

KG

11365

243

L.5

Reduction
of
Zones—
1853—

E

KG 11365.243

KG 11365.243 *Lones 57 & 58.**See next page*

$$q \ 1853.0 \ \alpha \ 17. \ 07. \ 16.14 (2) \ \delta + 13. \ 45.7 (2)$$

$$t_{57} \ 01. \ 16.70 \ s_{57} \ 13.38.0$$

$$t_{58} \ 01. \ 15.40 \ s_{58} \ 13.56$$

$$\alpha - t_{57} \ -00.57 \ \delta - s_{57} \ +07.7$$

$$\alpha - t_{58} \ +00.29 \ \delta - s_{58} \ -10.3$$

$$d'_{57} \ -0.7$$

$$d'_{58} \ -0.8$$

$$+7.9$$

$$-10.1$$



$$\alpha \ 17. \ 27. \ 07.14 (2) \ \delta + 9. \ 3.4 (2)$$

$$t_{57}$$

$$t_{58}$$

$$+ \alpha \ 17. \ 21. \ 37.88 (2) \ \delta + 10. \ 04.0$$

$$t_{57} \ 21. \ 38.20 \ s_{57} \ 9.53$$

$$t_{58} \ 21. \ 37.75 \ s_{58} \ 10.11$$

$$\alpha - t_{57} \ -00.32 \ \delta - s_{57} \ +.11.0$$

$$\alpha - t_{58} \ +00.13 \ \delta - s_{58} \ -.07.0$$

$$d'_{57} \ \pm 0.0$$

$$d'_{58} \ \pm 0.0$$

$$+.11.0$$

$$-.07.0$$

$$q \ \alpha \ 17. \ 22. \ 42.55 (1) \ \delta + 11. \ 25.8 (1)$$

$$t_{57} \ 22. \ 42.80 \ s_{57} \ 11.17$$

$$t_{58} \ 22. \ 42.10 \ s_{58} \ 11.36$$

$$\alpha - t_{57} \ -00.25 \ \delta - s_{57} \ +08.8$$

$$\alpha - t_{58} \ +00.45 \ \delta - s_{58} \ -10.2$$

$$d'_{57} \ \pm 0.3$$

$$d'_{58} \ -0.7$$

$$+8.5$$

$$-10.1$$

Lones 57 & 58

$$\begin{array}{rcl}
 \gamma - \alpha & 17^{\circ} 24' 26.67(3) & \delta + 9' 19.0(3) \\
 t_{57} & 17.24 & - \\
 t_{58} & 17.24.25.40 & s_{58} 9.24.24 \\
 \alpha - t_{57} & - & - \\
 \alpha - t_{58} & +00.77 & \delta - s_{58} - 05.0 \\
 & & d'_{57} \pm 0.0 \\
 & & d'_{58} \pm 0.0 \\
 & & -05.0
 \end{array}$$

$$\begin{array}{rcl}
 \delta - \alpha & 17^{\circ} 25' 45.75(3) & \delta + 12' 46.9(3) \\
 t_{57} & 17.25.46.30 & s_{57} 12.37 \\
 t_{58} & 25.45.70 & s_{58} 12.57 \\
 \alpha - t_{57} & +.55 & \delta - s_{57} + 09.9 \\
 \alpha - t_{58} & +.05 & \delta - s_{58} - 10.1 \\
 & & d'_{57} - 0.6 \\
 & & d'_{58} - 0.2 \\
 & & +10.0 \\
 & & -9.9
 \end{array}$$

$$\begin{array}{rcl}
 \eta - \alpha & 17^{\circ} 49' 49.64(1) & \delta + 13' 08.0(1) \\
 t_{57} & 49.50.05 & s_{57} 13.03 \\
 t_{58} & 49.20 & s_{58} 13.19 \\
 \alpha - t_{57} & -.41 & \delta - s_{57} + 05.0 \\
 \alpha - t_{58} & +.44 & \delta - s_{58} - 11.0 \\
 & & d'_{57} - 0.6 \\
 & & d'_{58} - 0.2 \\
 & & +5.1 \\
 & & -10.8
 \end{array}$$

$$\begin{array}{rcl}
 \epsilon - \alpha & 17^{\circ} 52' 43.71(1) & \delta + 10' 57.7(1) \\
 t_{57} & 52.44.50 & s_{57} 10.53 \\
 t_{58} & 52.43.40 & s_{58} 11.11 \\
 \alpha - t_{57} & -.79 & \delta - s_{57} + 4.7 \\
 \alpha - t_{58} & -.19 & -13.3 \\
 & & d'_{57} - 0.0 \\
 & & d'_{58} - 0.7 \\
 & & +4.7 \\
 & & -14.0
 \end{array}$$

Jones 57 & 58.

