



Northamptonshire
County Council

Northamptonshire Archaeology

An archaeological geophysical survey
on land at Knepp Castle, West Grinstead
Horsham, West Sussex
July 2008



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Report 08/129

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**AN ARCHAEOLOGICAL GEOPHYSICAL SURVEY
ON LAND AT KNEPP CASTLE, WEST GRINSTEAD,
HORSHAM, WEST SUSSEX**

JULY 2008

ABSTRACT

Northamptonshire Archaeology was commissioned by Andrew Josephs Ltd and Huntley LLC to conduct magnetometer survey on three areas of land at Knepp Castle Estate, West Grinstead. The larger 'Tor' area was found to contain successive land drainage patterns and field boundaries. In the south of the area survey detected a former quarry, possible brick waste and a pair of ditches of possible archaeological interest. The central and southern 'Bund' and 'Borrow Pit' were found to contain nothing of archaeological interest.

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by Andrew Josephs Ltd and Huntley LLC to undertake a magnetometer survey on three areas of land at the Knepp Castle Estate, West Grinstead, near Horsham, West Sussex (NGR TQ 164, 280 – 159, 213; Fig 1). The purpose of the survey was to inform a planning proposal for the development of the site by landscaping works.

The objectives of the geophysical survey were to identify the presence or absence of buried archaeological remains within the proposed development area. Three areas of proposed works were specified for prospection:

'Tor' – 10ha

'Landscaping Bund' – 3.9ha

'Borrow Pit' – 1.1ha

The magnetometer survey of the 14.9ha area of land was undertaken in July 2008.

2 TOPOGRAPHY AND GEOLOGY

Knepp Castle is situated approximately 2.5 kilometres west of West Grinstead village, itself 10km south of Horsham. The site area extends over approximately 1400m north-south and 600m east-west, (Tor-Borrow Pit) within the Knepp Castle estate (Fig 1). The part of the estate under examination was bounded by the A272 to the north and A24 Worthing Road to the east. The Tor site was situated in a large field dominated by a hill. The landscaping Bund, further south, was

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east of a polo field. The proposed Borrow Pit area, south-west of the polo field, was located on a peninsula projecting into Knepp Mill Pond, a large body of water on the west.

The underlying solid geology of the site is noted as Weald Clay (<http://www.bgs.ac.uk/GeoIndex/index.htm> accessed August 2008). The site ranged in height between *c* 26m AOD at the Tor, falling to 13m AOD at the Borrow Pit, adjacent to Knepp Mill Pond.

3 ARCHAEOLOGICAL BACKGROUND

West Sussex Historic Environment Records (HER) lists numerous records within a kilometre of the site. Roman pottery finds (SMR3605) have been made within the Bund field. The medieval 11th-century Knepp Castle (SMR4338) survives as a motte surmounted by ruined tower some 600m south-east of the proposed Borrow Pit. The post-medieval Knepp Castle estate (SMR2733) includes the Garden dated after 1540, the House built by John Nash in 1806-13, the Icehouse and Hammer Pond.

4 METHODOLOGY

Geophysical survey was carried out in accordance with English Heritage and the Institute of Field Archaeologists Guidelines (EH 2008 & Gaffney, Gater and Ovendon 2002).

Detailed magnetometer survey

All detailed magnetometer survey was undertaken using Bartington Grad601-2 fluxgate gradiometers. The Grad601-2 is constructed as a dual-sensor instrument with two vertical gradiometers separated on a yoke to enable two lines of survey to be recorded in tandem.

The four areas were sub-divided into 30m x 30m grid-squares. These were laid out manually, using tapes and an optical square. The survey consisted of thirty-two whole and partial grid-squares. Each grid square was traversed at rapid walking pace in zigzag traverses spaced at 1m intervals and data recorded every 0.25m along these.

The data was analysed using Geoplot 3.00u software. Low (negative) magnetism is shown as white and high (positive) magnetism as black in the resultant greyscale plots. To avoid the introduction of processing errors, minimal manipulation was carried out on the data. The 'Zero

STAFF

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QUALITY CONTROL

	Print name	Signature	Date
Checked by	Pat Chapman	<i>PC</i>	20/08/08
Verified & Approved by	Andy Chapman	<i>AC</i>	20/08/08

