Long Bredy there is one of the best known barrow groups, the Winterbourne Poor Lot barrows (see English Heritage PastScape (EH 2012)). This group is unusual for the area in lying across a valley bottom, but it comprises at least 44 barrows, including bell barrows, bowl barrows and disk barrows, across an area of 3ha, to either side of the A35 (Fig 1). The location makes it highly visible to motorists on the A35, and the core of the cemetery is an English Heritage Scheduled Monument with public access.

To the west of the Poor Lot barrows, Martin's Down forms the western end of the Dorset Ridgeway. The Neolithic Long Bredy bank barrow is set at right angles to the line of the ridge, on an alignment slightly east of north-south. The barrow is 195m long, 20m wide and 2m high, with ditches running parallel to either side (Figs 2 & 3). A number of other probable Neolithic monuments lie nearby, making the Martin's Down group one of the most important concentrations of Neolithic monuments along the Dorset Ridgeway (NMP 2011, 30-31, fig 18). To the immediate north-east, and also recorded in the current survey, there is the possible western end of a short cursus/long mortuary enclosure, with another further to the east and partly lost beneath the A35, and another to the south-east located by the National Mapping Programme. Two-hundred metres to the south-east of the bank barrow there is a long barrow, heavily truncated by ploughing, and two small bank barrows sit high on Black Down further to the south-east, with a possible small long barrow on the lower slopes, also discovered through the National Mapping Programme.

To the north-east, south-east and south-west of the bank barrow there are round barrows of various sizes. As with the bank barrow, the round barrows are all Scheduled Monuments but individually so, with the limits of the scheduled areas covering the upstanding earthworks only. The dimensions of these mounds in the survey area as recorded at the beginning of the 1950s by the RCHME 1952 are (Fig 2): e) 9.2m diameter by 1.2m high; f) 11.0m diameter by 1.1m high and g) 9.8m diameter by 0.75m high. Linear earthworks beyond either end of the bank barrow, likely to be of later date, were recorded by O G S Crawford in an early description of the bank barrow (EH 2012).

The field containing the bank barrow is currently under pasture, as it was when photographed in the 1950s (Plate 1), but the areas between the Scheduled Monuments may have been under plough between those dates, resulting in the levelling of the lower earthworks, such as the linear features at the north-eastern end of the bank barrow.



The bank barrow and round barrows on Martin's Down in the 1950s, looking west, A35 to the right (from Grinsell 1959, plate II) Plate 1

4 METHODOLOGY

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate magnetic gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

An independent system of 30m grids was established within each of the fields to be surveyed. The grids were established with a tape measure and optical square and were tied in to the Ordnance Survey National Grid by means of a Leica Systems 1200 dGPS. The gradiometers were carried at a brisk but steady pace through each grid square, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per square.

All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; IfA 2011).

The survey data were processed using Geoplot 3.00v software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of grey-tone plots, at a scale of +/- 1nT black/white, and also as stacked trace plots. The grey-tone plots have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 4, 6 and 8). Interpretative overlays are shown in Figures 5, 7 and 9. The stacked trace plots are displayed in Figure 10. Plots of the raw survey data, at a scale of +/- 5nT, are displayed in Figures 11 and 12.

5 SURVEY RESULTS

5.1 Field 1 (Figs 4 and 5)

The data from this field reveals nothing of archaeological interest. The prominent linear anomaly which crosses the field from south-west to north east marks the line of the current water pipeline, and the magnetic noise to its west suggests an area of disturbed ground, perhaps containing a certain amount of hardcore and / or small ferrous debris. Such noise is often the result of modern activity, such as the dumping of spoil or the construction of a temporary hardstanding.

5.2 Field 2 (Figs 6 and 7)

The data from this field contains a number of archaeological anomalies; some of which relate to the barrow earthworks and others to previously unknown features. There are also anomalies relating to a post-medieval chalk pit and the modern water pipeline.

The barrows within the survey area proved to have quite variable magnetic characteristics. Clear, positive linear anomalies flank the bank barrow, marking the lines of its two side ditches, and a similarly clear anomaly indicates part of the ring ditch around the northern round barrow. But the central round barrow is defined by no more than a sub-circular patch of weak magnetic noise, and the western barrow has no discernable magnetic signature.

It is not possible to say exactly why the barrows should have such different magnetic signatures. There are several factors which might be involved – including their original form, their state of preservation and the nature of their ditch fills – and the relative influence of each could only be determined by intrusive investigation.

Apart from the barrows, the main archaeological remains are two angled linear anomalies, each of which defines part of a ditched feature with rounded corners. Both have been previously identified from aerial photographs. The western one existed as an earthwork until at least the 1950s (Plate 1) and the eastern was plotted as a possible cursus or mortuary enclosure during the National Mapping Programme (NMP 2011, fig 18)

The western ditched feature encompasses the anomalies relating to the central round barrow, as well as a small annular anomaly of uncertain significance. It also contains several short and ill-defined linear anomalies which may represent faint traces of a palisade trench lying parallel with the main ditch.

To the north and west of the western ditched feature there are two disjointed linear anomalies which represent segments of ditch of unknown significance.

Within the eastern ditched feature, there is an intense magnetic anomaly which matches the location of a chalk pit marked on the first edition Ordnance Survey map (1889). The strength of the anomaly (up to 3000nT) suggests that this pit contains a significant quantity of ferrous scrap mixed within its backfill.

To the north of the pit there is a persistent, though ill-defined, band of weak magnetic noise which extends across the field as far as the A35. This probably represents the line of a track linking the pit to the main road, with the noise being caused by a low density scatter of hardcore.

An intensely positive linear anomaly follows the northern edge of the field, alongside the A35. This represents the currently existing water pipeline.