This should have been the 2nd of this zone.

$$g \propto 17..17..40.54(1) \delta + 19..06.1(1) -$$

$$t_{57} \quad 17..38.60 \quad s_{57} \quad 18..59$$

$$t_{58} \quad 17..38.00 \quad s_{58} \quad 19..17$$

$$\alpha - t_{57} \quad +1.94 \quad \delta - s_{57} \quad +.07.1$$

$$\alpha - t_{58} \quad +2.54 \quad \delta - s_{58} \quad -10.9$$

Wright 1 R₄
2.5 too large.

$$d'_{57} \quad -0.4$$

$$d'_{58} \quad -0.5$$

$$+7.5$$

$$-10.4$$

$$g \propto 17..54..38.73(1) - \delta + 9..08.4(1)$$

$$g \propto 18..06..29.89(1) \delta + 9..48.8(1)$$

$$t_{57} \quad 6..30.35 \quad s_{57} \quad 9..42$$

$$t_{58} \quad 6..29.80 \quad s_{58} \quad 10..00$$

$$\alpha - t_{57} \quad -.46 \quad \delta - s_{57} \quad +06.8$$

$$\alpha - t_{58} \quad +.09 \quad \delta - s_{58} \quad -11.2$$

$$d'_{57} \quad 0.0$$

$$d'_{58} \quad 0.0$$

$$+6.8$$

$$-11.2$$

$$8.9 \propto 18..08..00.07(3) \delta + 10..17..0(3)$$

$$t_{57} \quad 08..00.85 \quad s_{57} \quad 10..00-0$$

$$t_{58} \quad 08..00.15 \quad s_{58} \quad 10..18$$

$$\alpha - t_{57} \quad -.78 \quad \delta - s_{57} \quad +17.0$$

$$\alpha - t_{58} \quad -.08 \quad \delta - s_{58} \quad +1.0$$

$$d'_{57} \quad 0.0$$

$$d'_{58} \quad 0.0$$

$$+17.0 \quad ?$$

$$+01.0 \quad ?$$

Jones 57 & 58.

$$\underline{8} \propto 18.15.57.52 (3) \delta + 16.21.2 (3)$$

$$t_{57} \quad 15.58.00 \quad s_{57} \quad 16.17$$

$$t_{58} \quad 15.57.30 \quad s_{58} \quad 16.34$$

$$\alpha - t_{57} \quad -.48 \quad \delta - s_{57} \quad +.04.2$$

$$\alpha - t_{58} \quad +.22 \quad \delta - s_{58} \quad -12.8$$

$$\alpha'_{57} \quad -0.3$$

$$\alpha'_{58} \quad -0.4$$

$$+4.5$$

$$-12.4$$

$$\underline{9} \propto 18.21.34.50 (1) \delta + 20.59.5 (1)$$

 α

$$\underline{8} \propto 18.21.45.66 (4) \delta + 13.58.8 (4)$$

$$t_{57} \quad 21.46.25 \quad s_{57} \quad 13.54$$

$$t_{58} \quad 21.45.50 \quad s_{58} \quad 14.10$$

$$\alpha - t_{57} \quad -.59 \quad \delta - s_{57} \quad +04.8$$

$$\alpha - t_{58} \quad +.16 \quad \delta - s_{58} \quad -11.2$$

$$\alpha'_{57} \quad -0.2$$

$$\alpha'_{58} \quad -0.2$$

$$+5.0$$

$$-11.0$$

$$\underline{9} \propto 18.22.13.55 (3) \delta + 13.04.3 (3)$$

$$t_{57} \quad 22.14.30 \quad s_{57} \quad 13.01$$

$$t_{58} \quad 22.13.60 \quad s_{58} \quad 13.17$$

$$\alpha - t_{57} \quad -.75 \quad \delta - s_{57} \quad +03.3$$

$$\alpha - t_{58} \quad -.05 \quad \delta - s_{58} \quad -12.7$$

$$\alpha'_{57} \quad -0.1$$

$$\alpha'_{58} \quad -0.2$$

$$+3.5$$

$$-12.5$$

Lones 57458.

