Form 435 - Printed in U.S.A. 11/95

WORK SHEET

Project
Type of Work VENUS ABC

Estimator REE
Date 3/16/26

Item No.
Sheet No. 1A

5 JUL 1982 12:03:58 UT VENUS

DRLAT 46°30'N
DRLON 127°49'W

v -0.7 d 0.5

			GHA	DEC
Hs	12°	06.5'	32° 37.1'	N 20° 48.7'
IC		0	0° 59.5'	
DIP		-2.9	33° 36.6'	N 20.81°
Ha	12°	03.6'		
Venus		+0.1'		
		-4.5' = 0.97 / tan 12.06°	33.61°	LAT = 46.5°
Ho	11°	59.2'		
		11.99°		

ZD = 78.01

A = cos 78.01 / cos 20.81 / cos 46.5 = 0.32286

B = tan 20.81 × tan 46.5 = 0.40050

C = -0.07764 ∴ dLON = 94.45°

LON$_1$ = 33.61° + 94.45° = 128.06° = 128° 3.8'

A = cos 78.01 / cos 20.81 / cos 46.7 = 0.32405

B = tan 20.81 × tan 46.7 = 0.40331

C = -0.07926 ∴ dLON = 94.55°

LON$_2$ = 33.61° + 94.55° = 128.16° = 128° 9.4'

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WORK SHEET

Project
Type of Work VENUS INTERCEPT

Estimator REE
Date 3/16/26

Item No.
Sheet No. 2A

5 JUL 1982 12:03:58 UT VENUS DR LAT 46° 30' N
DR LON 127° 49' W

H_o 11.99° GHA DEC AP LAT = 46°

3D = 78.01° 33.61° N 20.81° AP LON = 127° 36.6'
33° 36.6'

~~P = sin~~ LHA: 266°

P = sin 46 × sin 20.81 = 0.25556

Q = cos 46 × cos 20.81 × cos 266 = −0.04530

R = 0.21026 ∴ H_c = 12.14° ~~D~~ = 12° 08.4'

H_o = 11.99° = 11° 59.4'

a = 9.0 AWAY

W = sin 20.81 / cos 46 / cos 12.14 = 0.52313

X = TAN 46 × tan 12.14 = 0.22275

Y = 0.30038 ∴ Z = 72.52° = Zn

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WORK SHEET

Project
Type of Work SUN ABC

Estimator REE
Date 3/16/26

Item No.
Sheet No. 1B

5 JUN 1982 15:43:55 UT SUN LL

DR LAT 46° 09' N
DR LON 127° 58' W

Hs 27° 24.0'
IC 0
DIP -2.9

REFR = 0.97 / tan 27.35 = 1.9

Ha 27° 21.1'
REFR -1.9'
SD +15.7' } 13.8 FROM ALT CORR = 14.2 ?

$SD_{SUN} = 16' + 0.27' \times \cos(0.986 \times 186 - 4) = 15.7'$

Ho 27° 34.9' (27.58°)

ZD = 62.42°

d = 0.2

GHA	DEC
43° 52.6'	N 22 46.8 ↓
10° 58.8'	-.1
54° 51.4'	N 22° 46.7'
54.86°	22.78°

LAT
46.15°

A = cos 62.42 / cos 22.78 / cos 46.15 = 0.72485

B = tan 22.78 × tan 46.15 = 0.43716

C = 0.28769 ∴ dLON = 73.28°

LON_1 = 54.86 + 73.28 = 128.14° (128° 8.4')

A = cos 62.42 / cos 22.78 / cos 46.4 = 0.72816

B = tan 22.78 × tan 46.4 = 0.44099

C = 0.28717 ∴ dLON = 73.31° (73° 18.7')

LON_2 = 54.86 + 73.31 = 128.17° (128° 10.2')

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WORK SHEET

Project
Type of Work SUN INTERCEPT

Estimator REE
Date 3/16/26

Item No.
Sheet No. 2B

5 JUN 1982 15:43:55 UT SUN LL DR LAT 46° 09'N
DR LON 127° 58'W

H_o 27° 34.9'

GHA	DEC
54° 51.4'	22.78°

AP LAT = 46°
AP LON = 127° 51.4°
LHA = ~~73~~° 287°

P = sin 46 × sin 22.78 = 0.27852

Q = cos 46 × cos 22.78 × cos 287 = 0.18726

R = 0.46578 ∴ H_c = 27.76° = 27° 45.6' ∴ a = 10.7 AWAY

W = sin 22.78 / cos 46 / cos 27.76 = 0.62988

X = tan 46 × tan 27.76 = 0.54505

Y = 0.08483 ∴ Z = 85.1° = Zn