

1 ZT 11 01 DR L 20° 57.7' S
 λ 094° 56.8' W Ho 70° 57.7'

CT	04 56 59	ZT	1101	Date
CE	4 11 s	ZD	+ 6	
GMT	17 01 10	GMT	1701	Same Date

GHA h	76° - 29.2'
m & s	0° - 17.5'
GHA \odot	76° - 46.7'
a λ	094° - 46.7' W
LHA	342° - 00.0'

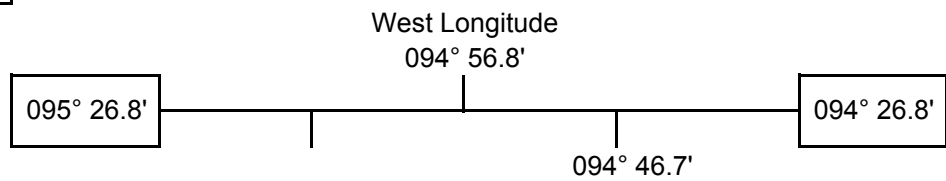
Dec.	S	11° 57.2'
d.	(0.9)	0.0'
Dec.	S	11° 57.2'

aL 21° S

Ht	70° 02.6'
d (31.0)	29.6'
Hc	70° 32.2'
Ho	70° 57.7'
a	25.4' T

Rising/Setting Rising
 Dec. north of Lat.

Z	117.3°
Δz (-2.6)	-2.5°
Z	114.8°
Zn	065.2°



2 ZT 16 36 DR L 23° 09.1' N
 λ 072° 18.4' E Ho 19° 03.4'

CT	11 29 59	ZT	1636	Date
CE	6 09 s	ZD	- 5	
GMT	11 36 08	GMT	1136	Same Date

GHA h	342° - 33.9'
m & s	9° - 02.0'
GHA \odot	351° - 35.9'
a λ	072° - 24.1' E
LHA	064° - 00.0'

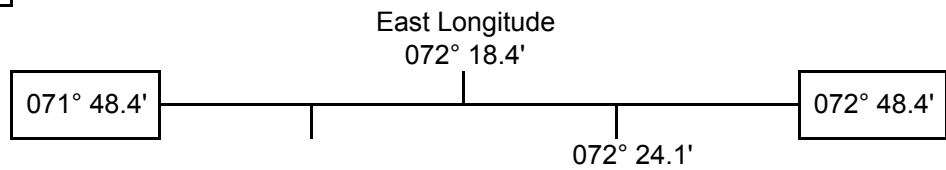
Dec.	S	10° 29.1'
d.	-(0.9)	-0.5'
Dec.	S	10° 28.6'

aL 23° N

Ht	19° 14.5'
d (-29.0)	-13.8'
Hc	19° 00.7'
Ho	19° 03.4'
a	2.8' T

Rising/Setting Setting
 Dec. south of Lat.

Z	110.4°
Δz (0.9)	0.4°
Z	110.8°
Zn	249.2°



3

ZT 10 01

DR L 18° 50.1' S
λ 167° 39.9' W

Ho 56° 14.9'

CT	11 00 08	ZT	Date
CE	1 15 s	ZD	
GMT		GMT	

GHA h	
m & s	
GHA ⊙	
aλ	
LHA	

Dec.	
d. ()	
Dec.	

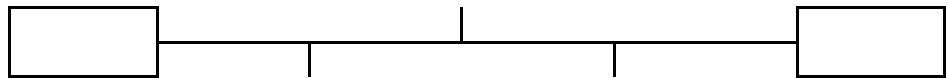
aL	
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Ht	
d ()	
Hc	
Ho	
a	

Rising/Setting	
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Dec.		Lat.	
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Z	
Δz ()	
Z	
Zn	



4

ZT 09 59

DR L 21° 47.5' S
λ 175° 38.5' W

Ho 36° 40.9'

CT	10 07 55	ZT	Date
CE	9 09 f	ZD	
GMT		GMT	

GHA h	
m & s	
GHA ⊙	
aλ	
LHA	

Dec.	
d. ()	
Dec.	

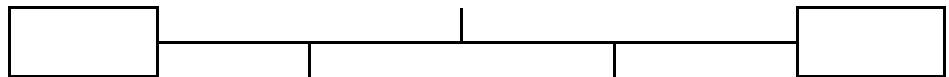
aL	
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Ht	
d ()	
Hc	
Ho	
a	

Rising/Setting	
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Dec.		Lat.	
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Z	
Δz ()	
Z	
Zn	



3 ZT 10 01 DR L 18° 50.1' S
 λ 167° 39.9' E Ho 56° 14.9'

CT	11 00 08	ZT	1001	Date
CE	1 15 s	ZD	- 11	
GMT	23 01 23	GMT	2301	Previous Date

GHA h	167° - 42.3'
m & s	0° - 20.8'
GHA ⊙	168° - 03.1'
aλ	167° - 56.9' E
LHA	336° - 00.0'

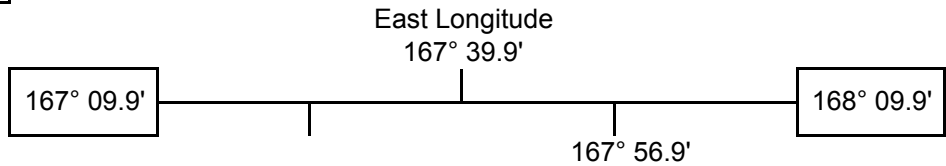
Dec.	N	4° 38.0'
d.	-(1.0)	0.0'
Dec.	N	4° 38.0'

aL	19° S
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Ht	57° 01.8'
d (-42.8)	-27.1'
Hc	56° 34.7'
Ho	56° 14.9'
a	19.8' A

Rising/Setting Rising
 Dec. north of Lat.