$$\underline{8} \alpha 18..23..06.30(4) \delta + 17..05..0(4)$$

$$t_{57} \quad 23..06.45 \quad s_{57} \quad 17..02$$

$$t_{58} \quad 23..06.20 \quad s_{58} \quad 17..16$$

$$\alpha - t_{57} \quad -.65 \quad \delta - s_{57} \quad +.03.0$$

$$\alpha - t_{58} \quad +.10 \quad \delta - s_{58} \quad -11.0$$

$$\alpha'_{57} \quad -0.3$$

$$\alpha'_{58} \quad -0.4$$

$$+3.3$$

$$-10.6$$

$$\underline{8.9} \alpha 18..23..24.71(3) \delta + 19..55.3(3)$$

$$t_{57} \quad 23..25.30 \quad s_{57} \quad 19..53.0$$

$$t_{58} \quad 23..24.65 \quad s_{58} \quad 20..09.$$

$$\alpha - t_{57} \quad -.54 \quad \delta - t_{57} \quad +02.3$$

$$\alpha - t_{58} \quad +.06 \quad \delta - t_{58} \quad -13.7$$

$$\alpha'_{57} \quad -0.5$$

$$\alpha'_{58} \quad -0.6$$

$$+2.8$$

$$-13.1$$

Comparison of stars with Lones ¹⁸⁵³ 55 & 56 for the beginning of Lones ¹⁸⁵³ 57 & 58

mag.	Lone 55	K	Lone 56	K	α 1853.
13	16..53..04.05	-0.20	16..53..04.10	+0.10	16..53..03.92
13	53..43.30	-0.20	53..43.25	-0.10	53..43.12
12	54..27.70	-0.20	54..27.80	-0.10	54..27.60

Comparison of stars with Lones ¹⁸⁵² 10 & 11 for the end of Lones ¹⁸⁵³ 57 & 58

	Lone 10	K	Lone 11	K	α 1852	prec.	α 1853.
9-10	18..06..26.70	-0.10	18..06..26.05	+0.70	18..06..26.67	3.06	18..06..29.73
12	6..54.40	-0.10	6..53.75		6..54.37	3.06	6..57.43
9	7..57.25	-0.10	7..56.40		7..57.12	3.06	8..00.18

Beginning of Lones 57 & 58

α 1853	t	t	$\alpha-t$	$\alpha-t$	δ 1853	S	S	$\delta-S$	$\delta-S$
16..53..03.92	57	58	57	58	0..01..31.0	57	58	57	58
	4.30	3.50	-.35	+.12		1.23	1.40	+8.0	-9.0
53..43.12	43.30	42.75	-.15	+.37	02..55.0	2.46	3.04	+9.0	-9.0
54..27.60	27.90	27.20	-.30	+.40	02..09.0	2.01	2.17	+8.0	-8.0
			<u>-.29</u>	<u>+.30</u>				<u>+8.3</u>	<u>-8.6</u>

End of Lones 57 & 58

α 1853	t	t	$\alpha-t$	$\alpha-t$	δ 1853	S	S	$\delta-S$	$\delta-S$
18..06..29.73	57	58	57	58	0..00..12.5	57	58	57	58
	30.35	29.80	-.62	-.07		0.18	0.00	+5.5	-.12
06..57.43	58.10	57.20	-.67	+.03	02..29.0	2.22	2.20	+7.0	-.11
08..00.18	0.85	0.15	-.67	+.03	00..16.0	0.00	0.18	+16.0	+.16
			<u>-.65</u>	<u>+.02</u>				<u>+9.5</u>	<u>-.02</u>
								6.2	

Comparison of Stars with Zones 55 & 56 for the beginning of Zones 57 & 58.

Zone 55	d	Zone 56	d	δ 1853.
0° 1' 33" - 2" 0"		0° 1' 32" - 1" 0"		0° 1' 31" 0"
2..57		2..56		2..55.0
2..11		2..10		2..09.0

Comparison of Stars with Zones 10 & 11 for the end of Zones 57 & 58.

