RADAR COVER DIAGRAMS

for

A.M.E.S. TYPES

1, 6 MK. 3 & 8, 7, 11 MK. 4,

14 MK. 6, 15 MK. 2, 27

50 SERIES

HQ. No 90 GROUP,
R. A. F.

FEBRUARY 1950.

RADAR COVER DIAGRAMS FOR A.M.E.S. TYPES

1. The cover diagrams contained in this folder have been derived from the latest available information and, where possible, have been adjusted by the incorporation of recent test flight results. Recent flights have been conducted by this Headquarters on A.M.E.S. Types 1, 7, 14 Mk.6 and 15 Mk.3.

2. The diagrams have been drawn on the assumption that:-

(i) The signal to noise ratio is one (Z = 1) for Floodlit stations (AMES Type 1)
" " " " " 3:2 (Z = 1½) for beam stations.

(ii) The comparative Aircraft echoing areas are:-

Meteor - 10
Mosquito - 19
B29 - 180

(iii) Conditions of normal atmospheric refraction prevail

(iv) The effective radius of the earth is 4307 nautical miles (4960 statute miles)

(v) The Types 1, 6, 11, and 15 are sited on flat sites.

3. In making any practical application of the diagrams, the following points should be considered:-

(i) ~~With aerials rotating at 6 revs. per minute, normal pick-up will be at a signal to noise ratio of 3:2 (Z = 3/2). Ranges in practise will consequently, be reduced by approximately 10%.~~

(ii) The cover produced by radar equipments is affected by the site and aerial heights, These effects have been worked out in detail for A.M.E.S. Types 6, 11 and 15 and are listed in the Air Publications mentioned on these diagrams.

(iii) The cover produced by A.M.E.S. Type I will vary according to site height and azimuth, and must be derived in detail for each station.

H.Q. No. 90 Group. J.E.F.
R.A.F.
February 1950. A.A.M.

