NOT EXAM

NOTE 6

THE GEOGRAPHICAL REFERENCE SYSTEM (GEOREF)

1. The GEOREF position reporting method, which has world wide application is used by the RAF but does not replace the National Grid System.

2. It is based on the graticule of the Earth, from a true origin at the South Pole and 180° meridan of longitude. The system divides the Earth into quadrangles, the sides of which are specific lengths of latitudes and longitude, each quadrangle being identified by a lettered code giving positive identification with no risk of ambiguity.

3. The system and code are as follows:

a. From the True origin, the Earth is divided eatwards into 24 longitudinal zones of 15° width, each zone being lettered A to Z inclusive (omitting I and O). Also from the True origin in a northerly direction, the Earth is divided into 12 latitudinal bands also 15° wide, lettered A to M inclusive (omitting I).

Thus the earth is split into 288 fifteen degree quadrangles, each being identified by two letters, the first letter representing the EASTING zone and the second letter the NORTHING zone. Most of the UK is positioned in the 15° quadrangle MK (Fig 1).

b. Each of the above 15° quadrangles are now sub-divided into 225 one degree quadrangles. These 1° quadrangles are formed by dividing the 15° quadrangles into zones 1° wide, in both the longitudinal and latitudinal directions, from the SW corner. Each 1° zone, in both directions, is lettered from A to Q (omitting I and O) starting from the SW corner of the 15° quadrangle, with the EASTING zone letter coming before the NORTHING letter.

Any one degree quadrangle may be identified by four letters, the first two being the reference of the 15° quadrangle (see a. above), the third letter being the 1° zone EAST of the SW corner of the 15° quadrangle and the fourth being the 1° zone NORTH of the SW corner of the 15° quadrangle. Thus we get SALISBURY in Wiltshire to be in the 1° quadrangle MKPG (Fig 2).

c. The 1° quadrangles are further sub-divided into 60 one-minute zones EASTWARDS and 60 one-minute zones NORTHWARDS from the SW corner of the 1° quadrangles, forming a total of 360 one-minute quadrangles, which are identified by four numerals represnting the EASTING and NORTHING measurement of minutes from the SW corner of the 1° quadrangle. The position of SALISBURY CATHEDRAL can now be written as MKPG 1204 (Fig 3). MKPG designates the 1° quadrangle (see b. above). The first two figures show the number of minutes EAST from the SW corner of the 1° quadrangle and the last two figures the number of minutes NORTH of the SW corner of the 1° quadrangle.