Zone 10.	ok	Zone 11.	d	δ - 1852	prec.	δ 1853.
- 0° 0' 12" - 1" 0"		- 0° 0' 14" + 1" 0"		- 0° 0' 13" 0"	+ 0" 5"	- 0° 0' 12" 5"
2..29		2..28		+ 2..28.5	0.5	+ 0..2..29.0
0..17		0..14		+ 0..15.5	0.5	+ 0..0..16.0

Jones 59 & 60

$$\underline{\delta} - \alpha - 15. \overset{h}{55} \overset{m}{10.93(1)} \overset{s}{\delta} - 0.00.1(1)$$

$$t_{59} \quad 55. \quad 11.20 \quad s_{59} - 0.06$$

$$t_{60} \quad 55. \quad 11.30 \quad s_{60} - 0.04$$

$$\alpha - t_{59} \quad - .27 \quad \delta - s_{59} \quad - 05.9$$

$$\alpha - t_{60} \quad - .37 \quad \delta - s_{60} \quad - 03.9$$

$$d'_{59} \quad + 0.0$$

$$d'_{60} \quad + 0.0$$

$$+ 5.9$$

$$+ 3.9$$

$$\underline{\delta} - \alpha \quad 15. \overset{h}{58} \overset{m}{41.90(1)} \overset{s}{\delta} + 2.06.6(1)$$

$$t_{59} \quad 58. \quad 41.80 \quad s_{59} \quad 2.05.$$

$$t_{60} \quad 58. \quad 42.10 \quad s_{60} \quad 2.06.0$$

$$\alpha - t_{59} \quad + .10 \quad \delta - s_{59} \quad + 01.6$$

$$\alpha - t_{60} \quad - .20 \quad \delta - s_{60} \quad + 00.6$$

$$d'_{59} \quad + 0.1$$

$$d'_{60} \quad + 0.1$$

$$+ 1.5$$

$$+ 0.5$$

$$\underline{\delta} - \alpha - 16. \quad 07. \quad 06.42(1) \overset{s}{\delta} - 1.24.1(1)$$

$$\underline{\delta} - \alpha \quad 16. \quad 07. \quad 23.88(5) \overset{s}{\delta} + 6.47.4(5)$$

$$t_{59} \quad 7. \quad 23.95 \quad s_{59} \quad 6.47.0$$

$$t_{60} \quad 7. \quad 24.10 \quad s_{60} \quad 6.50.0$$

$$\alpha - t_{59} \quad - .07 \quad \delta - s_{59} \quad + 00.4$$

$$\alpha - t_{60} \quad - .22 \quad \delta - s_{60} \quad - 02.6$$

$$d'_{59} \quad + 0.3$$

$$d'_{60} \quad + 0.1$$

$$+ 0.1$$

$$- 2.7$$

Lones 59 & 60.

$$\begin{array}{rcl}
 \delta \alpha - 16..15..36.23(1) & \delta + 5..07..4(1) & - \\
 t_{59} & 15..36.15 & s_{59} 5..06 \\
 t_{60} & 15..36.50 & s_{60} 5..07 \\
 \alpha - t_{59} & +.08 & \delta - s_{59} + 01.4 \\
 \alpha - t_{60} & -.27 & \delta - s_{60} + 00.4 \\
 & & d'_{59} + 0.2 \\
 & & d'_{60} + 0.0 \\
 & & + 1.2 \\
 & & + 0.4
 \end{array}$$

$$\begin{array}{rcl}
 \delta \alpha - 16..16..52.31(1) & \delta + 8..57..1(1) & \\
 t_{59} & 16..52.80 & s_{59} 8..48 \\
 t_{60} & 16..53.00 & s_{60} 8..51 \\
 \alpha - t_{59} & -.49 & \delta - s_{59} + 03.1 \\
 \alpha - t_{60} & -.69 & \delta - s_{60} + 00.1 \\
 & & d'_{59} + 0.4 \\
 & & d'_{60} + 0.1 \\
 & & + 2.7 \\
 & & 0.0
 \end{array}$$

$$\begin{array}{rcl}
 \delta \alpha - 16..23..07.69(1) & \delta + 10..15..2(1) & \\
 t_{59} & 23..08.50 & s_{59} 10..13 \\
 t_{60} & 23..08.70 & s_{60} 10..16 \\
 \alpha - t_{59} & ? -.81 & \delta - s_{59} + 02.2 \\
 \alpha - t_{60} & ? -1.01 & \delta - s_{60} - 00.8 \\
 & & d'_{59} + 0.5 \\
 & & d'_{60} + 0.1 \\
 \text{Tripe is } 1^s \text{ too small} & & + 1.7 \\
 & & - 0.9
 \end{array}$$