RADAR COVER DIAGRAMS

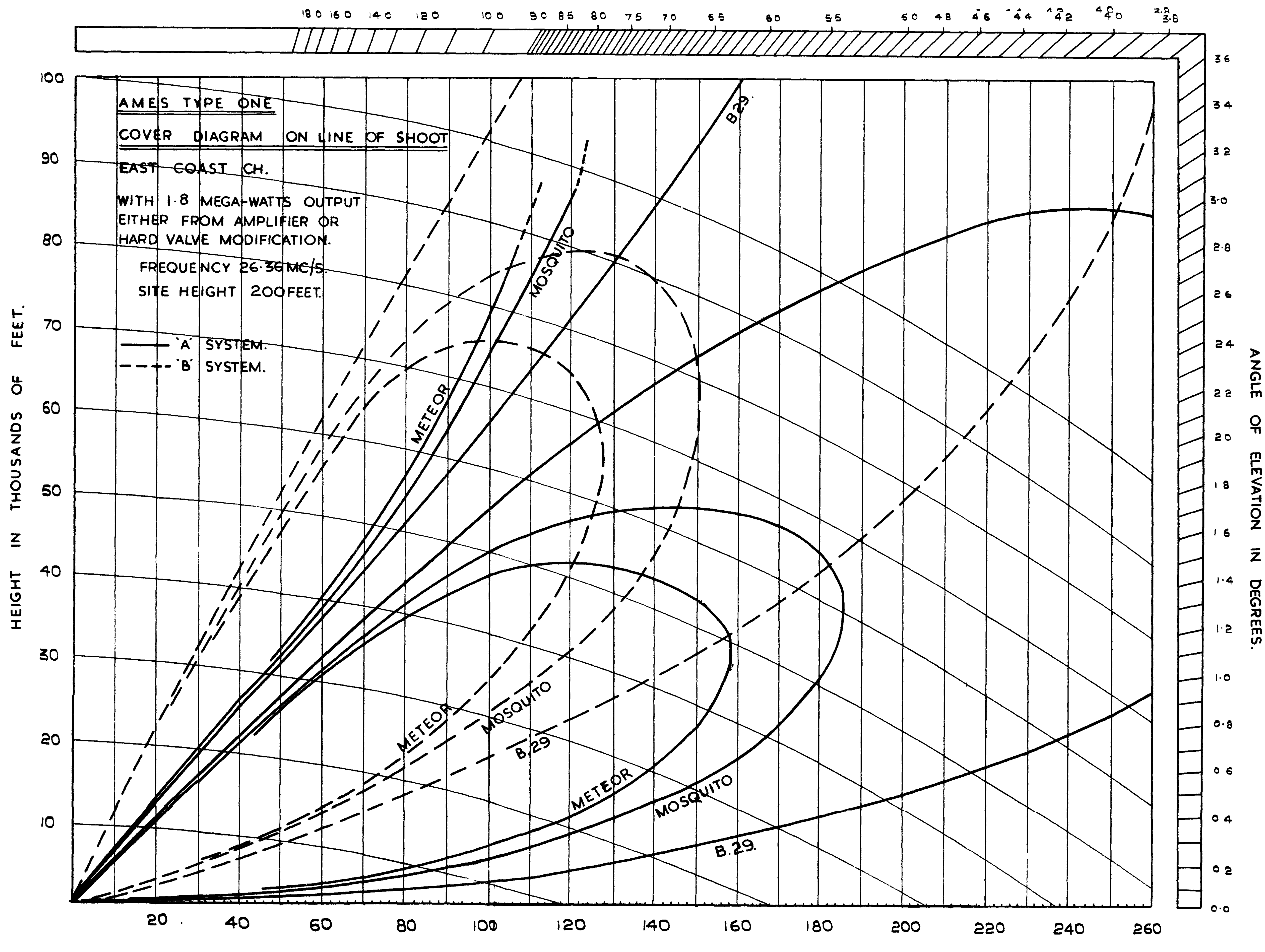
FOR

AIR MINISTRY EXPERIMENTAL STATIONS

CONTENTS

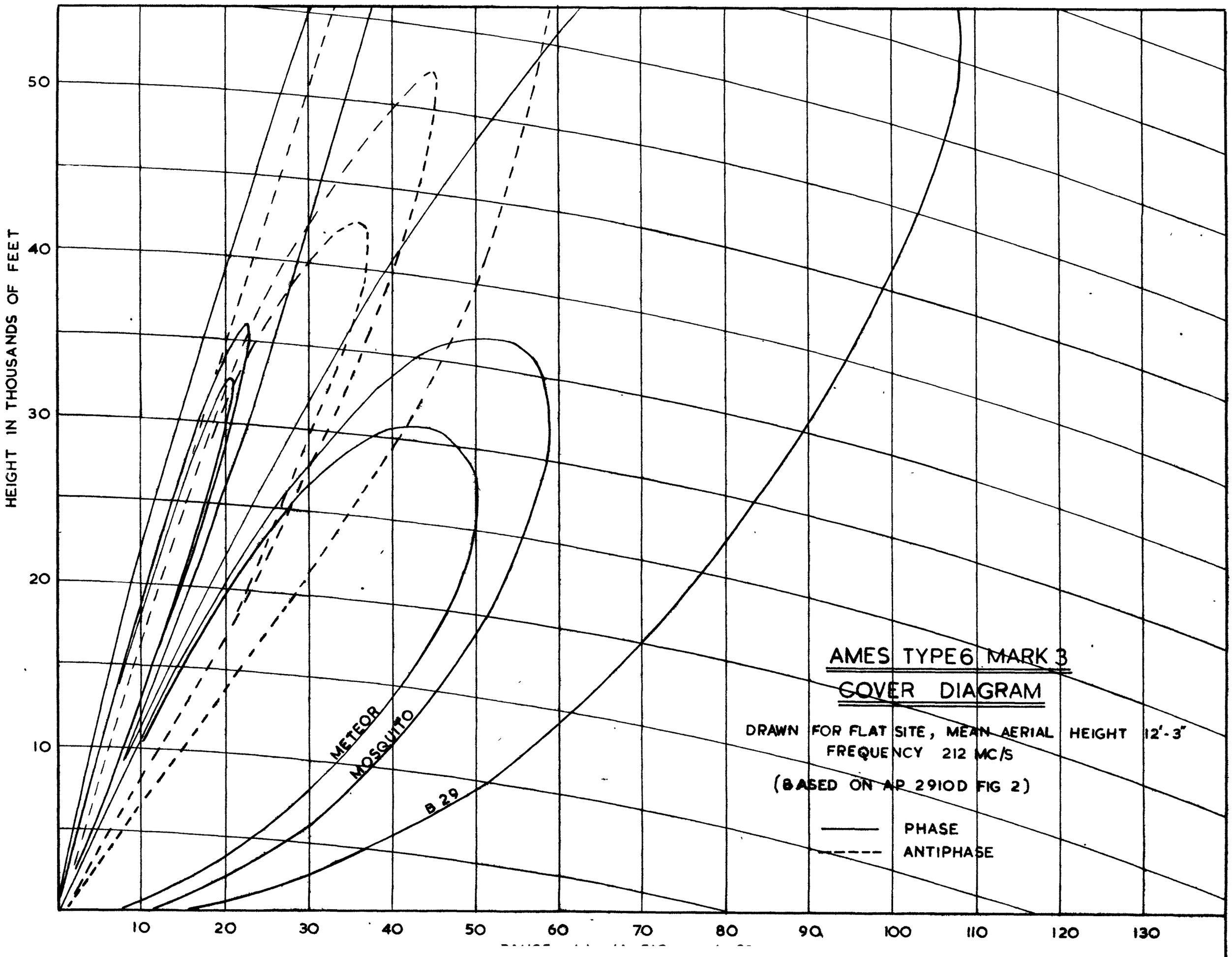
H.Q. No. 90 Group
R.A.F.

