Example 2 Polaris Sights Using *GPS Backup* Almanac*

Refraction Correction	
Hs	*Ref Cor*
4°	–11.7′
6°	–8.5′
8°	–6.6′
10°	–5.3′
12°	–4.5′
14°	–3.8′
18°	–3.0′
20°	–2.6′
26°	–2.0′
32°	–1.5′
42°	–1.1′
50°	–0.8′
60°	–0.6′
70°	–0.4′
80°	–0.2′

Dip Correction		
HE(ft)	*HE(m)*	*Dip Cor*
4	1.2	–1.9′
6	1.8	–2.4′
8	2.4	–2.7′
10	3.0	–3.1′
12	3.7	–3.4′
15	4.6	–3.8′
20	6.1	–4.3′
25	6.7	–4.9′
30	9.1	–5.3′
35	9.8	–5.5′
40	12.2	–6.1′

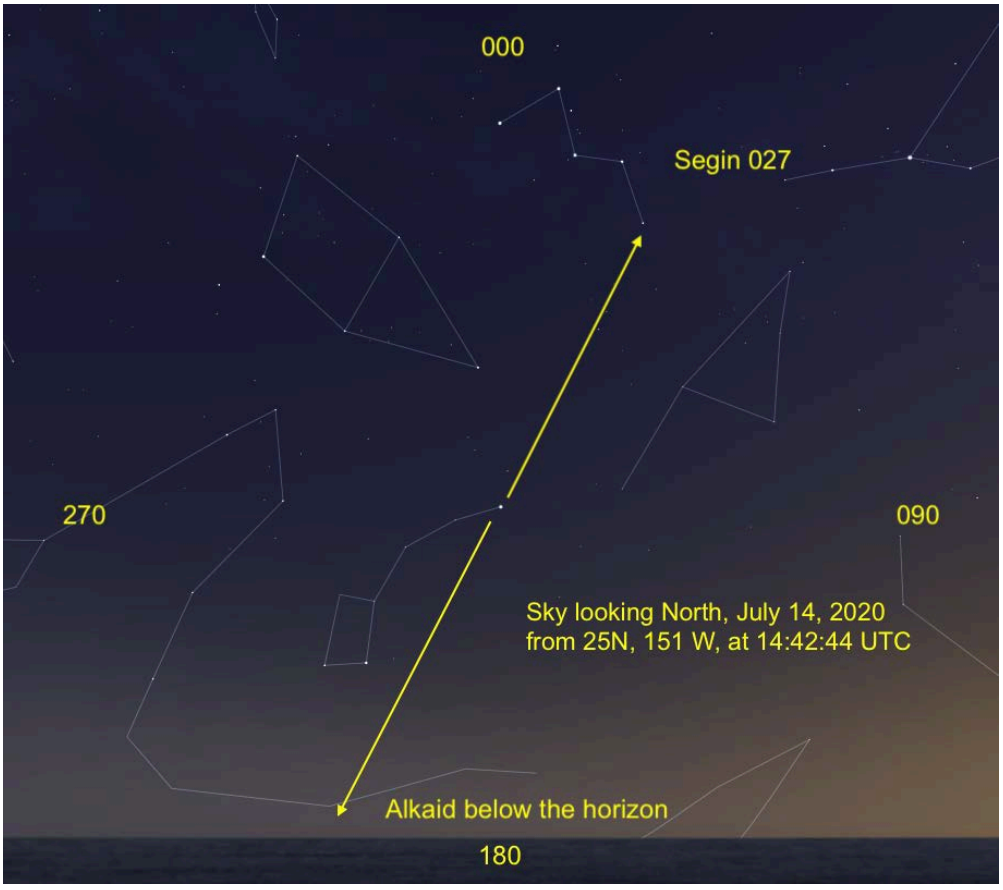
Polaris Correction		
S	*A*	*Q*
180	000	+38′
195	015	+35′
210	030	+28′
225	045	+20′
240	060	+12′
255	075	00′
270	090	-12′
285	105	-20′
300	120	-28′
315	135	-35′
330	150	-38′
345	165	-40′
000	180	-38′

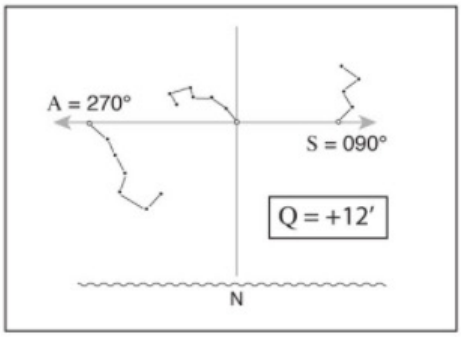
Polaris Correction		
S	*A*	*Q*
000	180	-38′
015	195	-35′
030	210	-28′
045	225	-20′
060	240	-12′
075	255	00′
090	270	+12′
105	285	+20′
120	300	+28′
135	315	+35′
150	330	+38′
165	345	+40′
180	360	+38′

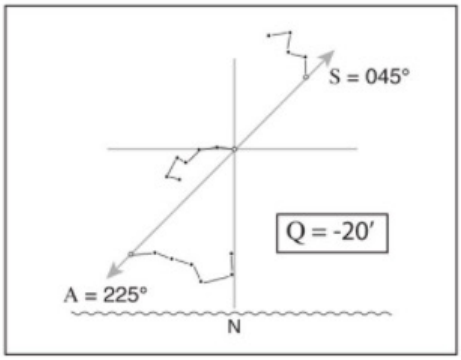
Regiment of the Pole	
	Angle 0° to 360°
Segin S =	027
Alkaid A =	---
Q =	-29

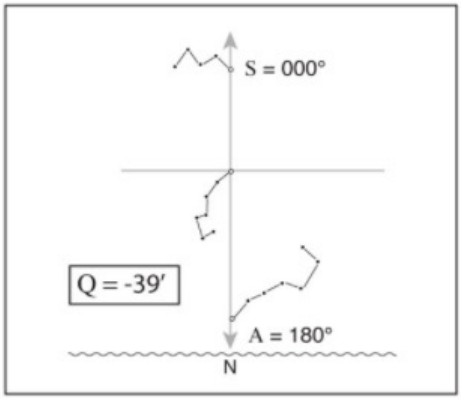
Latitude found by full Nautical Almanac Solution is 24° 54.5, so we are within 1 mile.

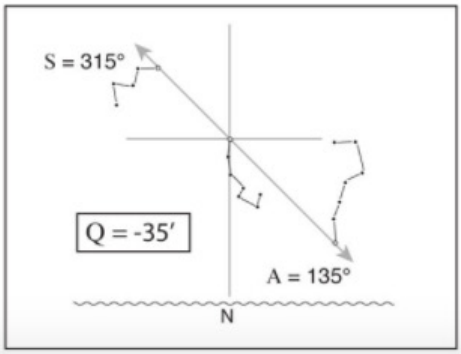
July 14, 2020	hr	min	sec
UTC Polaris sight =	14	42	44
DR (Lat, Lon) =	25 N, 151° W		
		degrees	minutes
Hs-Polaris =		25	29.4
(+Off, - On) IC =	±		0.0
(from HE) Dip =	–		-3
Ref =	–		-2
(sum above) Ho =		25	24.4
Q =	±		-29
Lat =		24	55.4











* Perpetual Sun Almanac and Polaris Corrections from *GPS Backup with a Mark 3 Sextant* by David Burch (Starpath Publications, Seattle, @019)