$$\begin{array}{rcl}
 \delta \alpha - 16..33..10.71(1) & \delta + 8..26..9(1) & \\
 t_{59} & 33..10.85 & s_{59} 8..25 \\
 t_{60} & 33..10.85 & s_{60} 8..26 \\
 \alpha - t_{59} & -.14 & \delta - s_{59} + 01.9 \\
 \alpha - t_{60} & -.14 & \delta - s_{60} + 00.9 \\
 & & d'_{59} + 0.4 \\
 & & d'_{60} + 0.1 \\
 & & + 1.5 \\
 & & + 0.8
 \end{array}$$

Jones 59 & 60

$$g \propto 16..33..11.00(1) \delta + 8..19.9(1)$$

$$t_{59} \quad 33..11.20 \quad s_{59} \quad 8..16$$

$$t_{60} \quad 33..11.30 \quad s_{60} \quad 8..18$$

$$\alpha - t_{59} \quad - .20 \delta - s_{59} \quad + 03.9$$

$$\alpha - t_{60} \quad - .30 \delta - s_{60} \quad + 01.9$$

$$\alpha'_{59} \quad + 0.4$$

$$\alpha'_{60} \quad + 0.1$$

$$+ 3.5$$

$$+ 1.8$$

$$g \propto 16..56..09.75(2) \delta + 4..02.5(2)$$

$$t_{59} \quad 56..10.15 \quad s_{59} \quad 4..00$$

$$t_{60} \quad 56..10.55 \quad s_{60} \quad 4..01$$

$$\alpha - t_{59} \quad - .40 \delta - s_{59} \quad + 02.5$$

$$\alpha - t_{60} \quad - .80 \delta - s_{60} \quad + 01.5$$

$$\alpha'_{59} \quad + 0.2$$

$$\alpha'_{60} \quad + 0.0$$

$$+ 2.3$$

$$+ 1.5$$

$$g \propto 17..02..12.18 \text{ using } +0.027 \text{ proper motion}$$

$$t_{59} \quad 02..12.60 \quad s_{59} \quad 8..50$$

$$t_{60} \quad 02..12.80 \quad s_{60} \quad 8..51$$

$$\alpha - t_{59} \quad 2 - \overset{0.42}{\delta} - s_{59} - 00.7$$

$$\alpha - t_{60} \quad 2 - \overset{0.62}{\delta} - s_{60} - 01.7$$

$$\alpha'_{59} \quad + 0.4$$

$$\alpha'_{60} \quad + 0.1$$

$$- 1.0$$

$$- 1.8$$

Wierper B is 1st too

matter But

derived in two ways

shall use a proper
motion of +0.027

Equation
= 1.8 for

$$g \propto 17..19..01.25(1) \delta + 1..15.6(1)$$

$$t_{59} \quad 19..01.90 \quad s_{59} \quad 1..13$$

$$t_{60} \quad 19..02.10 \quad s_{60} \quad 1..15$$

$$\alpha - t_{59} \quad - .65 \delta - s_{59} \quad + 02.6$$

$$\alpha - t_{60} \quad - .85 \delta - s_{60} \quad + 00.6$$

$$\alpha'_{59} \quad + 0.0$$

$$\alpha'_{60} \quad + 0.0$$

$$+ 2.5$$

$$+ 0.6$$

Locus 59 & 60

$$\alpha \ 17^{\circ}..21^{\circ}..03^{\circ}.14(2) \delta + 9^{\circ}..03^{\circ}.4(2)$$

$$\alpha \ 17^{\circ}..21^{\circ}..37^{\circ}.88(2) \delta + 9^{\circ}..56^{\circ}.0(2)$$

$$t_{59} \ 21..38..80 \ s_{59} \ 10.03.0$$

$$t_{60} \ 21..38..80 \ s_{60} \ 10.06.-$$

$$\alpha - t_{59} \ +.92 \ \delta - s_{59} \ -07.0$$

$$\alpha - t_{60} \ -.92 \ \delta - s_{60} \ -00.0$$

$$\alpha'_{59} \ +0.5$$

$$\alpha'_{60} \ +0.1$$

$$-7.5$$

$$-10.1$$

$$7.9 \ \alpha \ 17^{\circ}..24^{\circ}..26.67(3) \delta + 9^{\circ}..14^{\circ}.0(3)$$