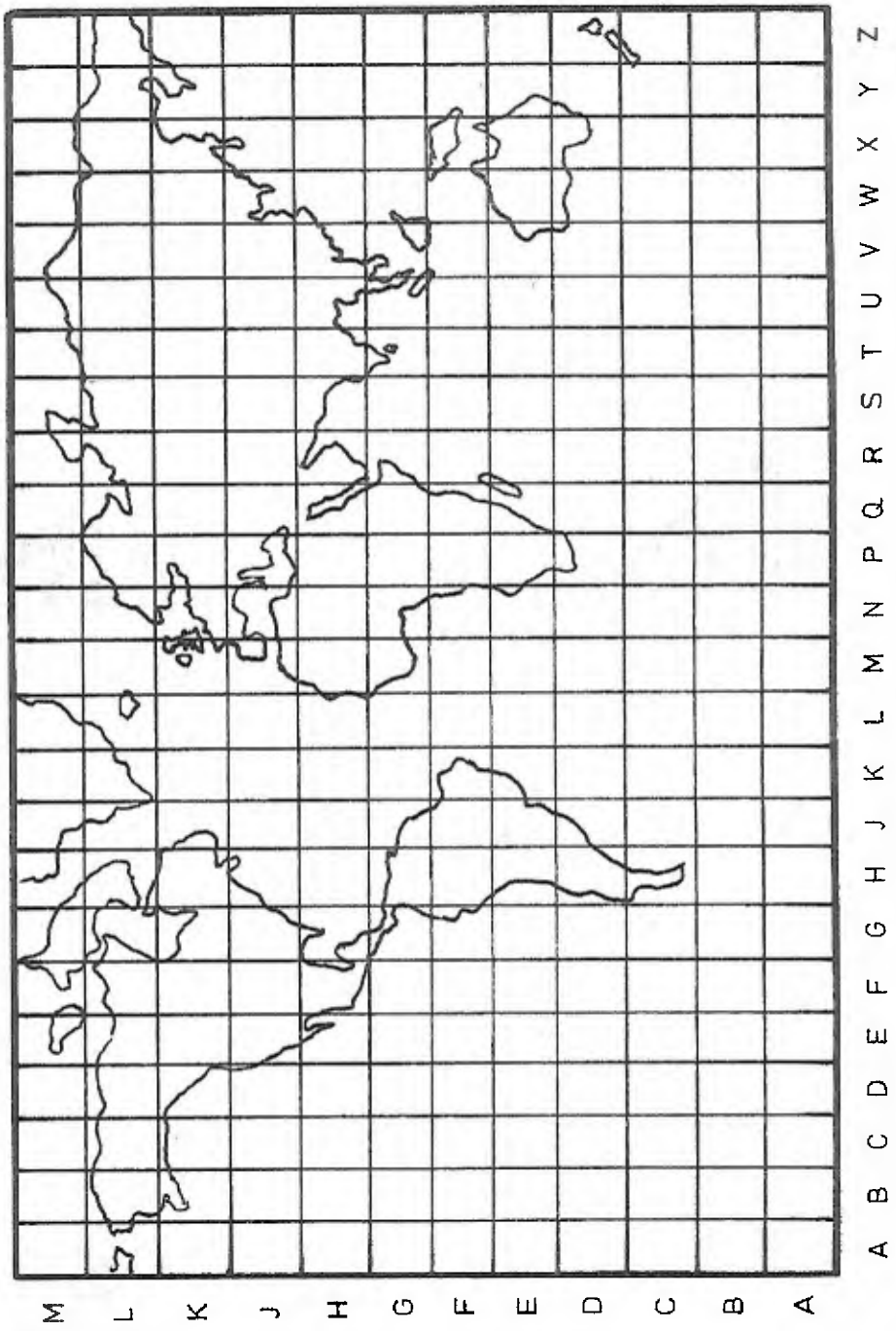

Fig 1

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NOV 81

The position is now reported to the nearest nautical mile. Where ambiguity with neighbouring 15^{o} quadrangles is not likely to occur, the first two letters may be dropped, ie when used for local operations the position becomes PG 1204.

d. If the greater accuracy is required for use on large scale maps the system is adaptable for expansion to accuracies of one tenth and one hundredth of a minute of latitude and longitude.

4. The system is used by military controllers to indicate a position during the handover of aircraft and during co-ordination of traffic with other controllers. However, civil and LJAO controllers do not use GEOREF; when communicating with these controllers other methods of position reporting should be used. Air defence controllers often use an abbreviated form of GEOREF in that they may well use just two GEOREF figures, hence SALISBURY CATHEDRAL could be described as PG 10.