OASIS REPORT FORM

PROJECT DETAILS		
Project name	An Archaeological Geophysical Survey on land at Knepp Castle, West Grinstead, Horsham, West Sussex	
Short description (250 words maximum)	Northamptonshire Archaeology was commissioned by Andrew Josephs Ltd and Huntley LLC to conduct magnetometer survey on three areas of land at Knepp Castle Estate, West Grinstead. The larger 'Tor' area was found to contain successive land drainage patterns and field boundaries. In the south of the area survey detected a former quarry, possible brick waste and a pair of ditches of possible archaeological interest. The central and southern 'Bund' and 'Borrow Pit' were found to contain nothing of archaeological interest.	
Project type	Geophysical Survey	
Site status		
Previous work		
Current Land use	Rough grassland	
Future work	Unknown	
Monument type/ period	Unknown	
Significant finds	none	
PROJECT LOCATION		
County	West Sussex	
Site address	Knepp Castle, West Grinstead, Horsham, West Sussex	
Study area (sq.m or ha)	Approx 15ha	
OS Easting & Northing	15630, 21200	
Height OD	13-26m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Andrew Josephs	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Ian Fisher (NA)	
Project Manager	Adrian Butler (NA)	
Sponsor or funding body	Huntley LLC	
PROJECT DATE		
Start date	July 2008	
End date	August 2008	
ARCHIVES	Location	Content (eg pottery, animal bone etc)
Paper	Northamptonshire Archaeology	Survey notes
Digital	Northamptonshire Archaeology	Geophysical data, GIS data & text Report
BIBLIOGRAPHY		
Journal/monograph, published or forthcoming, or unpublished client report (NA report)		
Title	An Archaeological Geophysical Survey on land at Knepp Castle, West Grinstead, Horsham, West Sussex	
Serial title & volume	Northamptonshire Archaeology report 08/129	
Author(s)	Adrian Butler	
Page numbers	5	
Date	18/08/2008	

Mean Traverse' function was applied in order to bring the average level of each data line into a balanced zero.

The processed data is presented here in the form of greyscale images georectified to the Ordnance Survey base (-2nT / +2nT scale; Figs 2, 4, and 6). The inclusion of stacked-trace plots was considered superfluous to the understanding of this report. An interpretative plot has been generated from the results (Figs 3, 5 and 7). These figures are referred to directly in the following section.

5 SURVEY RESULTS

Detailed survey

Tor (Figs 2 & 3)

The largest of the three areas was the proposed Tor site, of which 9.3ha was examined. The north of the field was divided off by stock fencing, though survey continued across this (Fig 2). Similarly the north-east corner was fenced, and was not accessible. Survey was retarded by large stands of thistles around the field, which proved to be impenetrable to pedestrian survey. The southern half of the field rose to a hilltop upon which a number of trees were situated. A small fenced enclosure featured on the south-west slope.

The most common anomalies detected by the survey were linear, positive and parallel, spaced at *c*10m intervals, orientated north-west to south-east in the sloping centre of the site changing to east – west in the north. These features are interpreted as land drains, possibly in two phases of development.

More intensely magnetised positive linear anomalies, aligned east – west (Fig 3: A) and north – south (Fig 3: B) may represent former land divisions. A slight surviving earthwork was identified on the ground coinciding with the southernmost of the north – south features.

A broad, sinuous positive anomaly, aligned north-north-east near the eastern boundary of the site is considered likely to be of geological origin.

A 30m diameter area of 'textured' magnetic response in the south-east, with an apparent positive edge, may indicate a backfilled quarry, such as noted on the Ordnance Survey mapping of 1879 (Sussex 1:10,560: www.old-maps.co.uk accessed 4/08/08).

A general background level of intense 'dipolar' anomalies indicating random ferrous debris in the soil, was detected across the north of the site. A greater amount was detected towards the south of the field, on the hill. An area of highly magnetic responses, approximately 40m x 10m in area, was detected coincident with a group of trees on the top of the hill. This feature could indicate a dump of ceramic waste from the former brick works on the east side of Worthing Road (Ordnance Survey 1914 Sussex 1:10,560: www.old-maps.co.uk accessed 4/08/08).

In the south-west of the Tor area, east of the small fenced pen, two linear positive anomalies (Fig 3: C) may reflect ditches possibly two sides of a rectangular enclosure.

Bund (Figs 4 & 5)

The northernmost extent of the proposed footprint of the Landscaping Bund was found to fall within an overgrown and unsurveyable farm paddock. A 4ha area was subject to magnetometry in the field to the south.

A band of disorderly magnetic anomalies reflects the track passing north – south through the west of the survey area. Similar anomalies in the north of the area indicates a second, much rougher track that crossed the field. A ferrous pipeline, probably a watermain, was detected orientated north – south along the west of the area, probably supplying the clubhouse at the southern end. The pipe probably follows the northern boundary to the farm to the north, although there does appear to be a spur to the east at approximately 150m north.

Four likely land drains were detected orientated north-east to south-west at the northern end of the field. Three more possible drains were located in the south-west. Two positive linear magnetic anomalies were identified towards the north-west of the survey area. Although they are of a form that suggests buried ditches, the fact that they appear to respect the modern pipeline may indicate that are in fact relatively recent features, perhaps field boundaries. Two intense dipolar anomalies in the south, central region of the field probably reflect larger pieces of buried ferrous material.