$$t_{59} \ 24..26.95 \ s_{59} \ 9..22$$

$$t_{60} \ 24..27.10 \ s_{60} \ 9..25$$

$$\alpha - t_{59} \ \ -.28 \ \delta - s_{59} \ -03.0$$

$$\alpha - t_{60} \ \ -.43 \ \delta - s_{60} \ -06.0$$

$$\alpha'_{59} \ \ +0.4$$

$$\alpha'_{60} \ \ +0.1$$

$$-3.4$$

$$-6.1$$

$$8.9 \ \alpha \ 17^{\circ}..27^{\circ}..14.56(1) \delta + 6^{\circ}..04^{\circ}.2(1)$$

$$t_{59} \ 27..15.05 \ s_{59} \ 4..06$$

$$t_{60} \ 27..15.30 \ s_{60} \ 4..07$$

$$\alpha - t_{59} \ \ -.49 \ \delta - s_{59} \ -02.2$$

$$\alpha - t_{60} \ \ -.74 \ \delta - s_{60} \ -02.8$$

$$\alpha'_{59} \ \ +0.3$$

$$\alpha'_{60} \ \ +0.1$$

$$-2.1$$

$$-2.9$$

Lones 59 & 60.

$$\underline{\delta} \propto 17..44..20.10(1) \delta + 0..37.3(1)$$

$$\underline{\delta} \propto 17..45..19.48(3) \delta + 0..01.9(3)$$

$$t_{59} \quad 45..19.85 \quad s_{59} \quad 0.08$$

✓

$$\alpha - t_{59} \quad -0.13 \quad \delta - s_{59} \quad -01.1$$

$$\alpha - t_{60}$$

$$\alpha'_{60} \quad -0.0$$

$$\underline{-01.1}$$

$$6.2 \alpha \quad 17..49..32.62(5) \delta + 5..28.4(5)$$

$$t_{59} \quad 49..32.35 \quad s_{59} \quad 5..28$$

$$t_{60} \quad 49..32.75 \quad s_{60} \quad 5..30$$

$$\alpha - t_{59} \quad +.27 \quad \delta - s_{59} \quad +00.4$$

$$\alpha - t_{60} \quad -.13 \quad \delta - s_{60} \quad -01.6$$

$$\alpha'_{59} \quad +0.3$$

$$\alpha'_{60} \quad +0.1$$

$$+0.3$$

$$-1.7$$

$$\underline{\delta} \propto 17..52..43.71(1) \delta + 10..57.7(1)$$

Jones 59 & 60.

