

ANCIENT MONUMENTS LABORATORY GEOPHYSICS SECTION

REPORT ON MAGNETOMETER SURVEY

**SURVEY:** MG WORKS, ABINGDON

**DATE:** 28/9/81

**Report no.** 21/81

**1. SITE**

**OS grid reference:** SU 482 973

**Field no.** -

**Location:** deserted car compound, MG Works, Abingdon, Oxon.

**Geology:** alluvial gravel, overlain by limestone and clinker metalling and tarmac.

**Archaeological evidence:** dense complex of Iron Age and RB features in adjacent excavation and trial trench.

**2. SURVEY**

**Object:** to plot the extension of the IA/RB site under the car park.

**(a) Magnetic survey**

Magnetometer : fluxgate  
Survey : direct plotting on chart recorder  
Setting : 15 gammas/cm. (sq 1)  
          : 20 gammas/cm. (sq. 2 - 6)  
Initial scale : 1 : 200

**(b) Other tests**

**(i) Magnetic susceptibility** ( $\times 10^{-8}$  SI units):

topsoil:	subsoil:	fill:	
200	16-34	165-198	
175		92	Tarmac - 12 - 23
168		84	Clinker- 275
?natural clay pockets - 110 (SI Units)			

**Survey grid measured to:** compound fences

**Plans/charts enclosed:** 1 - Location plan (1:2500)  
                          2 - Magnetometer traces, with interpretation (1:500)

3. Magnetic scanning over this car compound by Dr. Clark of the A. M. Lab. demonstrated that it was possible to detect archaeological features sealed below tarmac and metalling. A detailed recorded survey over the area was therefore undertaken to see how clearly these anomalies can be plotted and whether or not a worthwhile picture of the extent of the Roman/IA site can be achieved in this way. The survey area (1 - 6, on plan 1), located to avoid interference from fences and buildings, was covered by 30 m. magnetometer traverses plotted at 1.0 m. intervals and the resultant signal traces are shown at a reduced scale on plan 2 where significant anomalies have also been outlined.

#### RESULTS

Large parts of the survey area are completely obscured by the reaction to strongly magnetic drain covers, and pipes etc., within and below the tarmac. A few anomalies from archaeological features can be distinguished in the places where this disturbance abates, and especially, for instance, in sqs. 2 and 3. Here there is a very clear reaction to some 12 m. of curving ditch in addition to other linear features and possible pits. The strongest anomaly indicated in red in sq. 3 is typical of a kiln, but has to be interpreted with caution here where iron may be responsible. Over the rest of the survey area features can be tentatively hinted at amongst the prevailing noise but nowhere has it been possible to distinguish a pattern or significant continuity.

#### CONCLUSIONS

The soil conditions here are in themselves favourable for magnetic surveying since there is such a marked contrast between magnetic susceptibility values of topsoil and subsoil. In fact, in the unsatisfactory conditions of iron interference here, it is only the particular strength of the archaeological anomalies that allows them to be detectable. The tarmac itself has a low and consistent magnetic susceptibility, but the clinker below it is highly magnetic and probably contributes to the noise level in areas not already obscured by iron.

