

SQA - Chief Mate Navigation - Tues 23rd March 2004.

(Joe)

1.) b) Indirect route 1st leg. Dep Lizard 49° 52' N MP 3444.14 005° 10' W
 (Mercator Sg) Wpt Azores 36° 40' N MP 2353.66 024° 45' W

Dlat 13° 12' S DMP 1090.48 19° 35' W
 792' S 1175' W

$$\tan C = \frac{Dlong}{DMP} = \frac{1175}{1090.48} \therefore C = 547.13659 W$$

$$\frac{Dlat}{\cos C} = Dist = \frac{792}{\cos 47.13659} = 1164.27285 = \underline{1164.3}$$

2nd leg (GC) 36° 40' N PA 53.33333 024° 45' W
 to Sembrero 18° 50' N PB 71.16667 063° 40' W

38° 55' W = 38.91667

$$\begin{aligned} \cos AB &= \cos P \sin PA \sin PB + \cos PA \cos PB \\ &= \cos 38.91667 \sin 53.33333 \sin 71.16667 + \cos 53.33333 \cos 71.16667 \\ &= 38.42156 \end{aligned}$$

$$= 2305.294 = 2305.3$$

$$+ 1^{st} \text{ leg dist} = 1164.3$$

** Indirect Distance = 3469.6 n.m

c) GC spd = 9k - 0.25k (unfavourable current) = 8.75k

$$S.T. = \frac{Dist}{Spd} = \frac{3333}{8.75} = 380.91429 \text{ hrs} = 15d 20h 55m$$

Indirect spd = 9k + 0.4 (favourable current) = 9.4k.

$$S.T. = \frac{3469.6}{9.4} = 369.10638 \text{ hrs} = 15d 09h 06m$$

** Indirect Saving = 11h 49m

Choose Indirect route:

- Shortest
- Better weather
- Favourable current.
- Less hazard to ship and cargo.

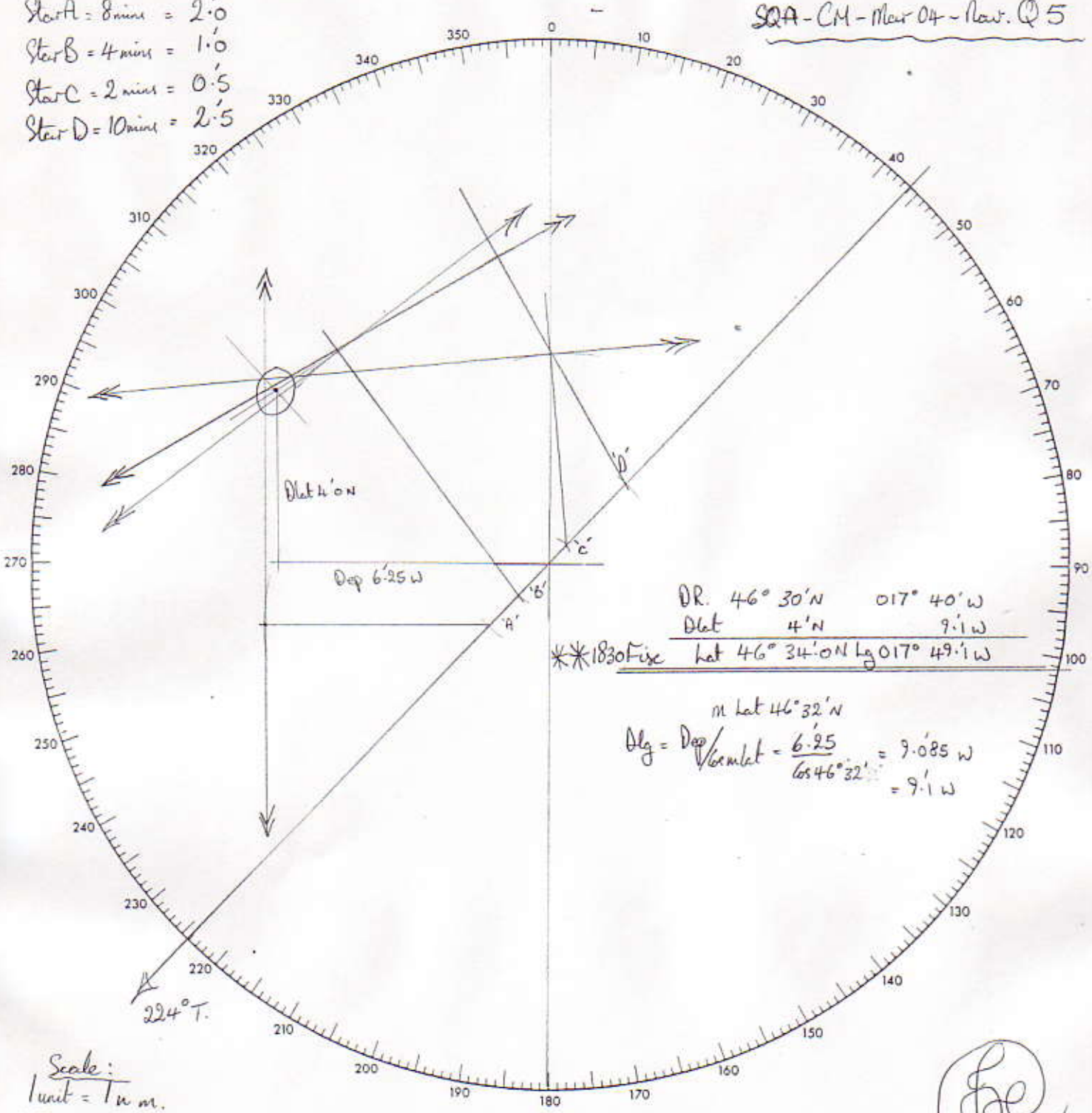
(Joe)

