

Ocean Navigator Noon Sight Example 1 Jan 2022

Date 26 May 1814 Ship Deniston

DR Lat $35^{\circ}20'S = -35.333^{\circ}$ HE = 20 feet = 6.1 m
Lon $21^{\circ}10'E = 21.166^{\circ}$ Dec $21^{\circ}12'N = 21.2^{\circ}$

Sun LL
Dip = $0.0293 \sqrt{HE} = 0.0293 \sqrt{6.1} =$

Refraction = $0.0162 / \tan(H_a(m)) =$

SD = $0.266 + 0.0045 \cdot \cos(0.986 \cdot d \text{ Day})$
d Day = 143

$$\begin{array}{r} H_s = 33^{\circ}22.7' = 33.378^{\circ} \quad X=0 \\ \underline{0.072} \\ H_a = 33.306^{\circ} \\ \underline{0.024} \\ 33.282^{\circ} \\ \underline{0.262^{\circ}} + \\ H_o = 33.544^{\circ} \\ \text{circled } H_o = 33^{\circ}32.6' \end{array}$$

Lat = ZD + Dec. Sun shadows South - ZD

Lat = $-(90^{\circ} - H_o) + \text{Dec.}$

Lat = $-(90^{\circ} - 33.544^{\circ}) + 21.2^{\circ} = -35.256^{\circ} \rightarrow \text{circled } 35^{\circ}15.4'S$