5.3 Fields 4 and 5 (Figs 8 and 9)

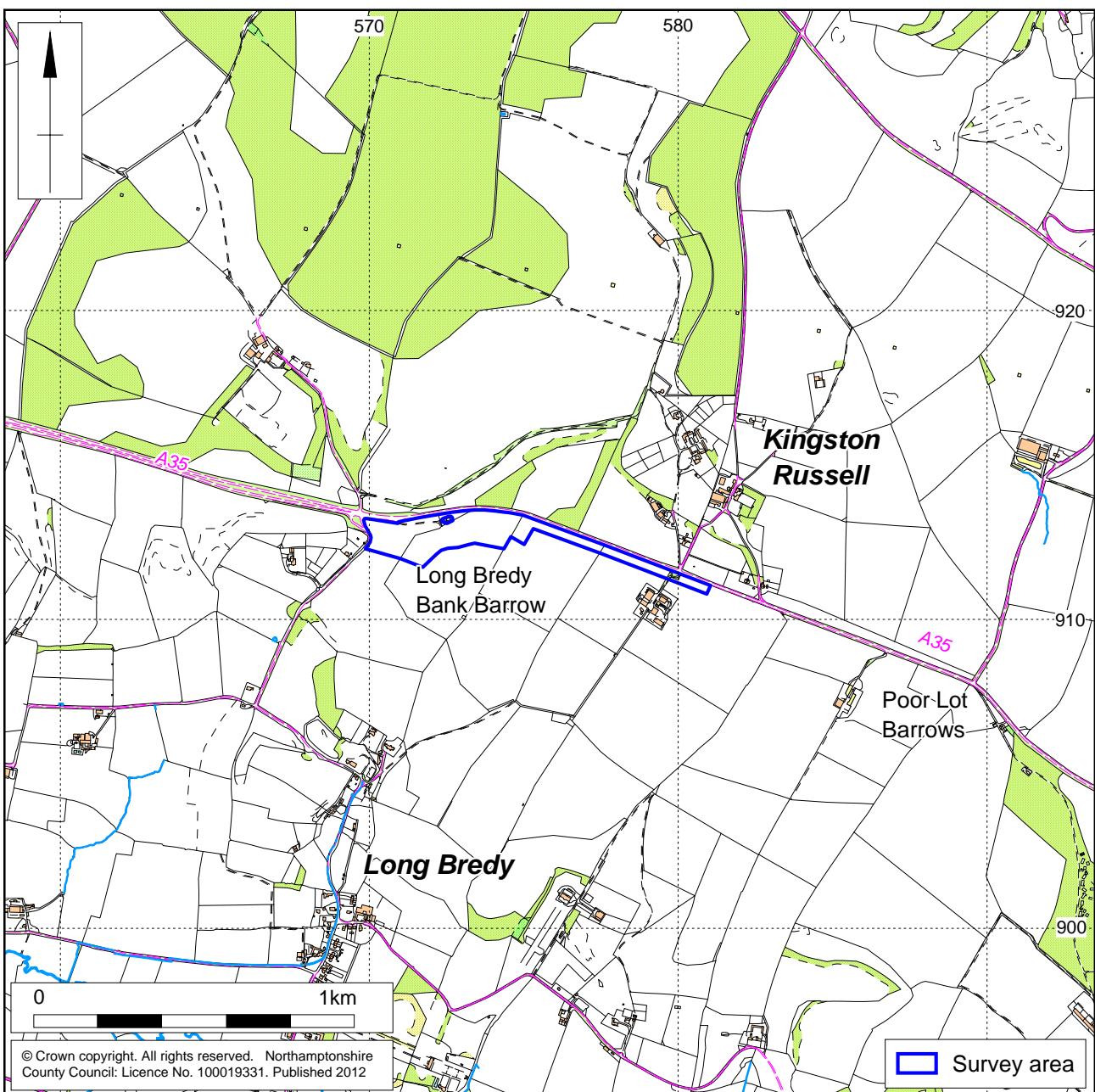
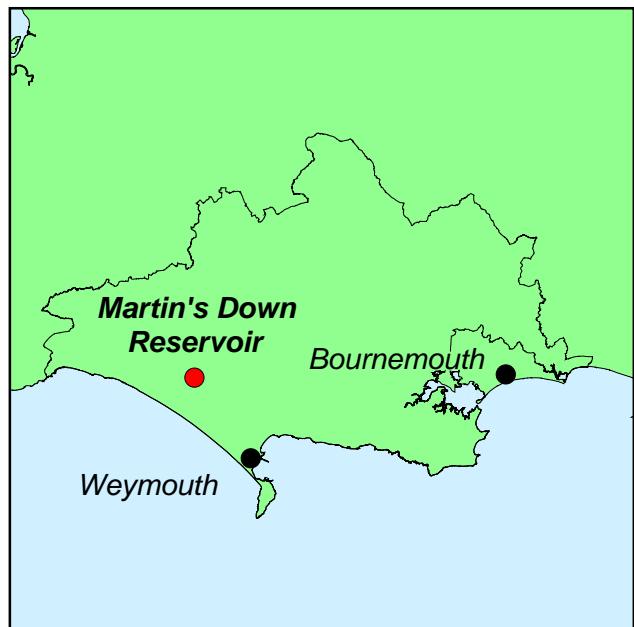
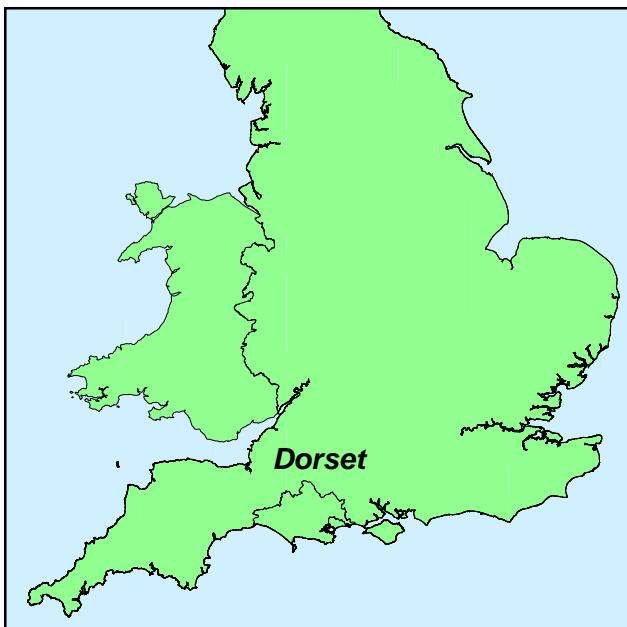
The data from both these fields is dominated by the magnetic response from the existing water pipeline and also exhibits some magnetic disturbance, of presumably recent origin. Nothing of certain archaeological significance has been detected, although there is a slight chance that some of the small, discrete, weakly positive anomalies in Field 4 could represent pits.