FLEETWOOD NAUTICAL COLLEGE RADAR PLOTTING SHEET

SQA - CM - Mar 04 - Nav. Q 5

Runs: @ 15k

Star A = 8 mins = 2.0
 Star B = 4 mins = 1.0
 Star C = 2 mins = 0.5
 Star D = 10 mins = 2.5



DR. $46^{\circ} 30' N$ $017^{\circ} 40' W$
 Dlat $4' N$ $9.1 W$
 ***1830 Fix Lat $46^{\circ} 34' 0'' N$ Lg $017^{\circ} 49.1' W$

m Lat $46^{\circ} 32' N$
 $Alg = \frac{Dep}{\sin Lat} = \frac{6.25}{\sin 46^{\circ} 32'} = 9.085 W$
 $= 9.1 W$

Scale:
 1 unit = 1 n.m.

(Loe)



(This is not a metric scale)

Signature of Candidate.....

TARGET	1	2	3	4	5	6
CPA						
TCPA						
TCO						
SP						
ASPECT						

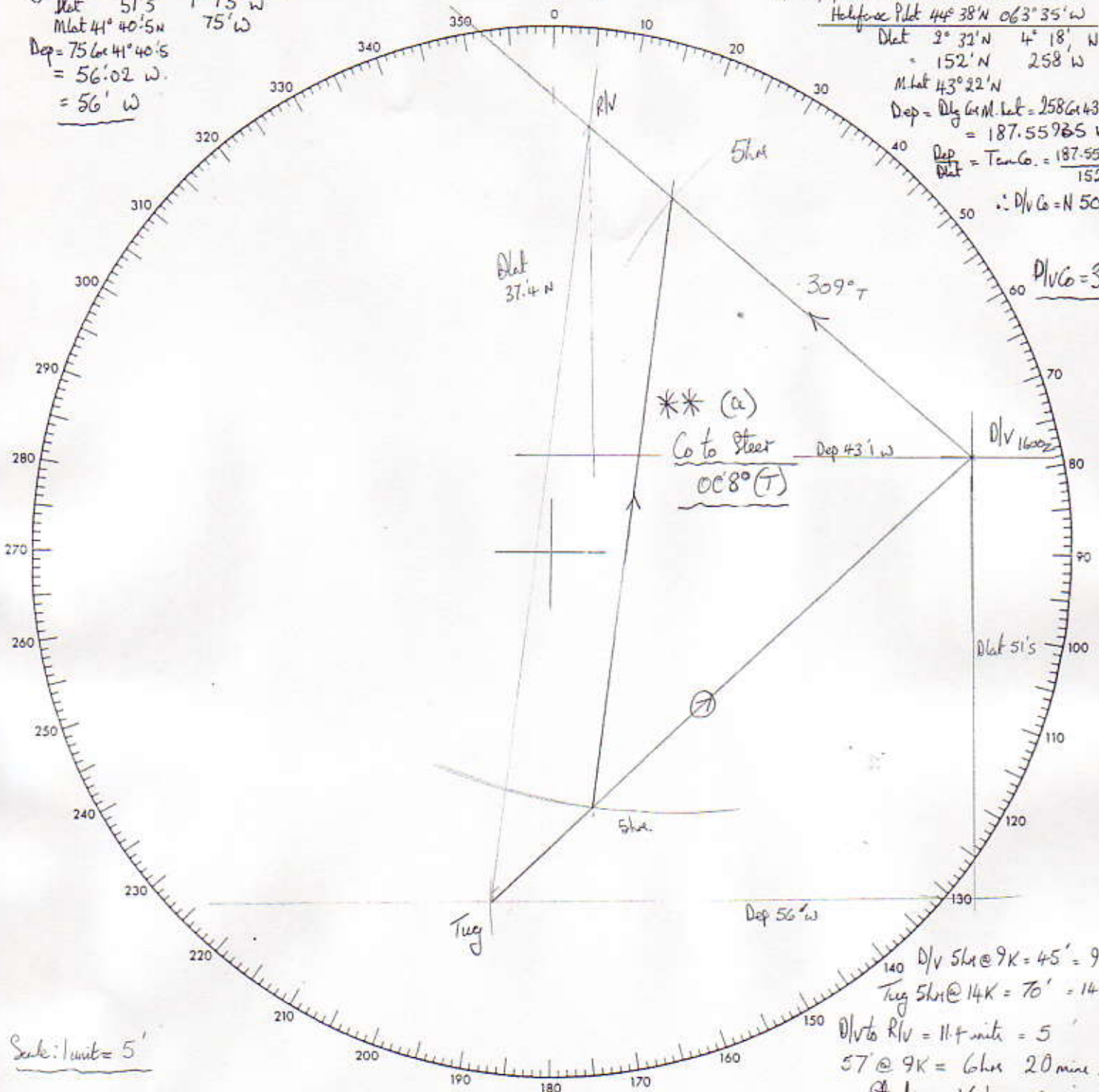
FLEETWOOD NAUTICAL COLLEGE

RADAR PLOTTING SHEET

SDA - CM - Mar. 04. Q2.

D/V 1600z 42° 06' N 059° 17' W
 Tug 41° 15' N 060° 32' W
 Dist 51.5 1.15 W
 M. Lat 41° 40.5' N 75' W
 Dep = 756 x 41° 40.5' = 56.02 W.
 = 56' W