February 1950.



DRAWING Nº CAL/90/65.

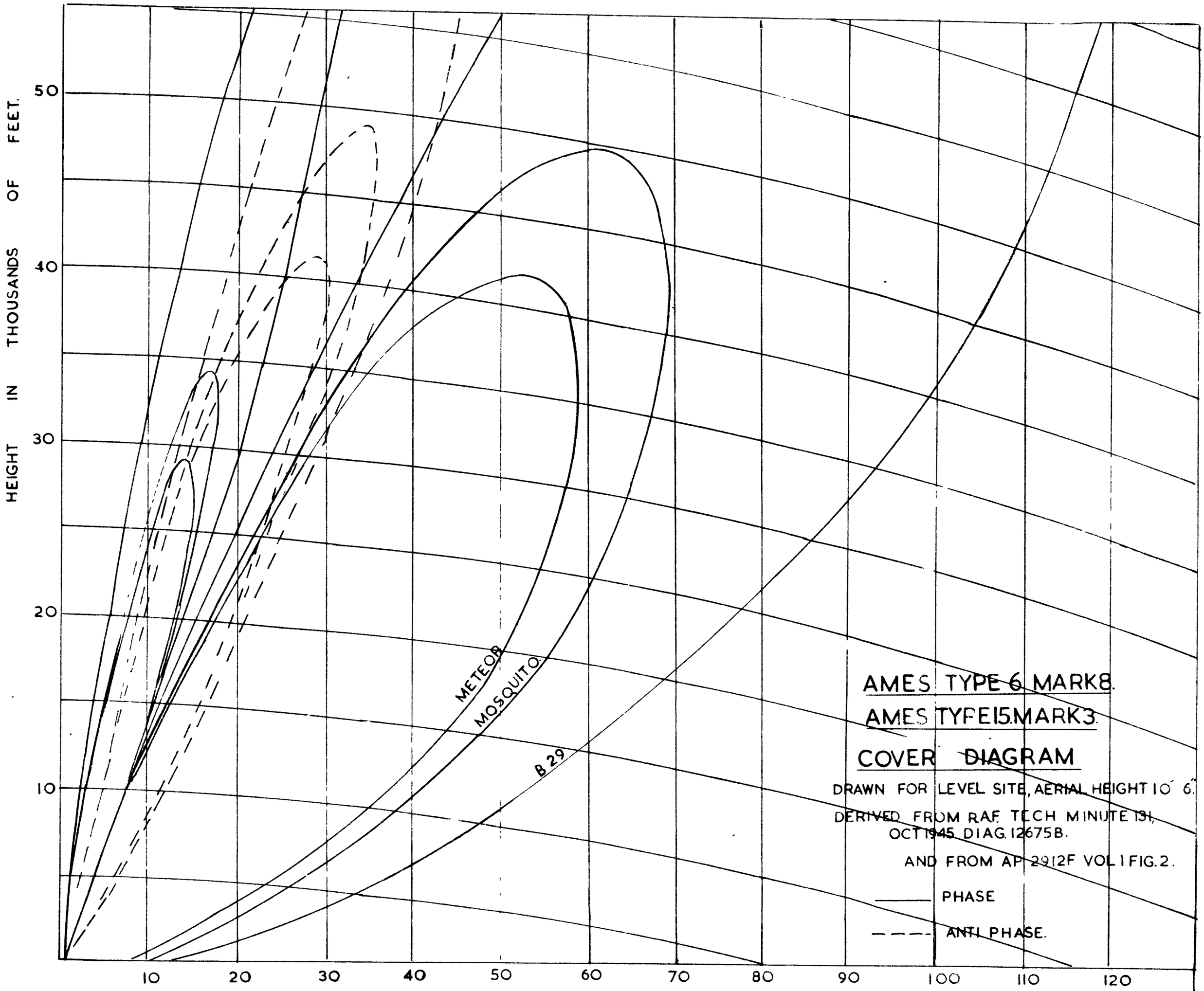
DRAWN	TRACED	DATE
[illegible]	[illegible]	30·1·50



RANGE IN NAUTICAL MILES

DRAWN	TRACED	DATE
J.E.S.	P.J.N.A.	10/1/50

DRG No CAL/90/58.