6 CONCLUSION

The survey results confirm that the main area of archaeological interest is within Field 2, where a number of ditches of potentially prehistoric date lie in and amongst the scheduled barrows. Elsewhere, the only features of possible archaeological interest are in Field 4, where the data suggests that a number of small pits may be present.

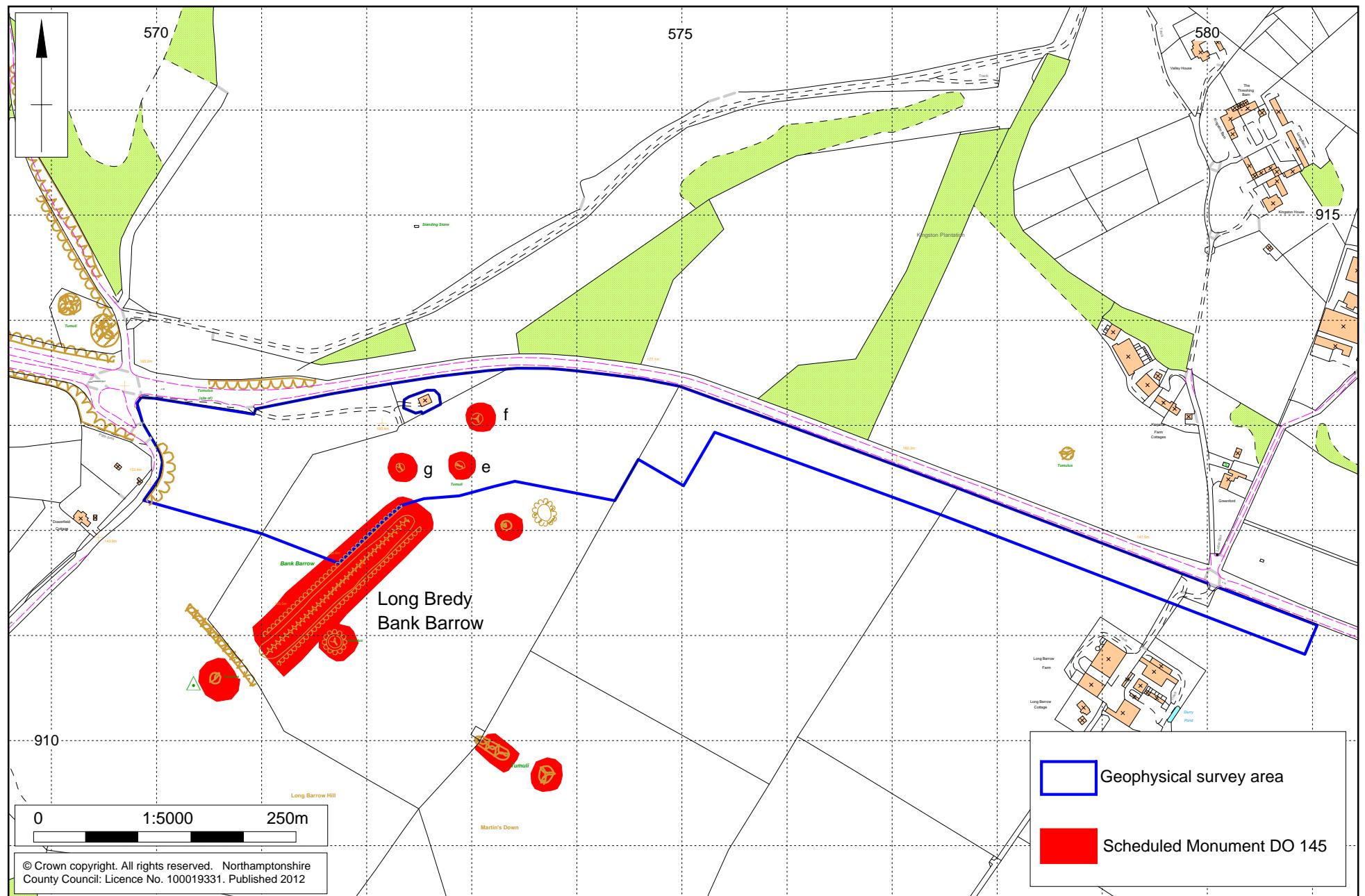
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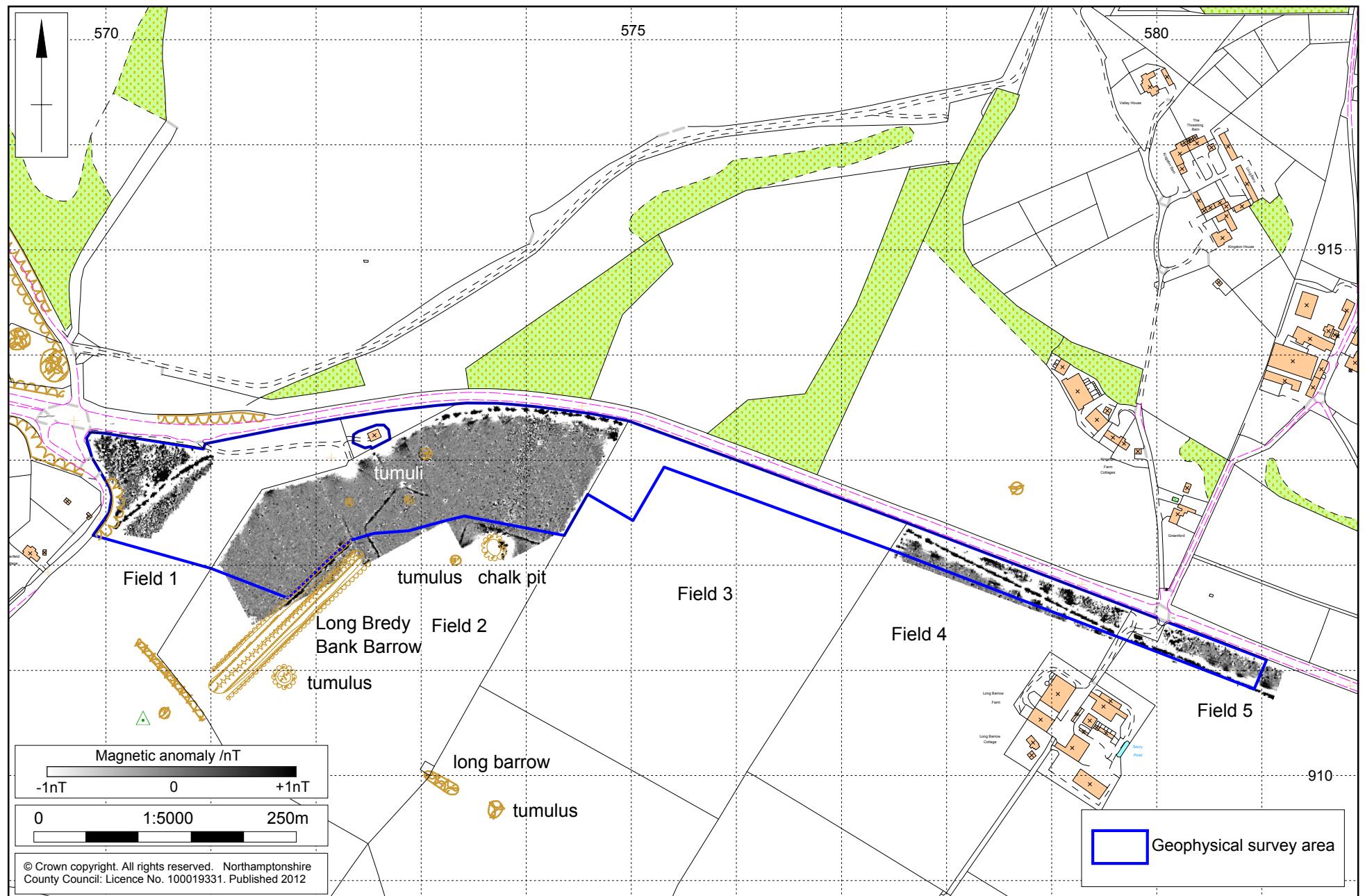
Scale 1:20,000

