HUME ARMS CARAVAN PARK

TORKSEY

GEOPHYSICAL SURVEY AND EVALUATION

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Introduction

The western half of the Hume Arms caravan park at Torksey sits on land named Abbey Yards on the Ordnance Survey map and 19th century estate maps. It is thought that the land originally belonged to the St Leonard's Priory which lay closer to the present road and west of the caravan park.

Earthworks in Abbey Yards were destroyed when the ground was landscaped in 1955. Mr F.T.Baker who was Curator of the City and County Museum in Lincoln at the time, and who still lives in Lincoln, kept a watching brief on the earthmoving and remembers that some pottery was found but no structural remains were seen.

These earthworks have been interpreted as fishponds belonging to the Abbey. Aerial photographs of that period (from the Cambridge University Collection) show marks on the ground which may have represented other structures belonging to the Abbey.

The greater part of the field has a dished appearance as if the some of the topsoil has been stripped off and dumped around the edges, creating a low bank, although the ground in adjacent fields does not seem much higher.

METHODS

1. Geophysical Survey

Normally fieldwalking of a ploughed field is undertaken to identify densities of artefacts. This was not possible at Torksey so a geophysical survey of part of the field was carried out in order to establish whether any features survived below the turf. Two types of survey were carried out.

a) Magnetometer

A fluxgate magnetometer, which measures deviations from the magnetic field of the earth's surface, was used to scan the ground. This machine can locate ditches, hearths and other archaeological remains without disturbing the ground. There can be difficulties in interpreting the data if the ground is too disturbed and readings cannot be taken close to features which interfere with the signal, such as metal fences and electrical power supplies.

The machine was aligned to the earth's magnetic field and set to '0' after having scanned the ground to find the background level of magnetism. (The level of background noise varies according to soil type and ground conditions). A grid 180m X 60m was set out and readings were taken at 1 metre intervals in 21 grids (Fig.1). The presence of caravans and the pond prevented survey in the other six. After the survey was

completed the readings were fed into a computer which converted the data to random dot distributions. (See Fig. 2) The higher the positive reading the blacker the readout. White areas are higher negative spots.

Results and Interpretation
On an archaeological site clusters of high readings (showing black on the printout) might variously represent hearths, rubbish pits or pieces of metal. Linear anomalies are easier to interpret than clusters because there are fewer alternative interpretations. They generally represent ditches or gullies. It should be noted that it is not always possible to identify features positively from the data. For example, a large metallic object buried at some depth below the ground surface may give off a signal similar to that of a small feature closer to the ground surface.

The results from the magnetometer survey at Torksey were disappointing and little of archaeological origin could be pinpointed. This was partly because of the presence of so much modern interference from the old caravan emplacements which would have obscured other features but probably truly reflected the lack of archaeological remains (see below).

Grids 3, 4 and 5. These grids contained lower readings than elsewhere which were thought to be of potential archaeological interest.
Grids 2 and 11.The black line running through these grids is an oil pipe line.
Grid 13. The very black area (high readings) just east of the pond is a children's metal swing.
Other black patches (high readings) indicate caravan emplacements and their power supply.

b) Resistivity
A resistivity survey was carried out in six of the grids which had shown the most promising results in the magnetometer survey. This method involves placing a pair of probes into the ground and measuring changes in electrical resistance. This varies according to the level of moisture content, damper conditions offering less resistance, and is particularly useful in locating walls, which tend to be dryer than surrounding soil thus offering higher resistance. This method is not affected by the presence of metal fencing and electric cables but its main drawback lies in being much slower than a magnetometer survey which is why it was used in restricted areas only. Grids 3,4,5 and 8, 14 and 20 were surveyed together with an area outside the main grid (50).

Results and Interpretation
The resistivity survey was little more illuminating than the magnetometer survey with only slight suggestions of features present.
Grid 3. The north-east corner had a block of high resistance

readings but these could not be investigated because of the proximity of the oil pipeline.
Grid 4. There was a block of higher readings on the west side, possibly echoing the topography.
Grid 5. Low readings, possibly a ditch, but nothing at all showed on the magnetometer survey.
Grid 8. No caravan emplacements in this grid, higher resistance readings to the west.
Grid 14. Possible linear /rectilinear features but three caravan emplacements which correspond to the low readings.
Grid 20. There was a possible feature running diagonally north-east to south-west but very high resistance readings correspond to the slope which may give a false edge.
Grid 50. Two caravan emplacements gave low readings with high resistance to the north.