A

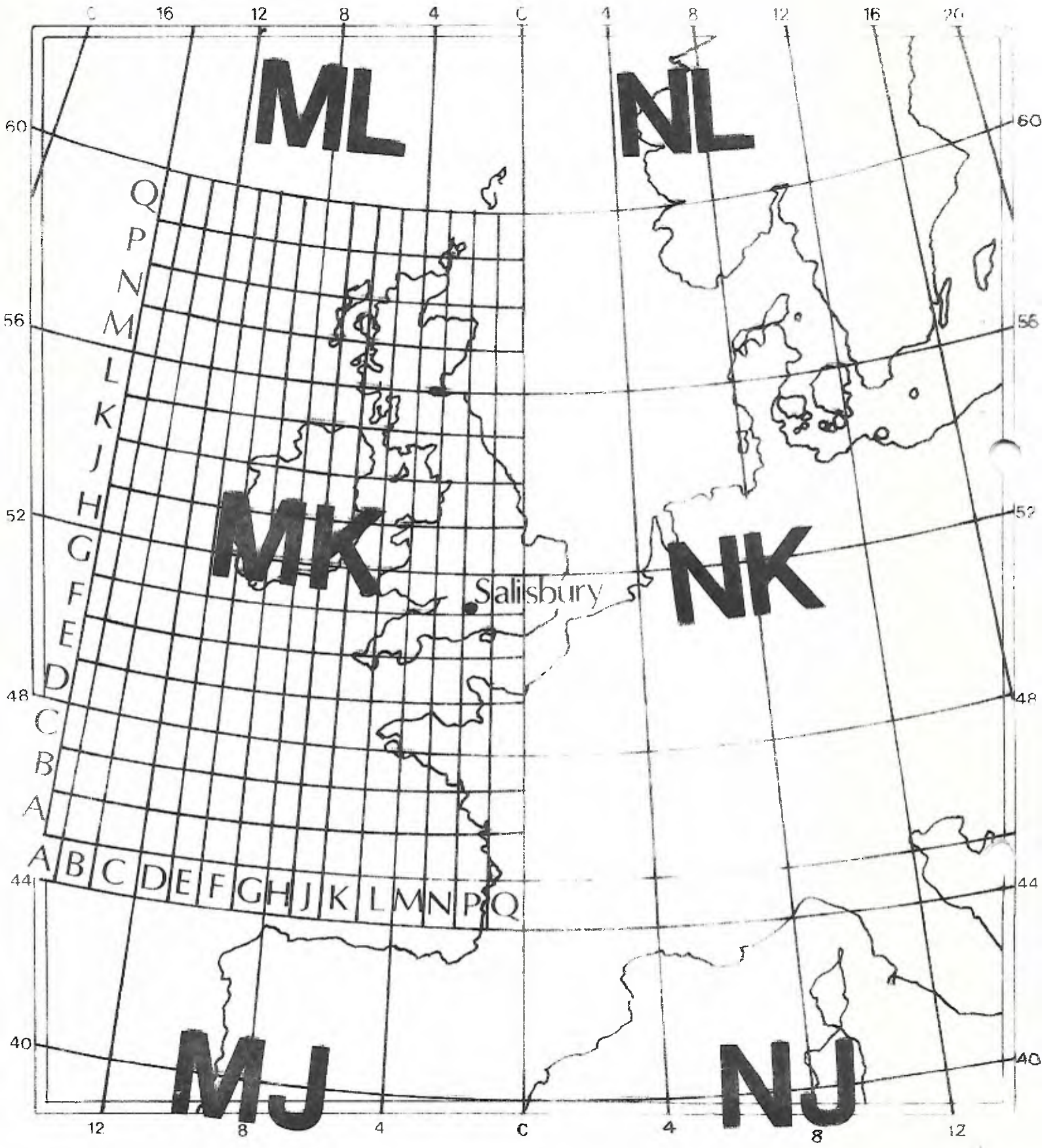
ML
NL
MK
NK
MJ
NJ
Salisbury
60
56
52
48
44
40
16
12
8
4
0
Q
P
N
M
L
K
J
H
G
F
E
D
C
B
A
A B C D E F G H J K L M N P Q

