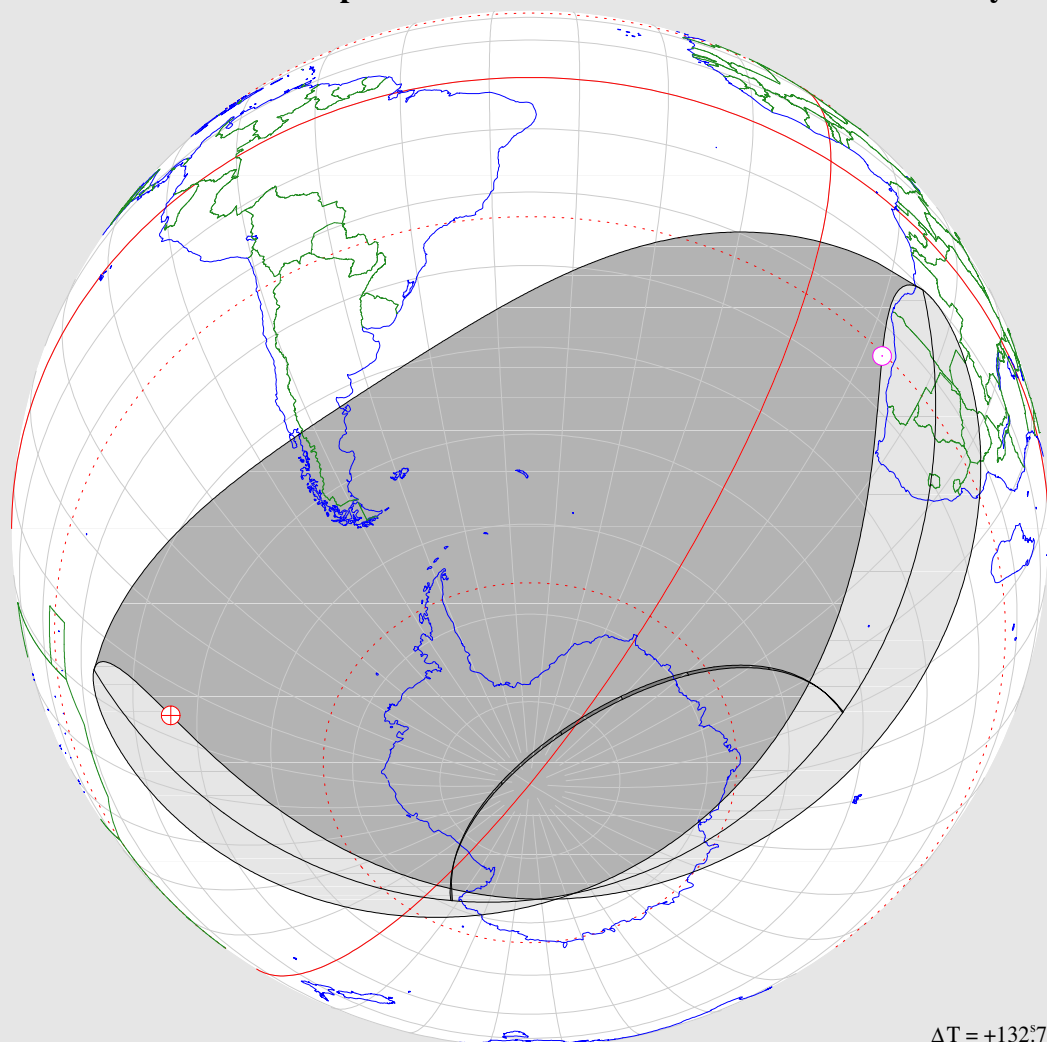


## II. - Annular-Total Eclipse of the Sun

1609 February 04



©HM Nautical Almanac Office

$\Delta T = +132^s.7$   
Globe centred on W 35°5' and S 60°5'

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	13 29.0	W126 00.1	S 46 07.1
Beginning of northern limit of penumbra	13 56.0	W125 58.6	S 32 44.2
Beginning of northern limit of umbra	15 00.9	E 172 18.3	S 70 52.4
Beginning of centre line; central eclipse begins	15 01.0	E 172 04.1	S 70 54.9
Beginning of southern limit of umbra	15 01.2	E 171 49.8	S 70 57.4
Central eclipse at local apparent noon	15 20.9	W 46 31.6	S 87 05.3
End of southern limit of umbra	16 22.0	E 50 27.1	S 52 47.8
End of centre line; central eclipse ends	16 22.1	E 50 23.1	S 52 44.8
End of northern limit of umbra	16 22.3	E 50 19.1	S 52 41.8
End of northern limit of penumbra	17 27.0	E 14 52.0	S 10 06.7
⊙ Eclipse ends; last contact with Earth	17 54.1	E 12 29.3	S 23 53.3