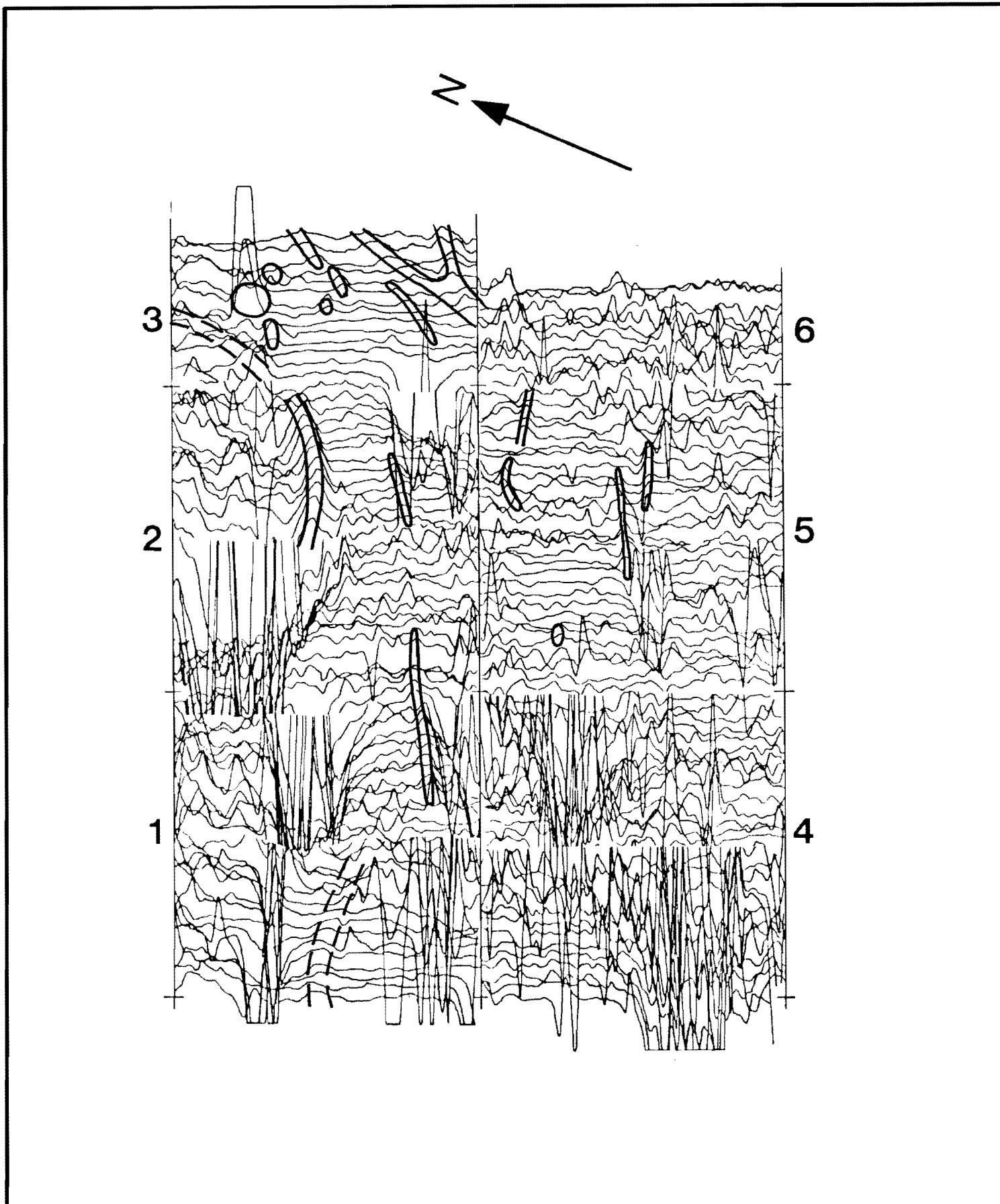
Although it is remarkable that archaeology can be detected at all in such circumstances, those anomalies that are distinguishable are fragmentary and very poorly representative of the dense and complex site plan suggested by the adjacent excavations. The feasibility of further survey work here must depend on whether or not such an incomplete picture adds useful information beyond existing circumstantial evidence.

Surveyed and reported by : A. David  
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12th. Feb. 1982.


for : Oxfordshire Archaeological Unit

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MG WORKS, ABINGDON  
 MAGNETOMETER SURVEY  
 Interpretation