2.Excavation
Whilst the geophysical survey results suggested little archaeological activity, several machine trenches were dug through some of the potential points of interest to establish a more accurate picture of ground conditions. Trenches 1 and 2 were dug in Grid 4 where the highest possibility of archaeological remains lay.

Beneath the topsoil was a layer of mixed brown sand to a depth of 0.85m below ground level. One piece of unglazed pottery of indeterminate date was found. This overlies a peat layer c.0.50m in depth which was present in both trenches. The peat comprises reeds and other plant remains, together with twigs and small logs of oak and alder. A piece of animal bone was found but no pottery or other dating evidence. A sample of the peat was taken and preliminary examination suggests that it was formed hundreds rather than thousands of years ago. Clean grey sand was reached below the peat at a depth of 1.30m and the modern water table was found at c.1.40m below the turf.

A trench in Grid 8 located the grey sand immediately beneath the turf. A further trench was dug to the west of the grid through the bank. This confirmed that topsoil had been deposited during landscaping and an earlier turfline was seen at a depth of c.0.50m. The natural grey sand was seen at a depth of 1.20m below the present turf level.

CONCLUSION
After exhaustive survey and selective trial trenching nothing of archaeological significance was discovered. The presence of a peat layer in the eastern part of the field may be due to the presence of the medieval fishponds but the full extent of these deposits was not found.

RECOMMENDATIONS
On present available data it is recommended that an archaeological watching brief should be kept on the topsoil stripping and foundation preparation phase of house

construction. It is considered unlikely, however, that significant archaeological features will survive intact and therefore more detailed examination of the remains, such as excavation, is inappropriate.

It may be important when considering foundation types to determine the full extent of the peat found in Grid 4.

LIMITATION

Every effort has been made to ensure that the above survey has provided an accurate picture of the surviving archaeology on the site but of course it cannot be guaranteed that a major find will not be made after the turf has been removed.