AMES TYPE 6 MARK 8.
AMES TYPE 15 MARK 3.
COVER DIAGRAM

DRAWN FOR LEVEL SITE, AERIAL HEIGHT 10' 6".

DERIVED FROM R.A.F. TECH MINUTE 131, OCT 1945 DIAG. 12675B.

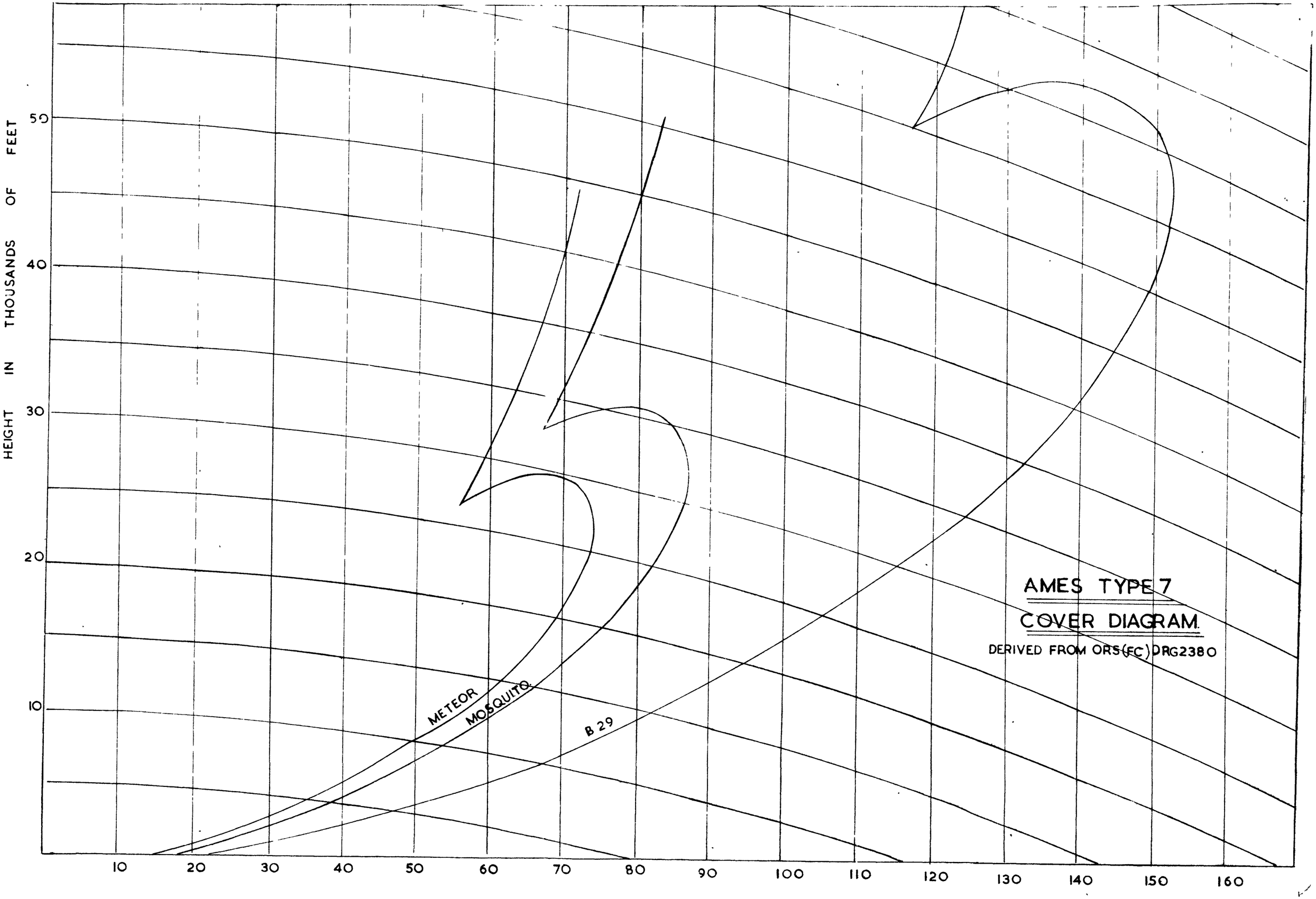
AND FROM AP 2912F VOL I FIG. 2.