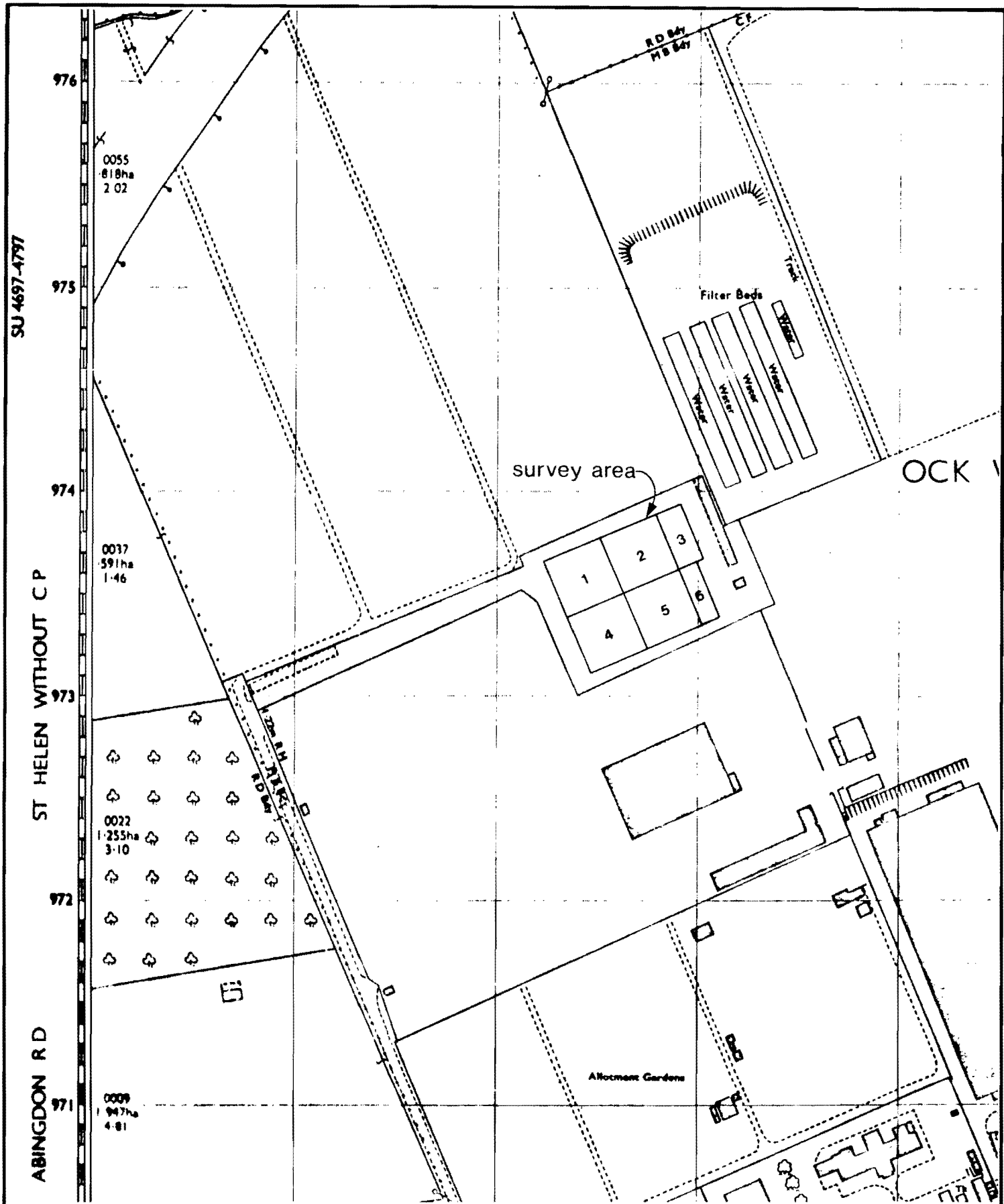
NG ref. SU 482 973

 magnetic anomalies

Survey no. 21/81  
 Plan no. 2 of 2

1:500

DoE A.M. Laboratory  
 Geophysics Section



**MG WORKS, ABINGDON**  
**MAGNETOMETER SURVEY**  
 Location

Survey no. 21/81 Plan no. 1 of 2	NG ref. SU 482 973 OS sheets SU 4897
0 <span style="margin-left: 100px;">1: 2500</span> <span style="margin-left: 100px;">200m</span>	DoE A.M. Laboratory Geophysics Section