

CESIUM MAGNETOMETER SURVEY AT CAMP DE CESAR, WISSANT, FRANCE by MASCA

Ralph
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With the kind permission and cooperation of Dr. Pierre Leman (Direction des Antiquités Historiques de Lille, France) and Professor Jacques Duchesne-Guillemin and Mme Marcelle Duchesne-Guillemin (from the University of Liege, Belgium) a magnetometer survey was conducted at this site on September 20th and 21st, 1971. The survey was carried out by members of the Applied Science Center for Archaeology (MASCA), University Museum, University of Pennsylvania, Philadelphia, Pa. 19104 - namely, Prof. Froelich Rainey, Mme Marina Bernaut, and Elizabeth K. Ralph with the helpful assistance of Prof. and Mme Guillemin.

The magnetometers used and the method of ~~ding~~ laying a grid are described on the attached pages.

The first day was devoted mainly to the running of Grid #1 (see Fig. 1) with the Model 4920 Precision Portable Cesium Magnetometer (used with two sensors in the differential mode). This grid is located within the high enclosure of this multi-vallate Roman hill fortress as shown in Fig. 2. We have not shown the location of this grid on the map supplied by Prof. Leman because there appears to be a mistake in the location of the stakes on the map. The grid, however, is located accurately with respect to stake nos. 1, 2, 7, and 8 so that there should be no difficulty in relocating the grid nor the significant anomaly as long as these stakes remain in the ground. The "zero" starting line of the grid (see Fig. 1) was along the line between stake nos. 7 and 8. We then proceeded to do lines in two-meter intervals to the eastern limit of the high enclosure, and when completed, we returned to the "zero" line and completed the grid to the western limit.

In Grid #1, there is one significant anomaly just west of the line between stakes 7 and 8 and south of the lines between stakes 1 and 2 as shown in Fig. 2. If we look at this anomaly in Fig. 1, we note that there is a slight anti-magnetic reaction (with readings of less than 15 units) to the north of its magnetic center (of more than 30 units). This may indicate that this anomaly is caused by a level

of fired clay such as that of a hearth or kiln. If so, the presumed cause may be, at least, two meters deep since the anomaly is relatively weak and the contours are not closely spaced.

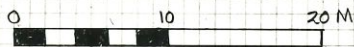
A few small-sized intense anomalies with closely spaced contours were detected in Grid #1. These are undoubtedly caused by pieces of iron at shallow depths. The reinforced concrete bunker built during World War II caused a very large anomaly and negated the detection of archaeological anomalies at the eastern end of the high enclosure and in the ditch below the bunker.

The latter part of the day and the following morning were devoted to rapid exploration with the audio cesium magnetometer in the ditch and in the fields surrounding the banks of the high enclosure. Many small-sized intense anomalies were detected which again were most likely caused by pieces of iron such as bits of farm implements and shrapnel at depths of less than 30 cm.

East of the Roman hill fortress and not far from the road, a slight rise in the height of land was traversed in parallel and perpendicular lines with the audio magnetometer. Changes in tone indicative of a slight anomaly coincident with the rise in land were detected. It is possible that structures or some evidence of previous occupation may exist below the surface in this area.