——— PHASE

– – – – ANTI PHASE.

DRAWING No CAL/90/59

DRAWN	TRACED	DATE.
J.E.F.	P.B.H.S	23.1.50



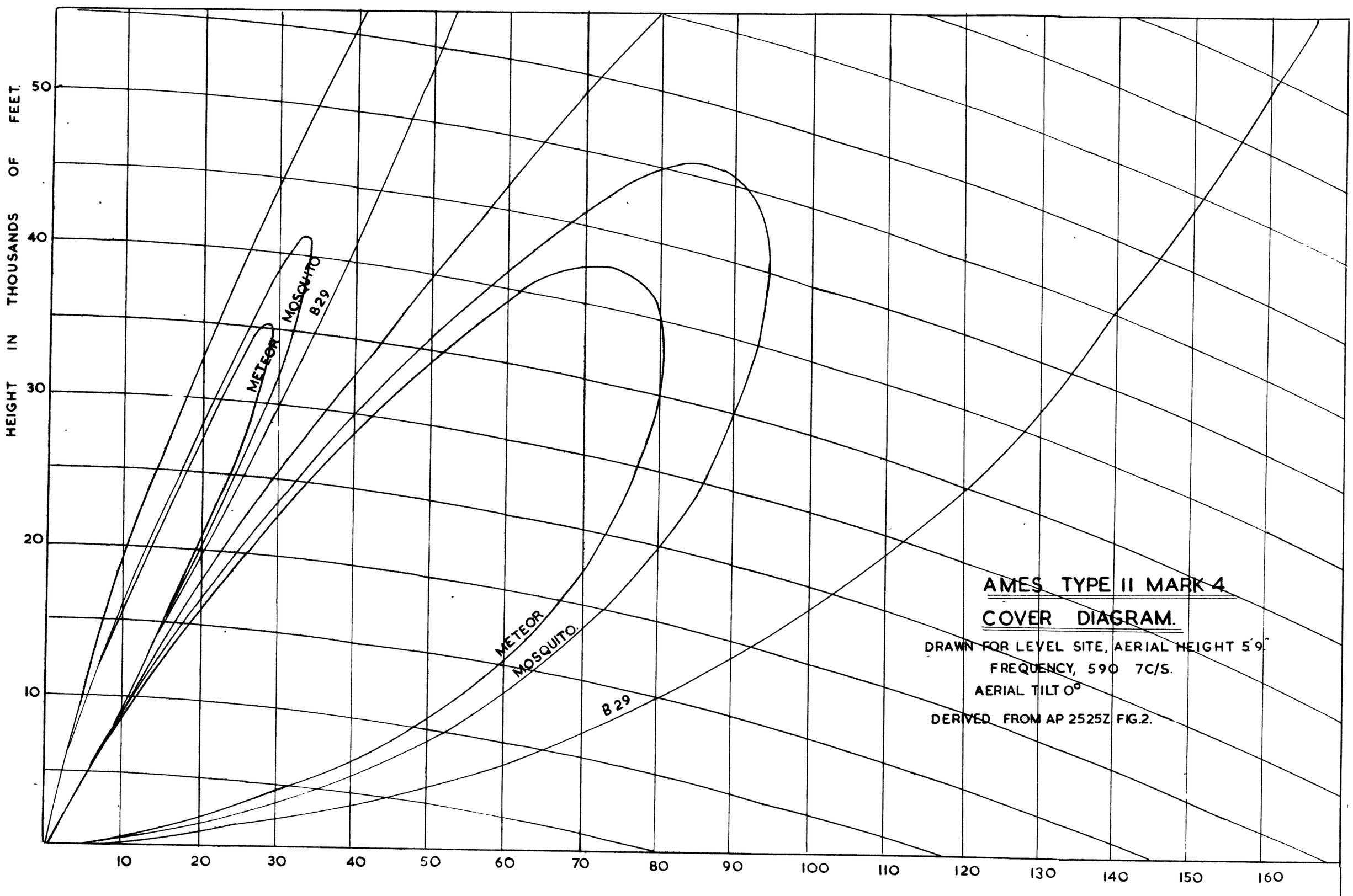
AMES TYPE 7

COVER DIAGRAM.

DERIVED FROM ORS(FC) DRG2380

CAL/90/64

DRAWN	TRACED	DATE
J.E.F.	P.L.U.S	27:1:50.



AMES TYPE 11 MARK 4

COVER DIAGRAM.

DRAWN FOR LEVEL SITE, AERIAL HEIGHT 5'9"

FREQUENCY, 590 7C/S.

AERIAL TILT 0°

DERIVED FROM AP 2525Z FIG.2.