Site location Fig 1



Scale 1:5000 (A4)

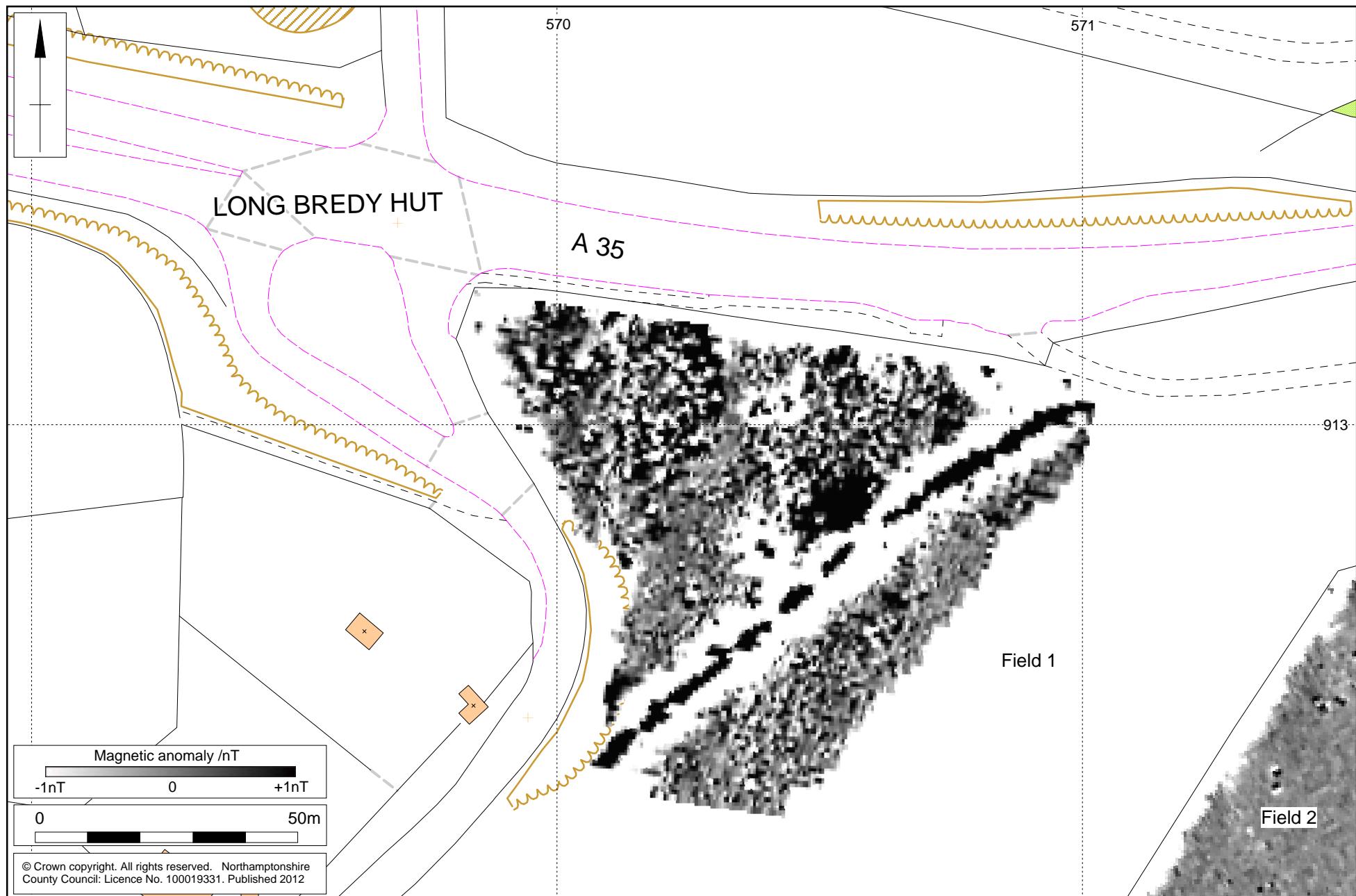
Map of scheduled monuments and geophysical survey area Fig 2