Naomi Field BA
May 28th 1990

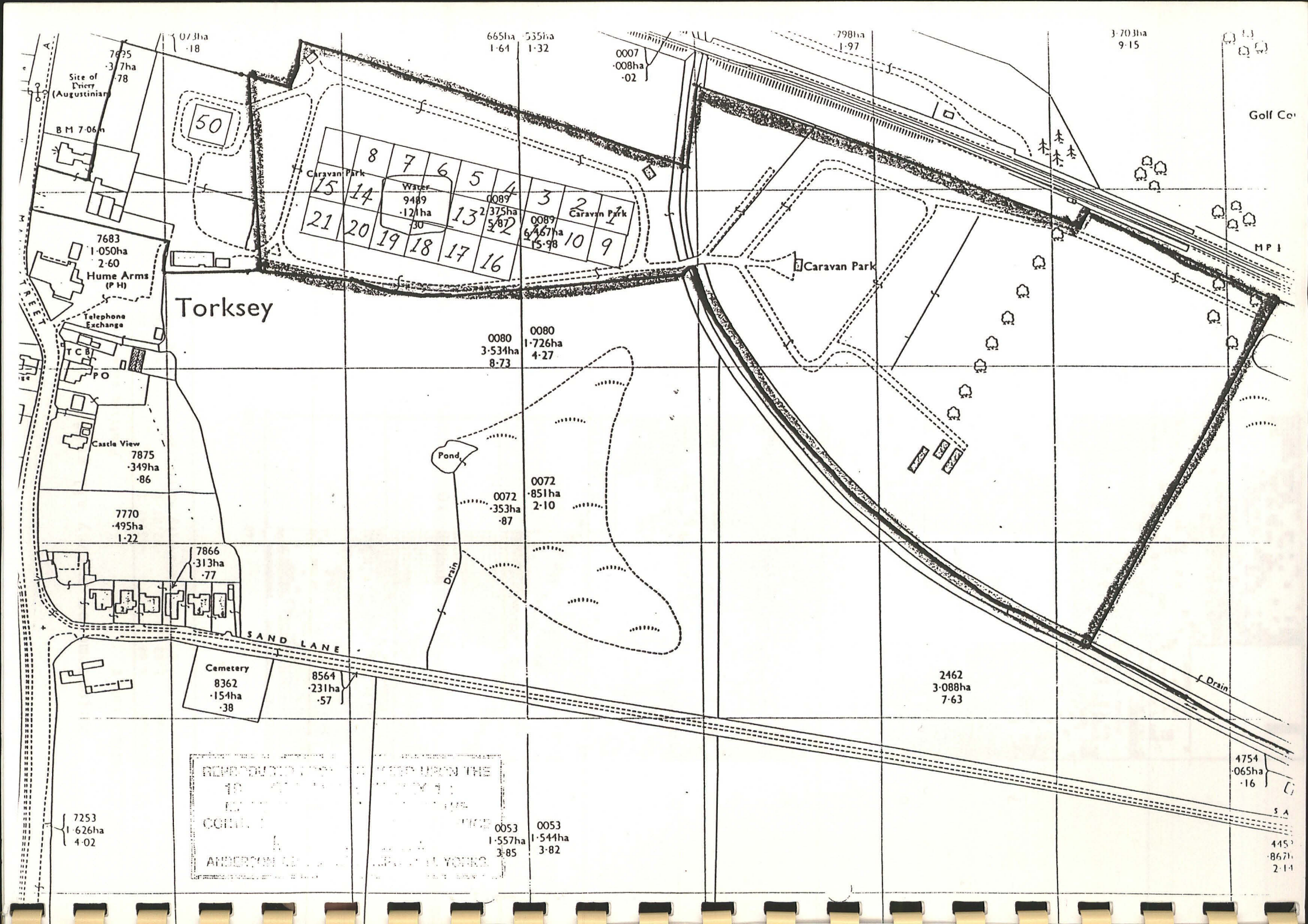

Torksey
Site of Priory (Augustinian)
BM 7·06m
Hume Arms (P H)
Telephone Exchange
T C B
P O
Castle View
Caravan Park
Water
Pond
Drain
SAND LANE
Cemetery
Golf Co
MP I
7683
1·050ha
2·60
7875
·349ha
·86
7770
·495ha
1·22
7866
·313ha
·77
8362
·154ha
·38
8564
·231ha
·57
7253
1·626ha
4·02
0080
3·534ha
8·73
0080
1·726ha
4·27
0072
·353ha
·87
0072
·851ha
2·10
0089
2·375ha
5·87
0089
6·467ha
15·98
0053
1·557ha
3·85
0053
1·544ha
3·82
2462
3·088ha
7·63
4754
·065ha
·16