DRG Nº CAL/90/62

DRAWN	TRACED	DATE
J.E.F.	P.E.H.S.	21/1/50

AMES TYPE 14 MK6
AMES TYPE 70 MK3&4.

COVER DIAGRAM

DERIVED FROM A.P. 2899F VOL.I.
SECTION1 CHAP. 2 FIG. 13.

HEIGHT IN THOUSANDS OF FEET.

50
40
30
20
10

UPPER AERIAL

B29

METEOR

MOSQUITO

LOWER AERIAL.

METEOR

MOSQUITO.

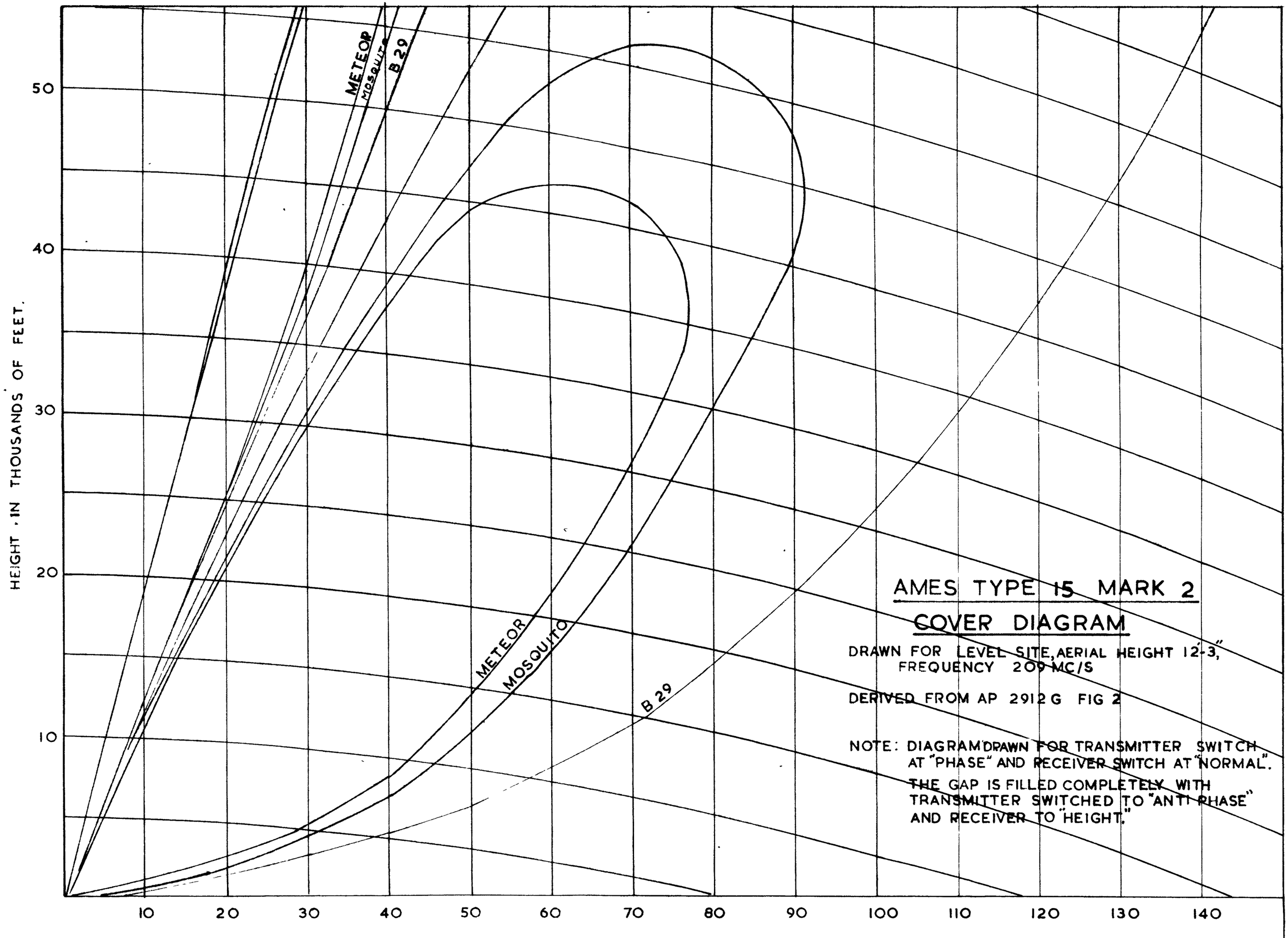
B29

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

RANGE IN NAUTICAL MILES.

DRG Nº CAL/90/63.