Martin's Down Reservoir geophysical survey results Fig 3

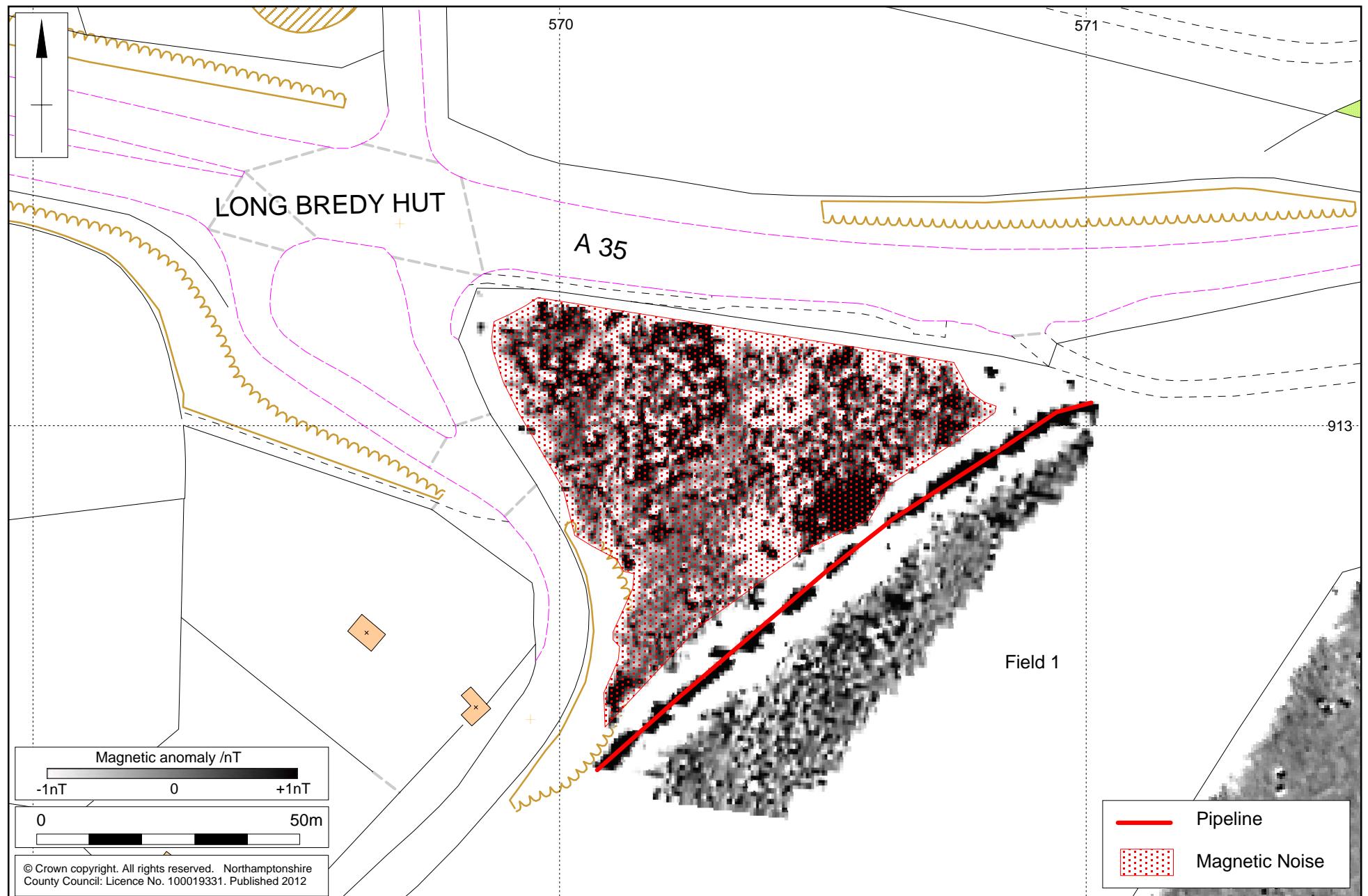
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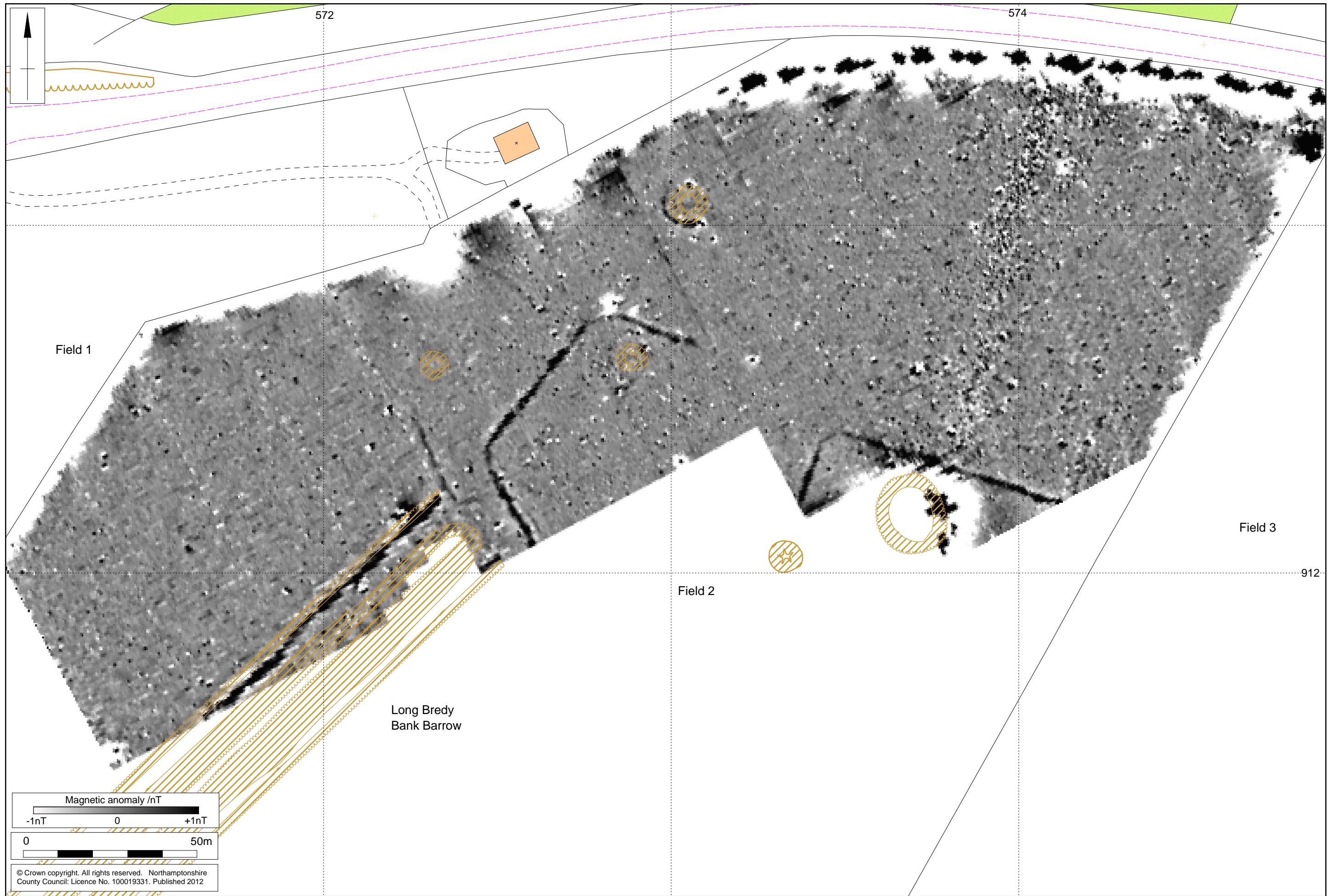