FIG.2

Magnetometer survey all grids

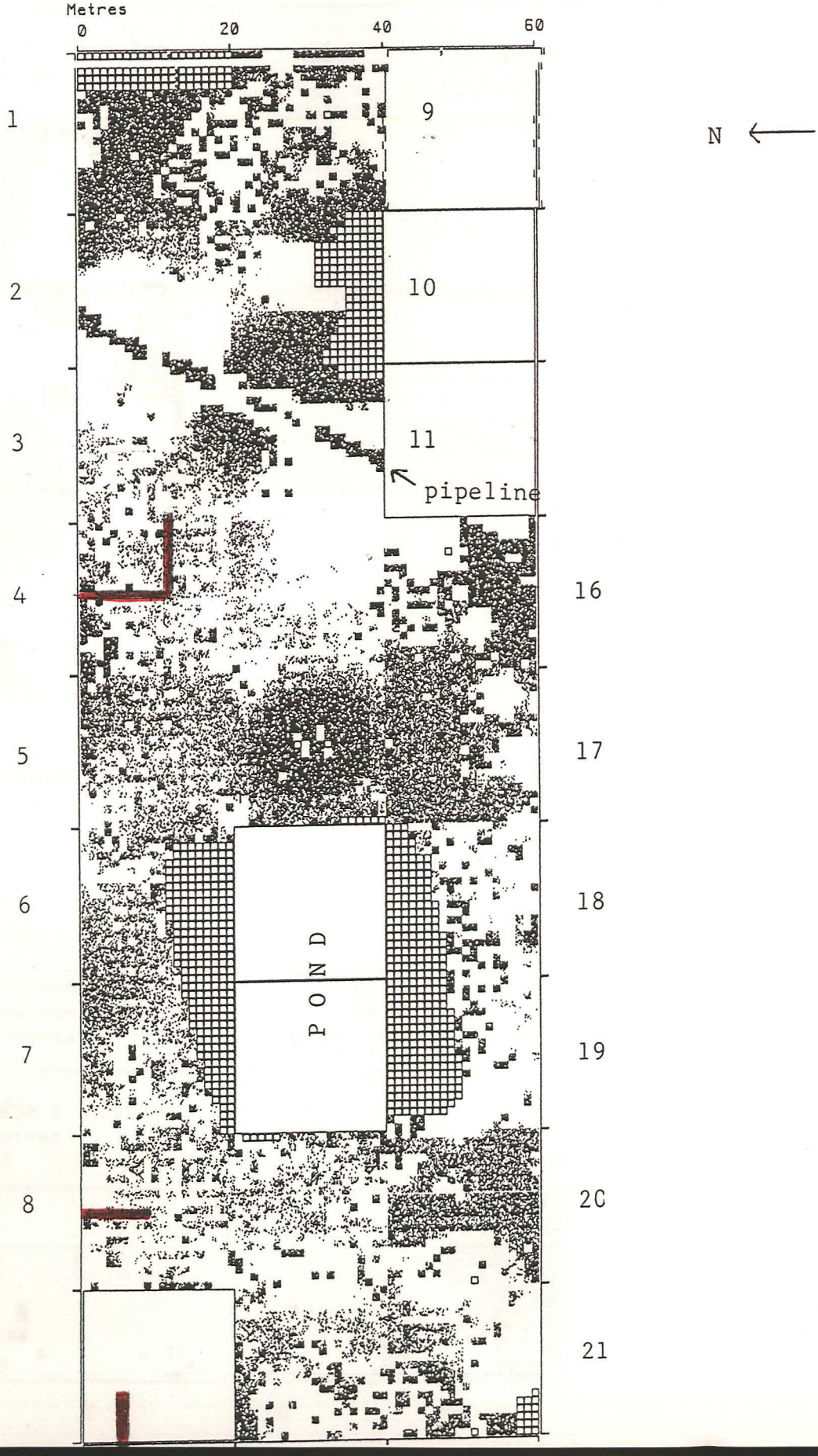
SITE : tork 2

Plotting parameters

Minimum	4.00	-83.47 %	-0.12 SD
Maximum	9.00	-62.81 %	-0.09 SD
Contrast	1.0	Intensity Multiplier	2.0

MESH : tork 2a

Metres



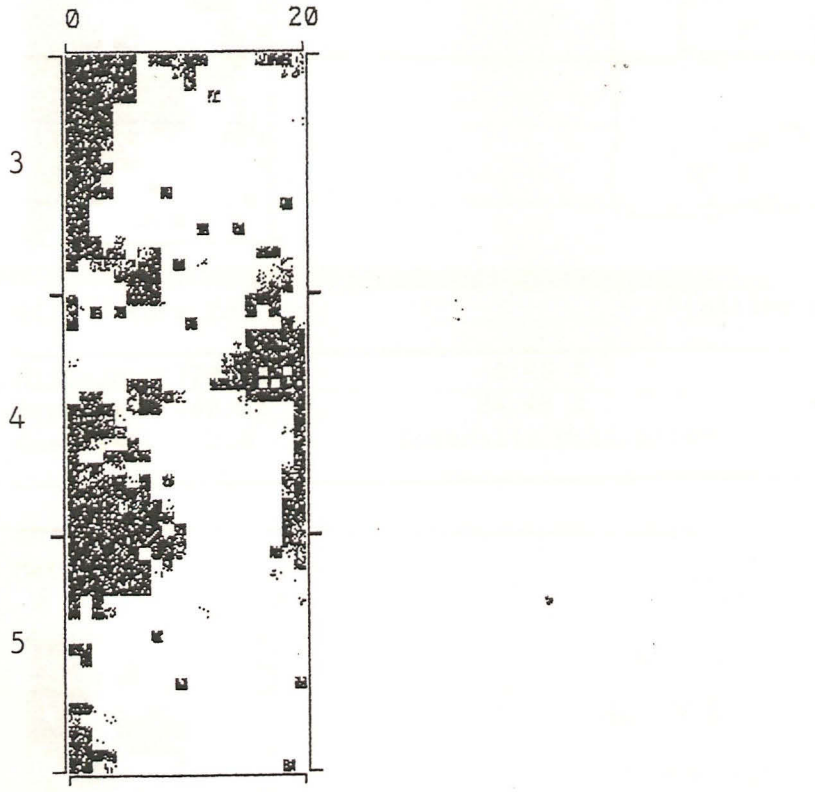
Resistivity survey of Grids 3,4,5.