DRAWN	TRACED	DATE.
J.E.F.	P.E.N.S.	19:1'50.



AMES TYPE 15 MARK 2

COVER DIAGRAM

DRAWN FOR LEVEL SITE, AERIAL HEIGHT 12'-3", FREQUENCY 209 MC/S

DERIVED FROM AP 2912 G FIG 2

NOTE: DIAGRAM DRAWN FOR TRANSMITTER SWITCH AT "PHASE" AND RECEIVER SWITCH AT "NORMAL". THE GAP IS FILLED COMPLETELY WITH TRANSMITTER SWITCHED TO "ANTI PHASE" AND RECEIVER TO "HEIGHT."

DRG No CAL/90/61

DRAWN	TRACED	DATE
J.G.F.	P.J.N.A.	13/1/50

HEIGHT IN THOUSANDS OF FEET.

50
40
30
20
10

HIGH COVER.

MAIN COVER

METEOR
MOSQUITO
B 29

METEOR
MOSQUITO
B 29

AMES TYPE 27
COVER DIAGRAM

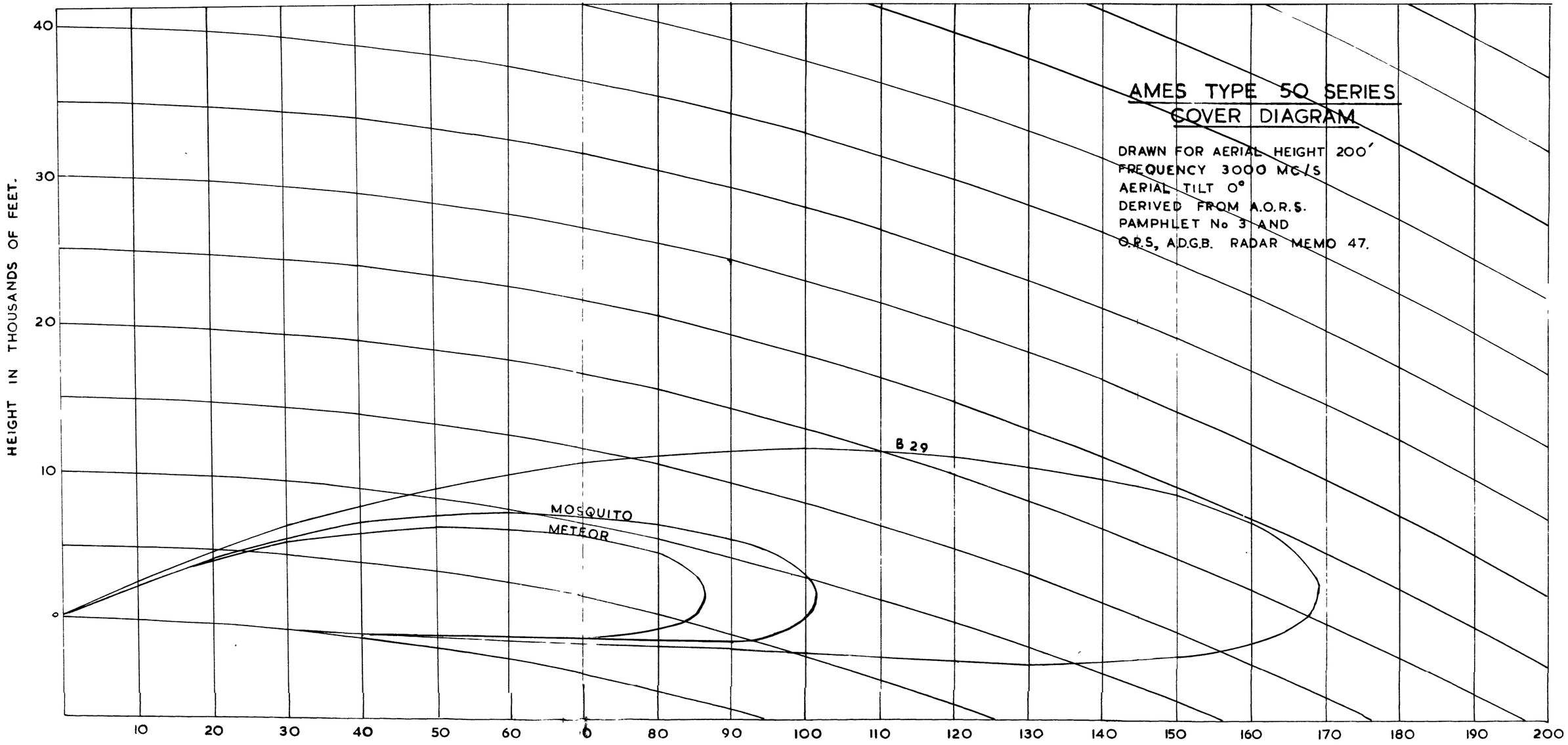
DERIVED FROM TRE DIAG.
NO. RTR10/5921.