Scale 1:1000 (A4)

Martin's Down Reservoir geophysical survey results, Field 1 Fig 4

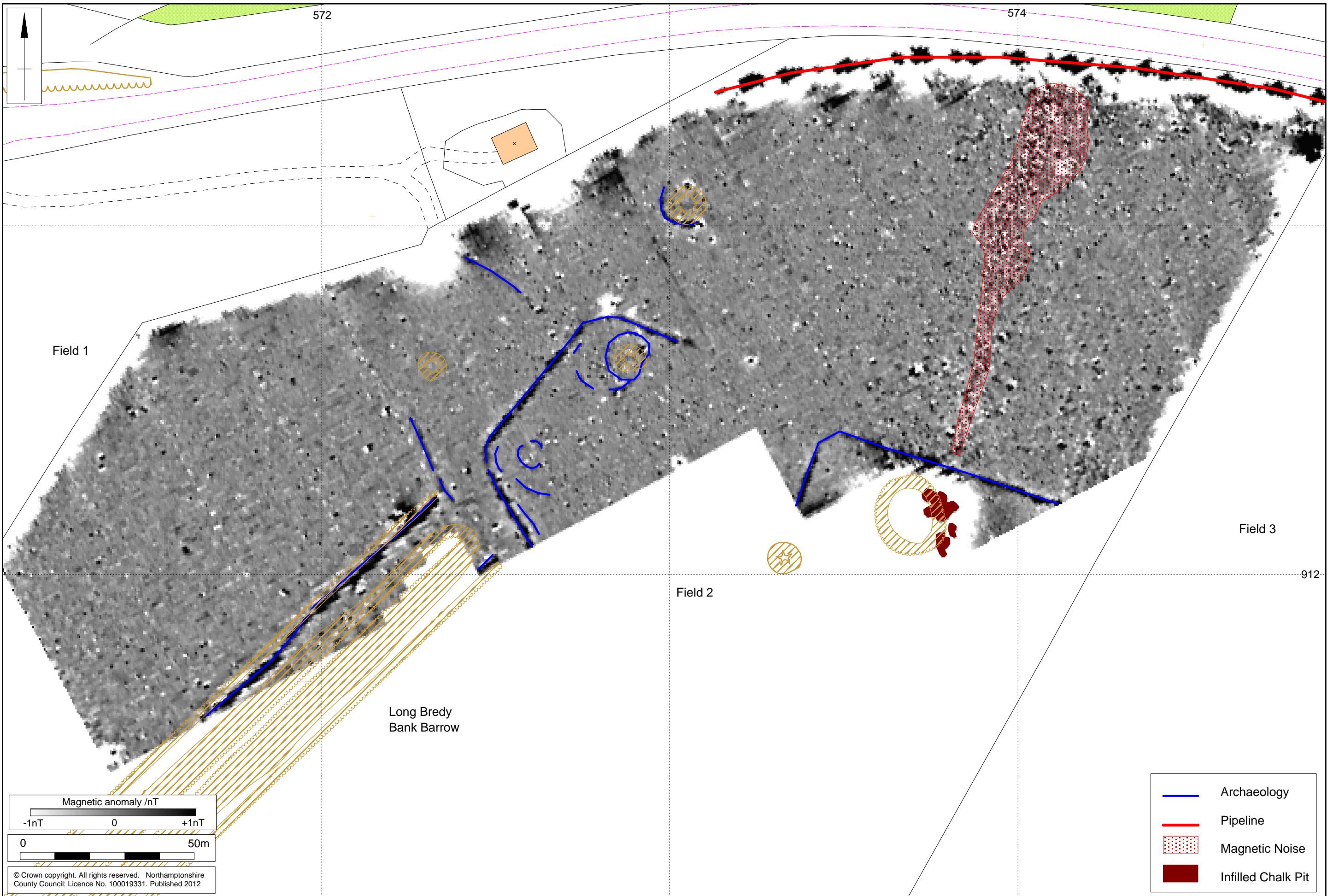


Martin's Down Reservoir geophysical survey interpretation, Field 1 Fig 5



Scale 1:2500 (A3)