FIG.3

SITE : tork 2r			Plotting parameters
Minimum	96.78	-2.00 %	-0.04 SD
Maximum	108.64	10.00 %	0.21 SD
Contrast	2.0	Intensity Multiplier	2.0

MESH : tork 2ra

Metres

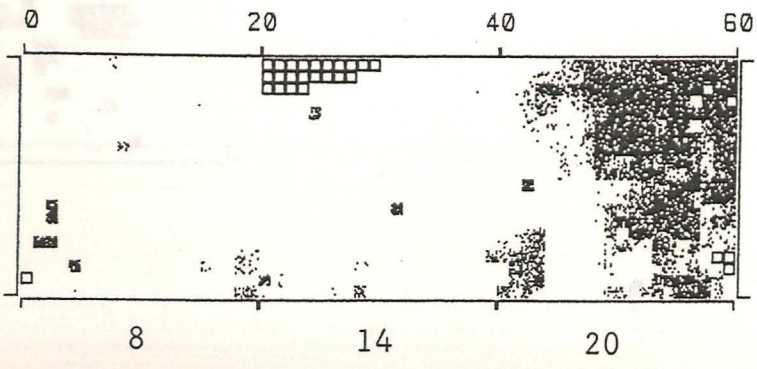


Resistivity survey of Grids 8,14,20

SITE : tork 2r			Plotting parameters
Minimum	147.79	-20.00 %	-0.69 SD
Maximum	221.69	20.00 %	0.69 SD
Contrast	2.0	Intensity Multiplier	2.0

MESH : tork 2rb

Metres

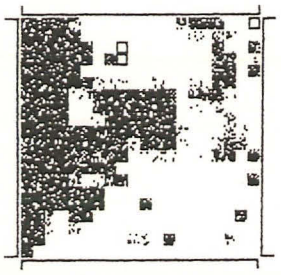


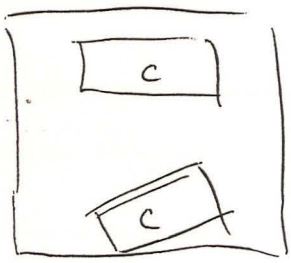
Resistivity survey Grid 50 printed at three intensities

SITE : tork 2r Plotting parameters

Minimum	90.00	-19.99 %	-0.24 SD
Maximum	110.00	-2.21 %	-0.03 SD
Contrast	2.0	Intensity Multiplier	2.0

GRID : 50
Metres
0 20



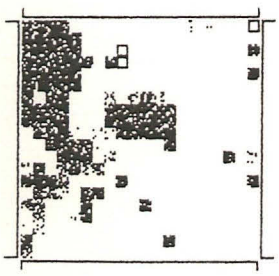


The caravan spots seem to give low readings

SITE : tork 2r Plotting parameters

Minimum	120.00	6.68 %	0.08 SD
Maximum	140.00	24.46 %	0.29 SD
Contrast	2.0	Intensity Multiplier	2.0

GRID : 50
Metres
0 20



The range is quite high c 30-40 for the E caravan site to 332 in central block of high readings.

SITE : tork 2r Plotting parameters

Minimum	140.00	24.46 %	0.29 SD
Maximum	160.00	42.23 %	0.50 SD
Contrast	2.0	Intensity Multiplier	2.0

GRID : 50
Metres
0 20