FIG 2

N6-4-5

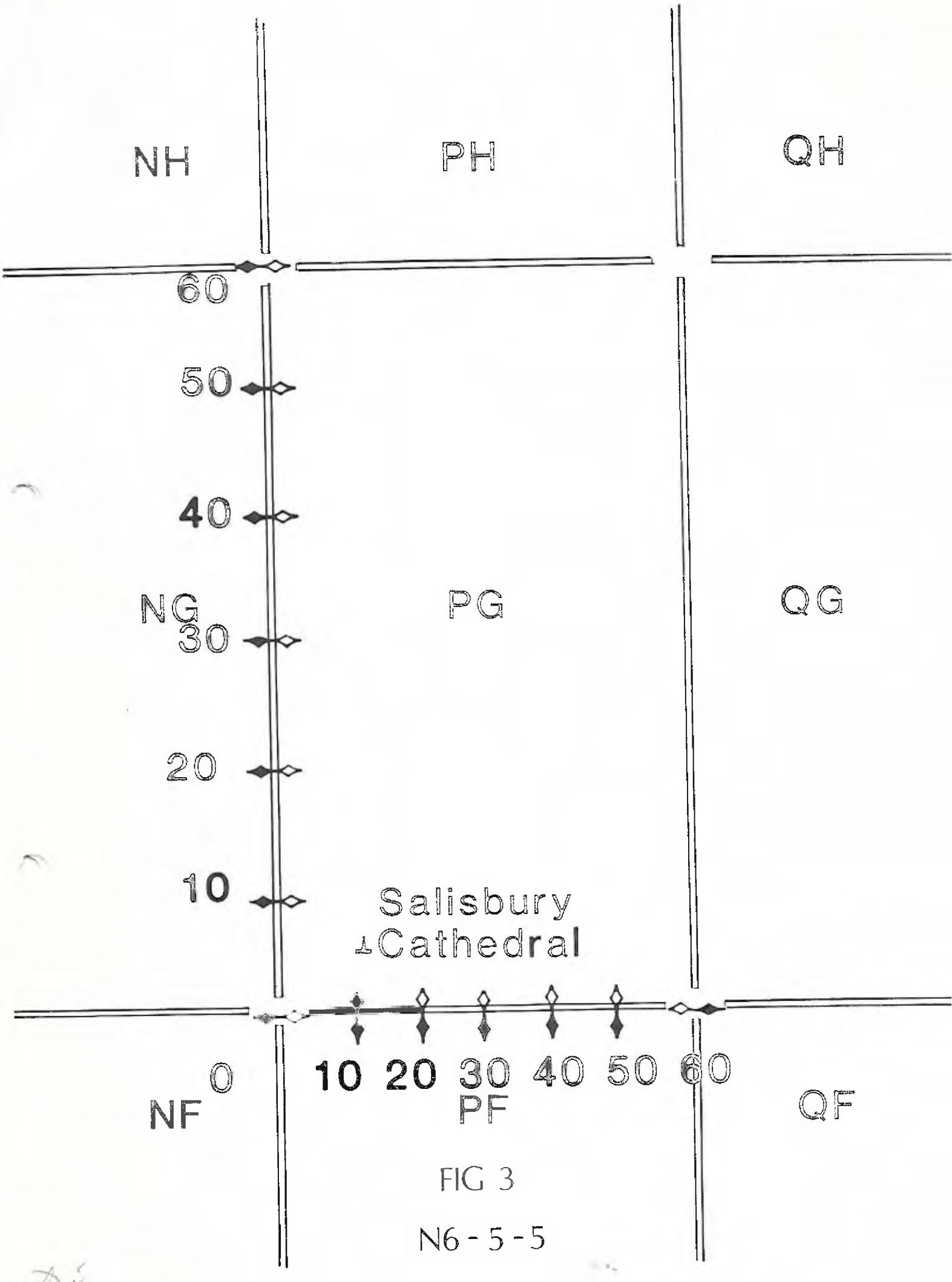
NH
PH
QH
60
50
40
NG
PG
QG
30
20
10
Salisbury
Cathedral
0
10 20 30 40 50 60
NF
PF
QF

FIG 3

N6 - 5 - 5