Martin's Down Reservoir geophysical survey results, Field 2 Fig 6



Scale 1:1000 (A3)

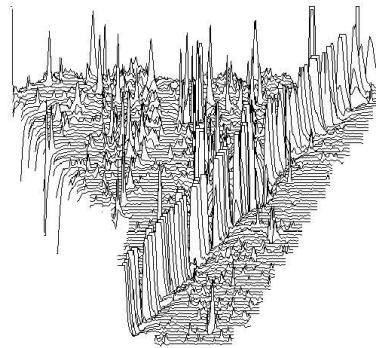
Martin's Down Reservoir geophysical survey interpretation, Field 2 Fig 7



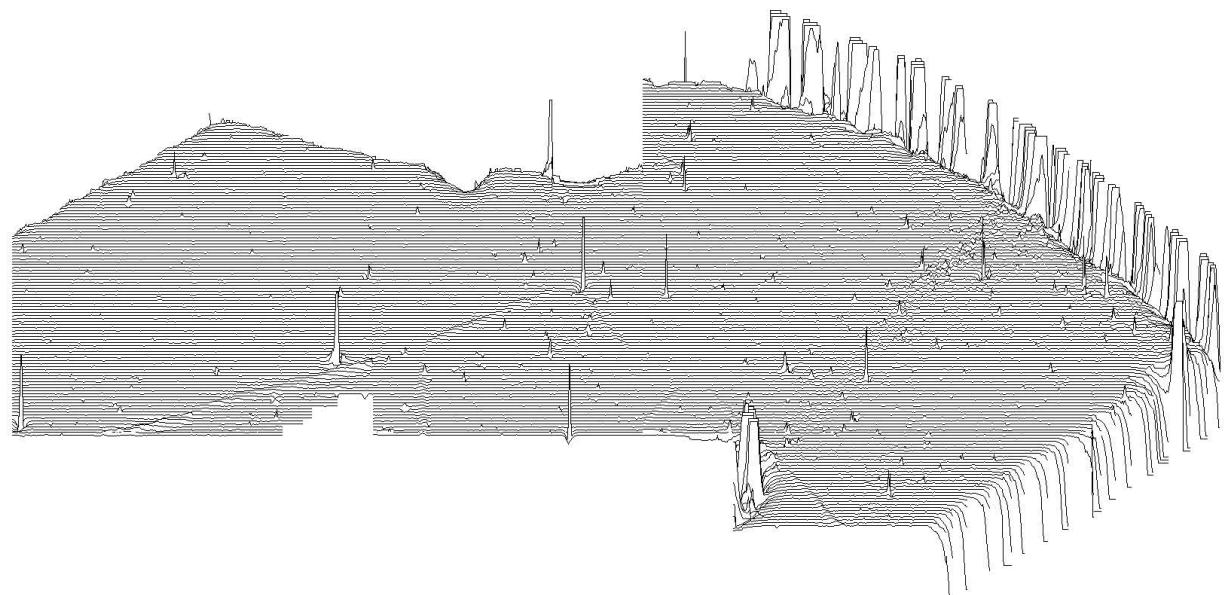
Scale 1:1000 (A3)