Report prepared by E.K. Ralph
October 12, 1971

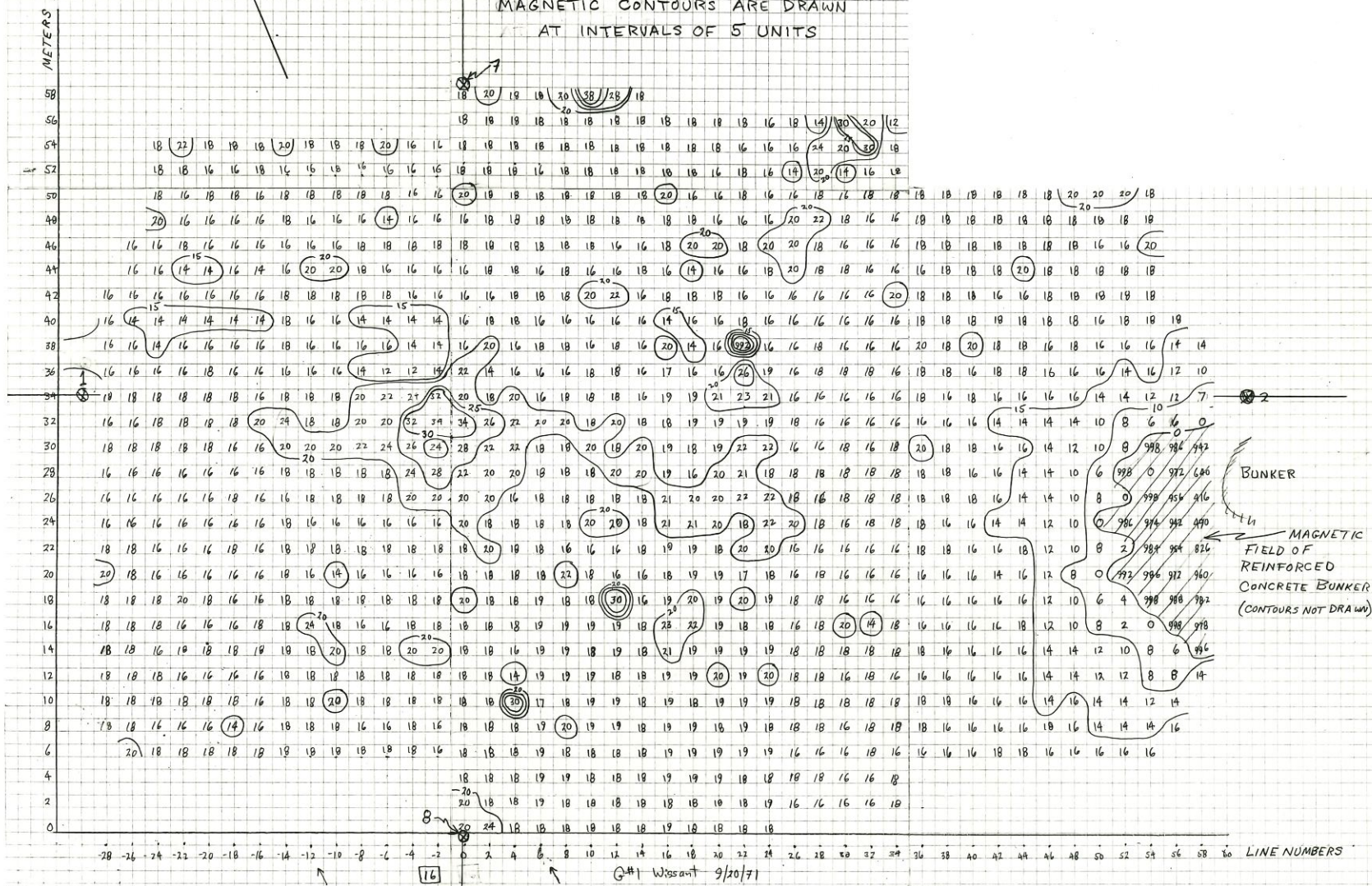
FIG. 1



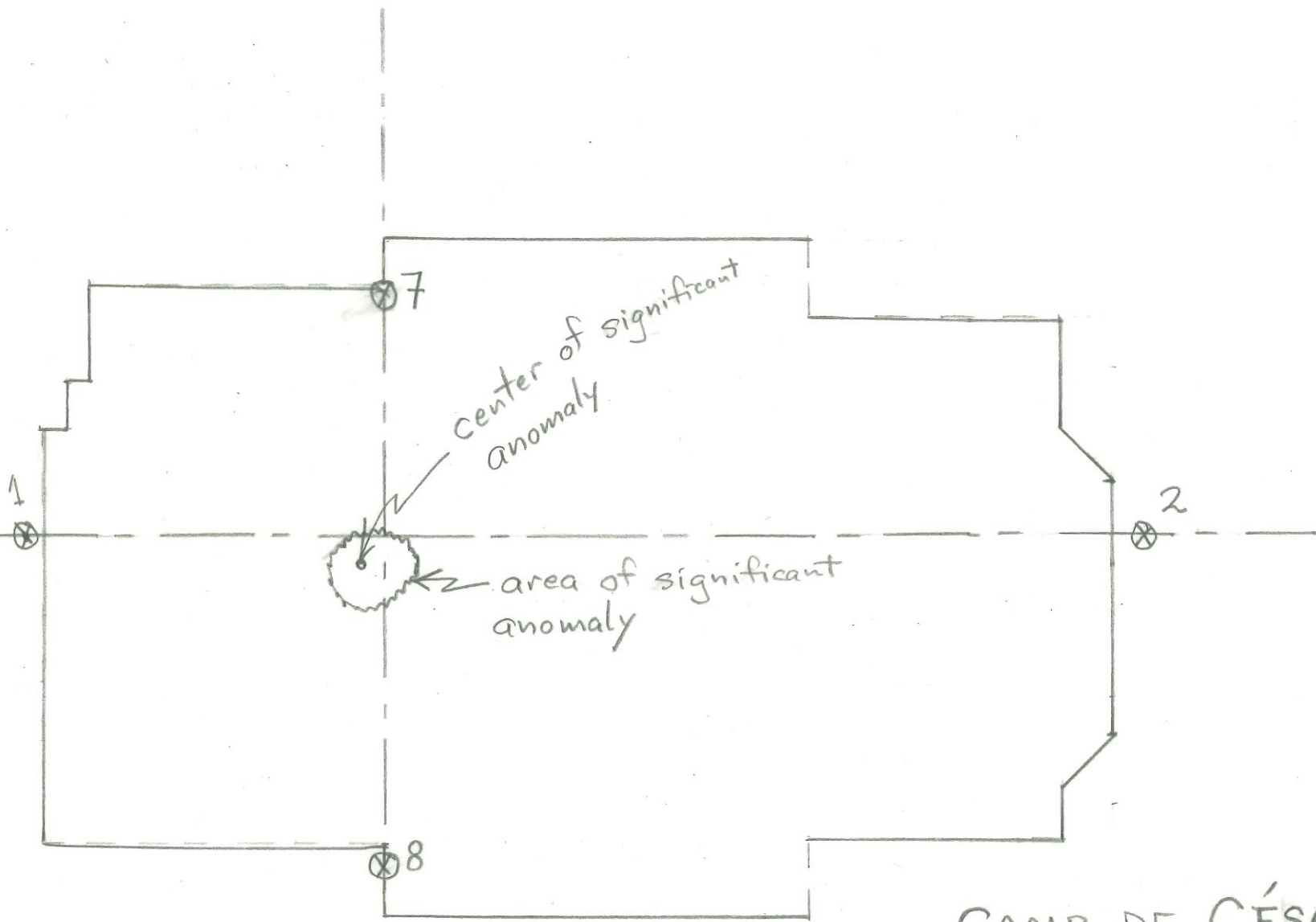
MAGNETIC NORTH

GRID #1
CAMP DE CÉSAR
WISSANT

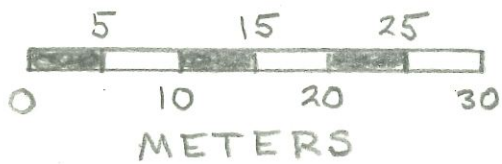
MAGNETIC CONTOURS ARE DRAWN
AT INTERVALS OF 5 UNITS



NORTH



CAMP DE CÉSAR
WISSANT



LOCATION OF MAGNETOMETER
GRID #1 WITH RELATION TO
STAKES 1, 2, 7, AND 8 IN THE GROUND

Fig. 2

MASCA. Elizabeth K. Ralph Papers. Research. Wissant, France, 1971 [Photograph,
Fig. 1, Grid # 1; Cesium Magnetometer Survey]

NEB.

KODAK SAFETY FILM