Borrow Pit (Figs 6 & 7)

The 1.1ha survey at the proposed Pit site was characterised by moderate levels of dipolar anomalies representing ferrous debris.

A small area of random signal in the south-east of the area is typical of ceramic debris such as brick hardcore. Two sinuous positive linear anomalies in the south and east of the area may represent the edges of a sub-circular beaten track that is present on the ground. Alternatively,

former boundaries should not be discounted as causative features.

6 CONCLUSION

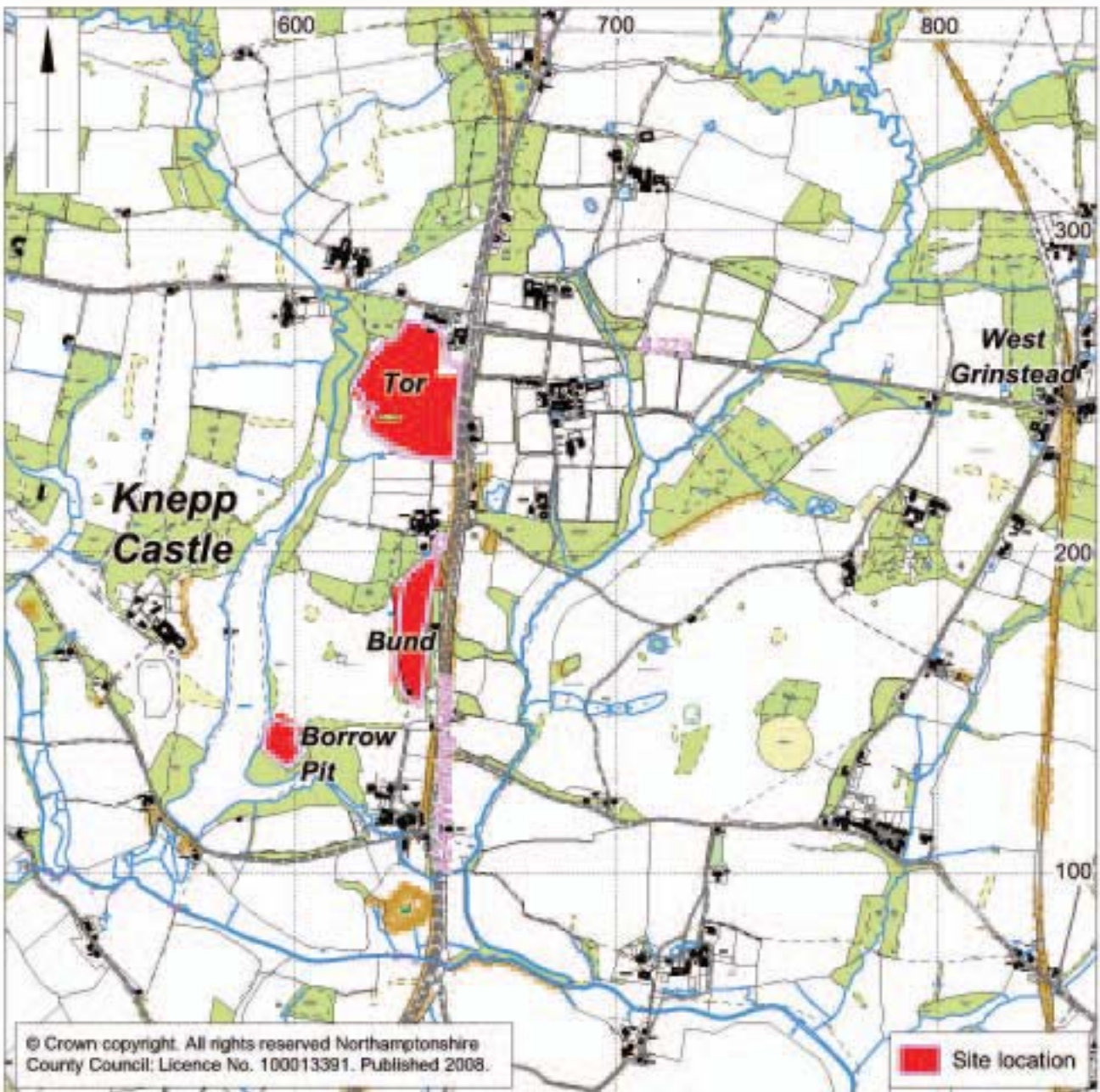
Geophysical survey at Knepp Castle has located little of archaeological interest. The Tor field was found to be covered in a network of successive land drainage systems and possible field boundaries of uncertain age. A backfilled quarry known from 1879 mapping was identified, as was possible brick dumping from a former adjacent brickworks. The sole putative archaeological features comprised a pair of ditches that formed an inverted 'L' shape in the south-west of the survey area.