Martin's Down Reservoir geophysical survey results, Fields 4-5 Fig 8

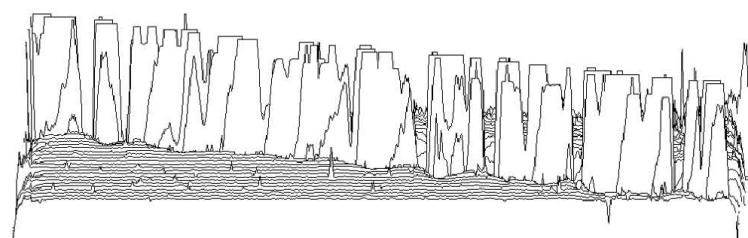




Field 1



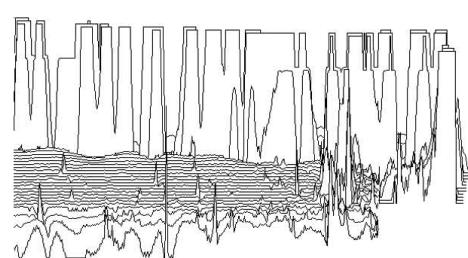
Field 2



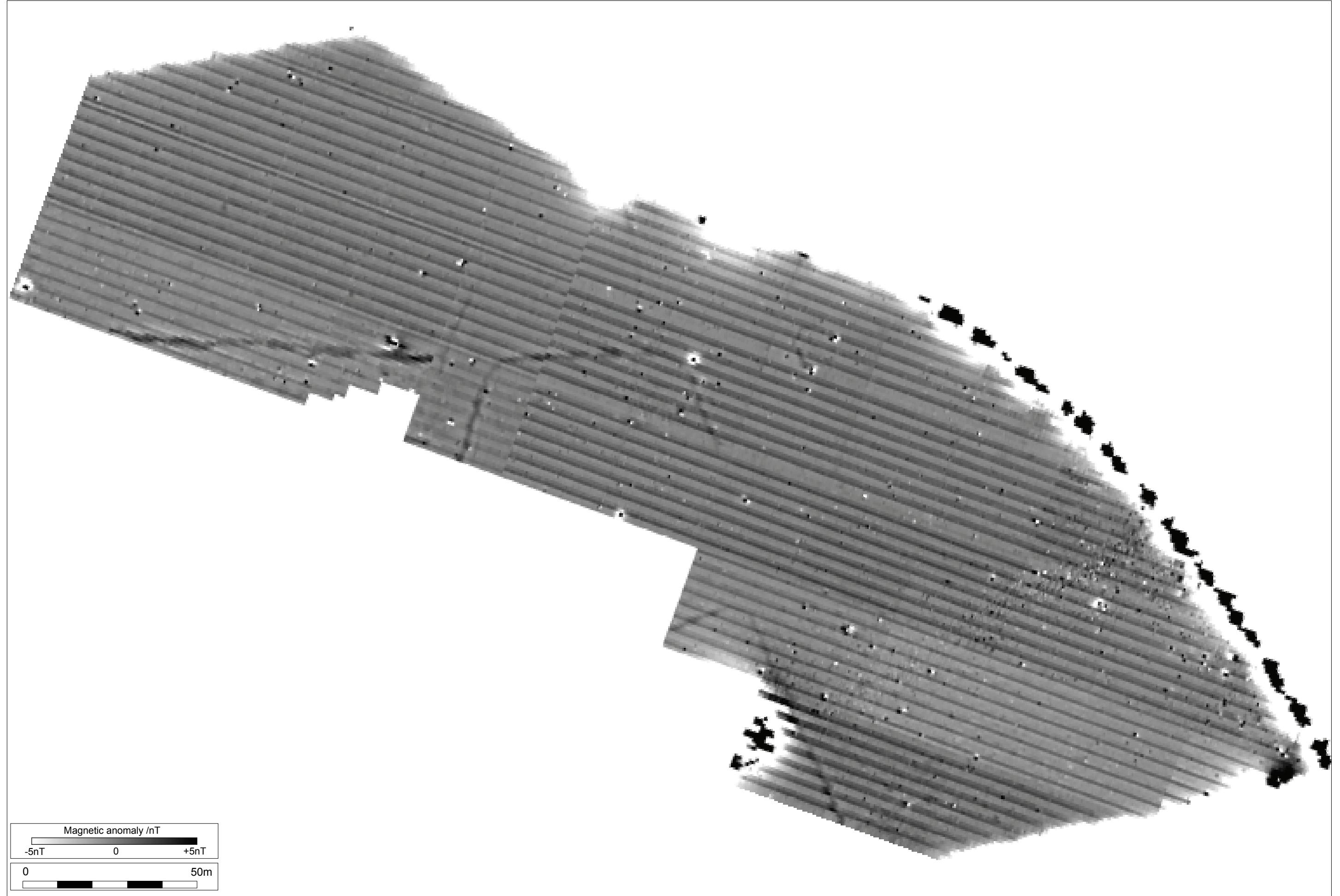
Field 4



Data clipped to range
-100nT to +100nT

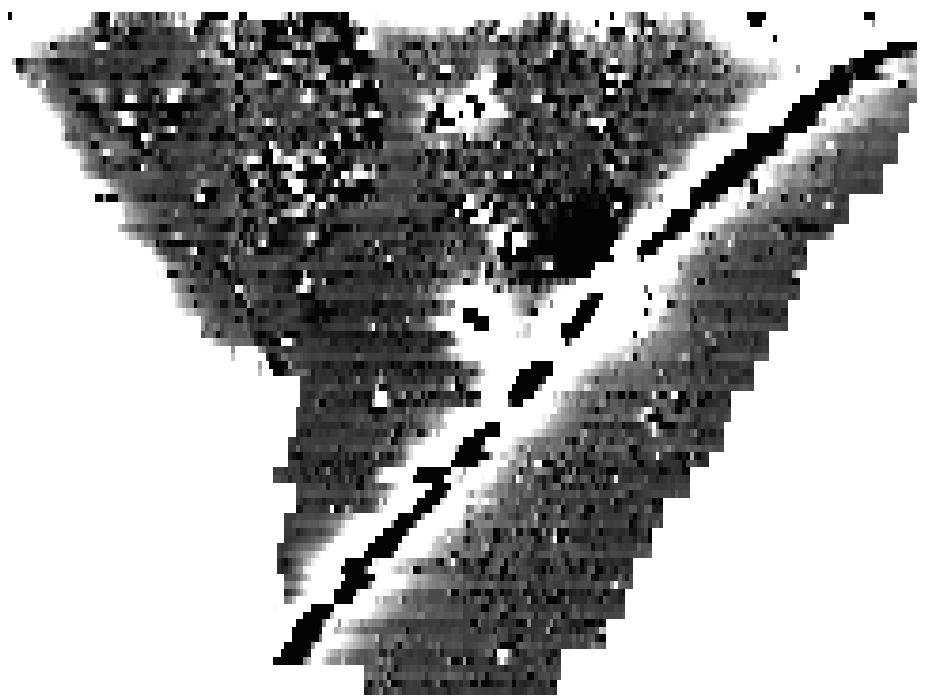


Field 5

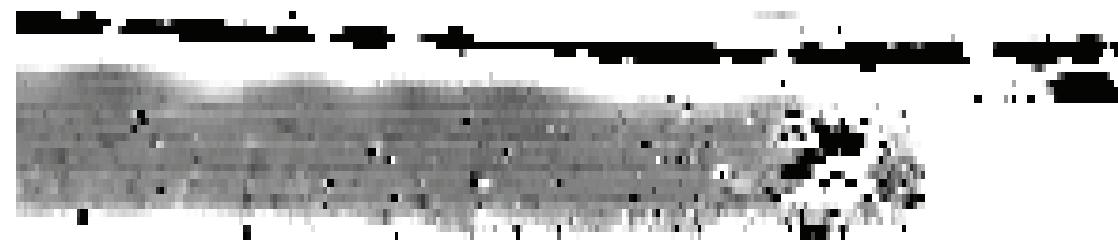


Scale 1:1000 (A3)

Raw magnetometer data, Field 2 Fig 11



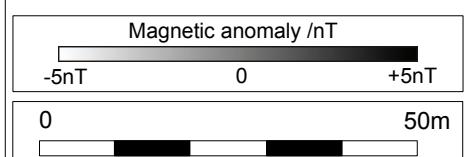
Field 1



Field 5



Field 4



Scale 1:1000 (A3)

Raw magnetometer data, Fields 1, 4 and 5 Fig 12



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