D/V 27/7/76 @ 1600z 42° 06' N 059° 17' W
 Helicopter Pilot 44° 38' N 063° 35' W
 Dist 2° 32' N 4° 18' W. Dlg
 = 152' N 258' W
 M. Lat 43° 22' N
 Dep = Dlg Cos M. Lat = 258 Cos 43° 22' N
 = 187.55985 W
 $\frac{Dep}{Dist} = \tan Co. = \frac{187.55985}{152}$
 $\therefore D/V Co = N 50.984$



D/V Co = 309° T

Scale: 1 unit = 5'



(This is not a metric scale)

① 40° N 19.19 LMT
 45° N 19.33 LMT
 $\therefore 42.434$ 19.27 LMT

TARGET	1	2	3	4	5	6
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TCPA						
TCO						
SP						
ASPECT						

Signature of Candidate.

D/V Dist 42° 06' 059° 17' W
 R/V Dist 37.4 N 58.4 W
 R/V Lat 42° 43.4' N 060° 15.4' W
 M. Lat 42° 24.7' N
 $Dlg = Dep / \cos m. lat = \frac{43.1}{\cos 42.247} = 58.376 W$
 27th Sunset 19 h 27 LMT.
 LIT 060° 15.4 W 04 h 01 m
 Sunset 23 h 28 m GMT.
 ETA R/V 22 h 20 m
 Daylight remaining = 1 hr 08 m

** (c)