Z	131.8°
Δz (1.3)	0.8°
Z	132.6°
Zn	047.4°



4 ZT 09 59 DR L 21° 47.5' N
 λ 175° 38.5' W Ho 36° 40.9'

CT	10 07 55	ZT	0959	Date
CE	9 09 f	ZD	+ 12	
GMT	21 58 46	GMT	2159	Same Date

GHA h	132° - 19.8'
m & s	14° - 41.5'
GHA ⊙	147° - 01.3'
aλ	176° - 01.3' W
LHA	331° - 00.0'

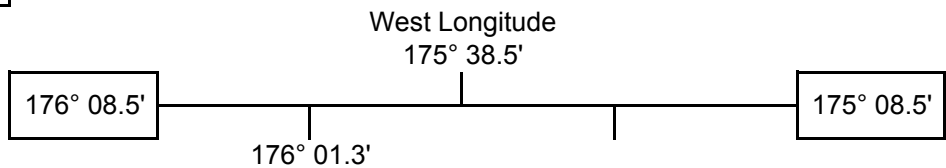
Dec.	S	23° 25.4'
d.	(0.0)	0.0'
Dec.	S	23° 25.4'

aL	22° N
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Ht	36° 52.6'
d (-49.8)	-21.1'
Hc	36° 31.5'
Ho	36° 40.9'
a	9.4' T

Rising/Setting Rising
 Dec. south of Lat.

Z	146.1°
Δz (0.7)	0.3°
Z	146.4°
Zn	146.4°



5

ZT 16 08

DR L 23° 36.9' S
λ 156° 14.1' W

Ho 26° 13.4'

CT	06 02 00	ZT	Date
CE	5 44 s	ZD	
GMT		GMT	

GHA h
m & s
GHA ⊙
aλ
LHA

Dec.
d. ()
Dec.

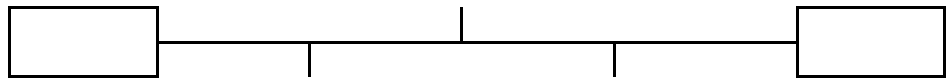
aL

Ht
d ()
Hc
Ho
a

Rising/Setting

Dec.
Lat.

Z
Δz ()
Z
Zn



6

ZT 14 31

DR L 18° 25.5' S
λ 163° 43.9' W

Ho 50° 14.9'

CT	01 20 52	ZT	Date
CE	9 52 s	ZD	
GMT		GMT	

GHA h
m & s
GHA ⊙
aλ
LHA

Dec.
d. ()
Dec.

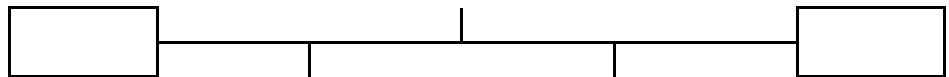
aL

Ht
d ()
Hc
Ho
a

Rising/Setting

Dec.
Lat.

Z
Δz ()
Z
Zn



5 ZT 16 08 DR L 23° 36.9' N
 λ 156° 14.1' E Ho 26° 13.4'

CT	06 02 00	ZT	1608	Date
CE	5 44 s	ZD	- 10	
GMT	06 07 44	GMT	0608	Same Date

GHA h	269° - 20.0'
m & s	1° - 56.0'
GHA ⊙	271° - 16.0'
aλ	156° - 44.0' E
LHA	068° - 00.0'

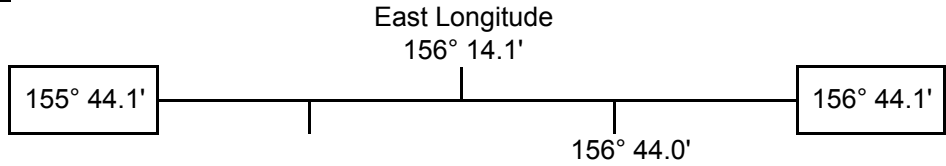
Dec.	N	14° 53.3'
d.	(-0.8)	-0.1'
Dec.	N	14° 53.2'

aL 24° N

Ht	25° 29.8'
d (20.5)	18.2'
Hc	25° 48.0'
Ho	26° 13.4'
a	25.4' T

Rising/Setting Setting
 Dec. south of Lat.