10 20 30 40 50 60 70 80 90 100 110

RANGE IN NAUTICAL MILES.

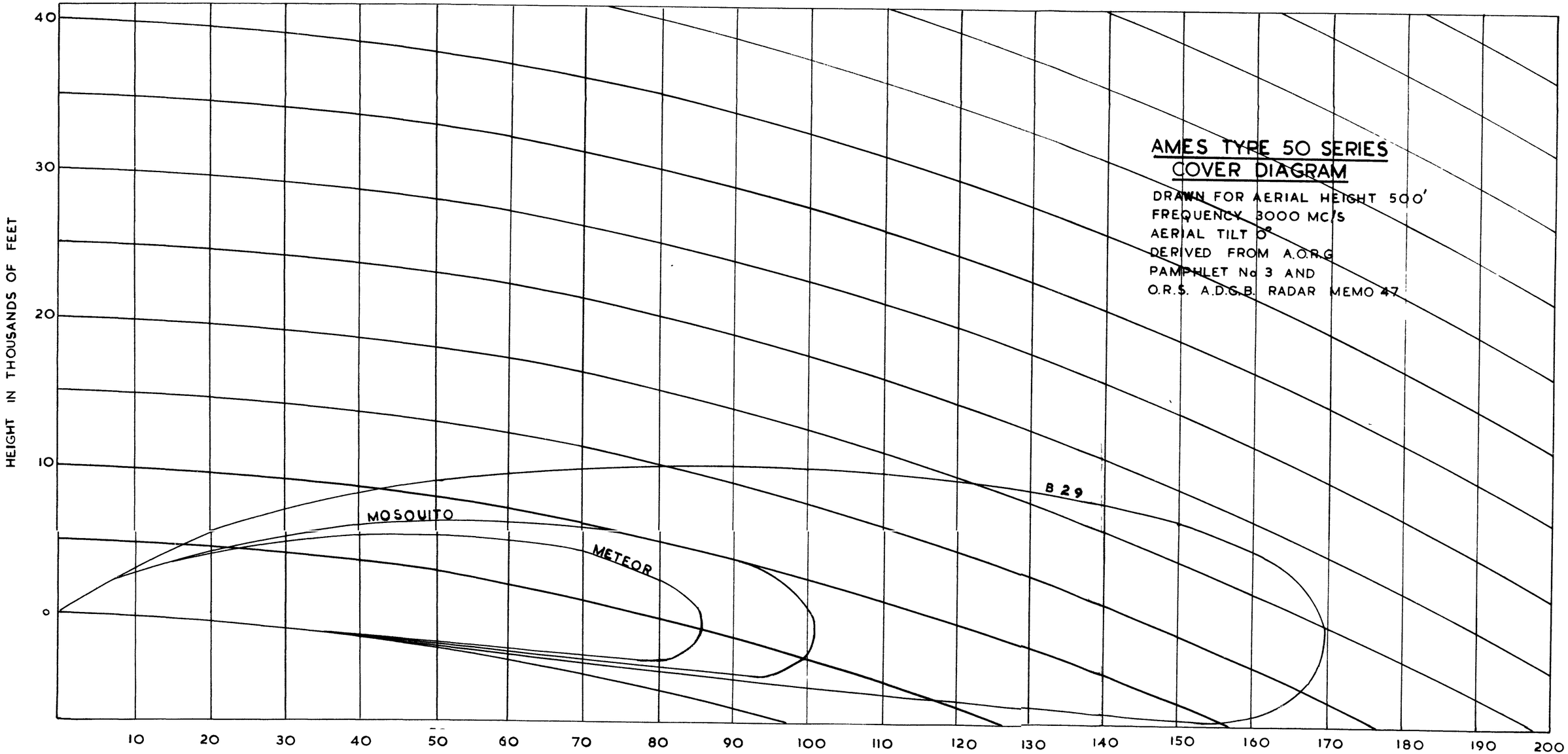
DRG No CAL/90/60

DRAWN	TRACED	DATE
J.E.F.	P.L.M.S.	26.1.50



DRG No CAL/90/66

DRAWN	TRACED	DATE
[illegible]	P.J.A.	4·2·50



DRG No CAL/90/67

DRAWN	TRACED	DATE
[signature]	P. J. A.	4-2-50