Both the Bund and Borrow Pit areas were found to contain little of interest other than responses to modern tracks, drains, iron pipe and random ferrous debris.

BIBLIOGRAPHY

EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage

Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, 6



Scale 1:20,000

Site location Fig 1



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Scale 1:1500

Gradiometer Results: Tor Fig 2



Scale 1:1500

Gradiometer Interpretation: Tor Fig 3



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Scale 1:1500

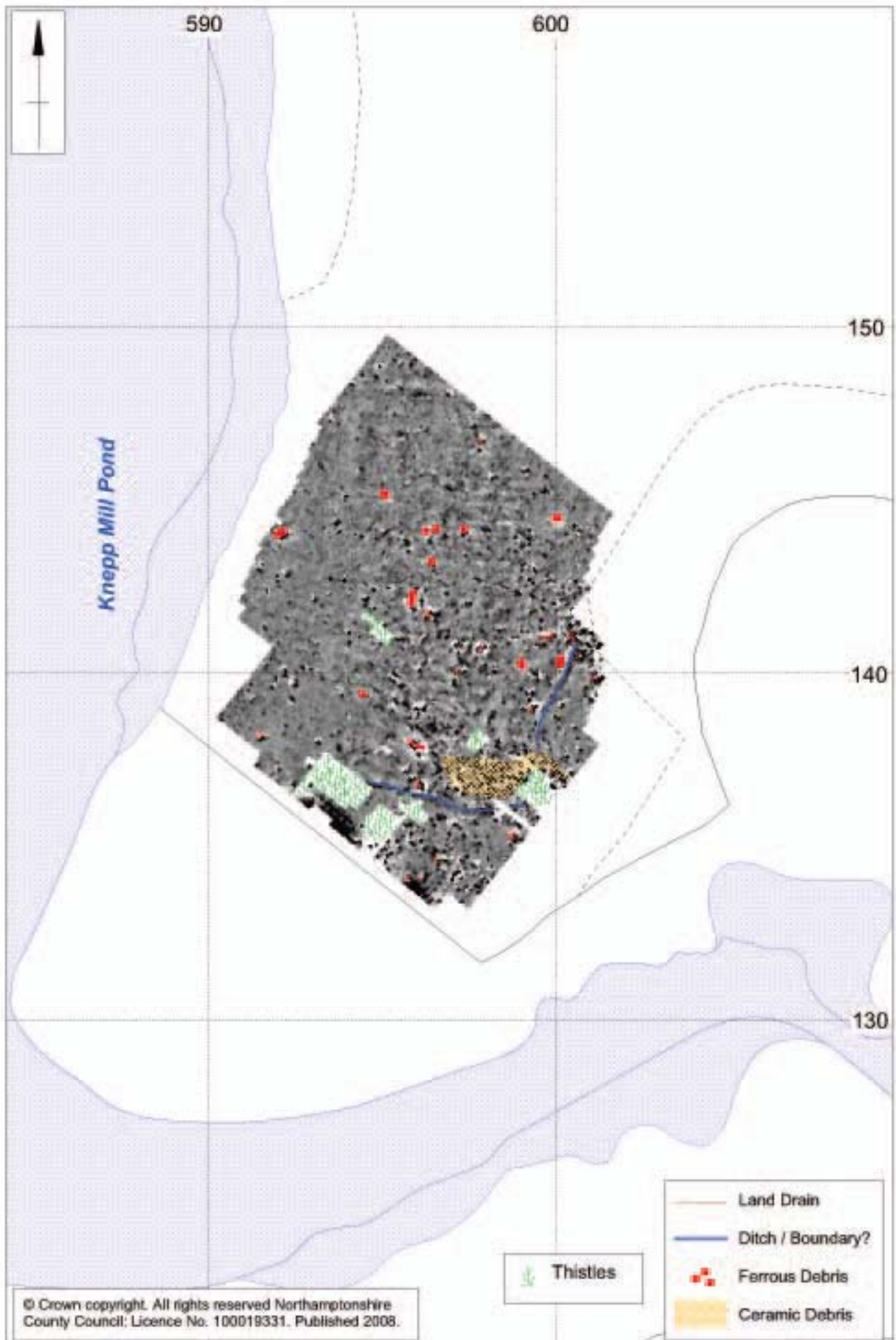
Gradiometer Results:Bund Fig 4





Scale 1:1500

Gradiometer Results: Borrow Pit Fig 6



Scale 1:1500

Gradiometer Interpretation: Borrow Pit Fig 7