Z	085.4°
Δz (-1.1)	-1.0°
Z	084.4°
Zn	275.6°



6 ZT 14 31 DR L 18° 25.5' S
 λ 163° 43.9' W Ho 50° 14.9'

CT	01 20 52	ZT	1431	Date
CE	9 52 s	ZD	+ 11	
GMT	01 30 43	GMT	0131	Next Date

GHA h	195° - 46.8'
m & s	7° - 40.8'
GHA ⊙	203° - 27.6'
aλ	163° - 27.6' W
LHA	040° - 00.0'

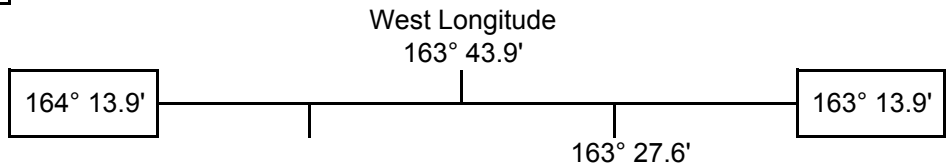
Dec.	S	8° 47.0'
d.	(0.9)	0.5'
Dec.	S	8° 47.5'

aL 18° S

Ht	49° 51.6'
d (18.5)	14.6'
Hc	50° 06.2'
Ho	50° 14.9'
a	8.7' T

Rising/Setting Setting
 Dec. north of Lat.

Z	099.1°
Δz (-1.5)	-1.2°
Z	097.9°
Zn	277.9°



7 ZT 17 09 DR L 19° 48.1' S
 λ 85° 59.7' W Ho 15° 40.2'

CT	11 04 05	ZT	Date
CE	4 45 s	ZD	
GMT		GMT	

GHA h
m & s
GHA Ⓞ
aλ
LHA

Dec.
d. ()
Dec.

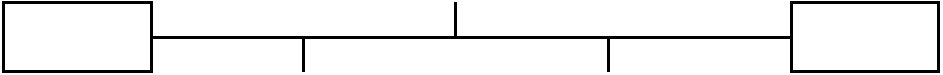
aL

Ht
d ()
Hc
Ho
a

Rising/Setting

Dec.
Lat.

Z
Δz ()
Z
Zn



8 ZT 10 13 DR L 25° 21.1' S
 λ 109° 46.6' W Ho 48° 36.4'

CT	05 10 22	ZT	Date
CE	2 40 s	ZD	
GMT		GMT	

GHA h
m & s
GHA Ⓞ
aλ
LHA

Dec.
d. ()
Dec.

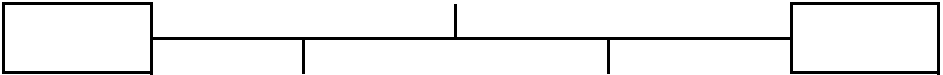
aL

Ht
d ()
Hc
Ho
a

Rising/Setting

Dec.
Lat.

Z
Δz ()
Z
Zn



7 ZT 17 09 DR L 19° 48.1' S
 λ 085° 59.7' W Ho 15° 40.2'

CT	11 04 05	ZT	1709	Date
CE	4 45 s	ZD	+ 6	
GMT	23 08 49	GMT	2309	Same Date

GHA h	164° - 02.9'
m & s	2° - 12.3'
GHA ⊙	166° - 15.2'
aλ	086° - 15.2' W
LHA	080° - 00.0'

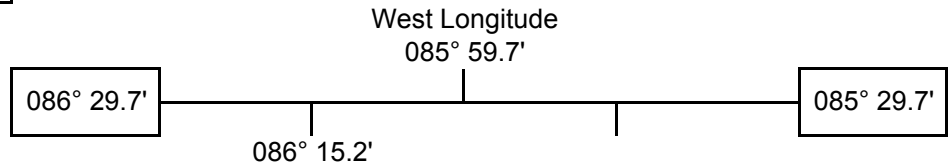
Dec.	S	21° 12.3'
d.	-(0.4)	-0.1'
Dec.	S	21° 12.2'

aL	20° S
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Ht	15° 57.4'
d (16.1)	3.3'
Hc	16° 00.7'
Ho	15° 40.2'
a	20.5' A

Rising/Setting Setting
 Dec. south of Lat.

Z	073.0°
Δz (-1)	-0.2°
Z	072.8°
Zn	252.8°



8 ZT 10 13 DR L 25° 21.1' S
 λ 109° 46.6' W Ho 48° 36.4'

CT	05 10 22	ZT	1013	Date
CE	2 40 s	ZD	+ 7	
GMT	17 13 02	GMT	1713	Same Date

GHA h	73° - 04.0'
m & s	3° - 15.5'
GHA ⊙	76° - 19.5'
aλ	109° - 19.5' W
LHA	327° - 00.0'

Dec.	N	0° 52.3'
d.	-(1.0)	-0.2'
Dec.	N	0° 52.1'

aL	25° S
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Ht	49° 28.3'
d (-39.4)	-34.2'
Hc	48° 54.1'
Ho	48° 36.4'
a	17.7' A

Rising/Setting Rising
 Dec. north of Lat.

Z	123.1°
Δz (-1.2)	-1.0°
Z	122.1°
Zn	057.9°