The mag. of this star in Jones 59-60
was 12th with a 9th spec a fol-

$$\underline{8} \propto 17..54..00.15(1) \delta + 6..46.2(1)$$

$$t_{59} \quad 53..59.80 \quad s_{59} \quad 6..51.$$

$$t_{60} \quad 54..00.00 \quad s_{60} \quad 6..53$$

$$\alpha - t_{59} \quad +.35 \delta - s_{59} \quad -4.8$$

$$\alpha - t_{60} \quad +.15 \delta - s_{60} \quad -6.8$$

$$d'_{59} \quad +0.3$$

$$d'_{60} \quad +0.1$$

$$\underline{-5.4}$$

$$\underline{-6.9}$$

$$\underline{9} \propto 17..54..38.73(1) \delta + 9..08.4(1)$$

$$t_{59} \quad 54..38.50 \quad s_{59} \quad 9..10$$

$$t_{60} \quad 54..38.75 \quad s_{60} \quad 9..13$$

$$\alpha - t_{59} \quad +.23 \delta - s_{59} \quad -1.6$$

$$\alpha - t_{60} \quad -.02 \delta - s_{60} \quad -4.6$$

$$d'_{59} \quad +0.6$$

$$d'_{60} \quad +0.1$$

$$\underline{-2.7}$$

$$\underline{-4.7}$$

$$\underline{8} \propto 17..54..44.54(4) \delta + 6..24.1(4)$$

$$t_{59} \quad 54..44.60 \quad s_{59} \quad 6..28$$

$$t_{60} \quad 54..44.90 \quad s_{60} \quad 6..32$$

$$\alpha - t_{59} \quad -.06 \delta - s_{59} \quad -03.9$$

$$\alpha - t_{60} \quad -.36 \delta - s_{60} \quad -07.9$$

$$d'_{59} \quad +0.3$$

$$d'_{60} \quad +0.6$$

$$\underline{-4.2}$$

$$\underline{-8.5}$$

$$\underline{9} \propto 18..00..55.97(1) \delta + 5..55.1(4)$$

$$t_{59} \quad 00..55.60 \quad s_{59} \quad 5..55$$

$$t_{60} \quad 00..55.85 \quad s_{60} \quad 5..58$$

$$\alpha - t_{59} \quad +.37 \delta - s_{59} \quad +00.1$$

$$\alpha - t_{60} \quad +.12 \delta - s_{60} \quad -02.9$$

$$d'_{59} \quad +0.3$$

$$d'_{60} \quad +0.1$$

$$\underline{-0.8}$$

$$\underline{-3.0}$$

Examined all
Jones for $\alpha-t$
 $\alpha(\delta-s-d)$

Aug 22 1853

Jones 59 & 60.

$$\gamma \propto 18..06..22.39(3) \delta + 3..23.4(4)$$

$$t_{59} \quad 06..22.45 \quad s_{59} \quad 3..22$$

$$t_{60} \quad 06..22.70 \quad s_{60} \quad 3..25$$

$$\alpha - t_{59} \quad - .06 \delta - s_{59} \quad + 01.4$$

$$\alpha - t_{60} \quad - .31 \delta - s_{60} \quad - 01.6$$

$$d'_{59} \quad + 0.2$$

$$d'_{60} \quad + 0.0$$

$$+ 1.2$$

$$- 1.6$$

$$\gamma \propto 18..06..29.89(1) \delta + 9..48.8(1)$$

$$t_{59} \quad 6..29.85 \quad s_{59} \quad 9..57.0$$

$$t_{60} \quad 6..30.00 \quad s_{60} \quad 9..54.0$$

$$\alpha - t_{59} \quad + .04 \delta - s_{59} \quad - 02.2$$

$$\alpha - t_{60} \quad - .22 \delta - s_{60} \quad - 05.2$$

$$d'_{59} \quad + 0.5$$

$$d'_{60} \quad + 0.1$$

$$- 2.3$$

$$- 5.3$$

$$\gamma \propto 18..07..02.31(\frac{2}{11}) \delta + 8..19.2(\frac{2}{11})$$

$$t_{59} \quad 7..02.20 \quad s_{59} \quad 8..21$$

$$t_{60} \quad 7..02.55 \quad s_{60} \quad 8..25$$

$$\alpha - t_{59} \quad + .11 \delta - s_{59} \quad - 01.8$$

$$\alpha - t_{60} \quad - .24 \delta - s_{60} \quad - 05.8$$

$$d'_{59} \quad + 0.4$$

$$d'_{60} \quad + 0.1$$

$$- 2.2$$

$$- 5.9$$

$$8-\gamma \propto 18..08..00.29(1) \delta + 10..16.7(1)$$

$$t_{59} \quad 8..00.05 \quad s_{59} \quad 10..19$$

$$t_{60} \quad 8..00.60 \quad s_{60} \quad 10..23$$

$$\alpha - t_{59} \quad + .24 \delta - s_{59} \quad - 02.3$$

$$\alpha - t_{60} \quad - .31 \delta - s_{60} \quad - 06.3$$

$$d'_{59} \quad + 0.5$$

$$d'_{60} \quad + 0.1$$

$$- 2.8$$

$$- 6.4$$

Comparison of Stars with Lones ¹⁸⁵² 57 & 52 for the beginning of Lones ¹⁸⁵³ 59 & 60

mag.	Lone 51	k	Lone 52	k	α 1853
11	15..57..25.70		-0.60		15..57..24.10
12	52..00.40				51..59.80
13	52..24.90				52..24.30

Comparison of Stars with Lones ¹⁸⁵² 8 & 9 for the end of Lones ¹⁸⁵³ 59 & 60.

mag.	Lone 8	k	Lone 9	k	α 1852	pro. α 1853
12	18..09..52.00	+0.20	18..09..52.40	-0.20	18..09..52.20	3.06-18..09..55.26
12	11..28.20		11..28.75	-0.20	11..28.47	3.06 11..31.53
8	14..34.00		14..34.35	-0.20	14..34.17	3.06 14..37.23

Beginning of Lones 59-60

α 1853	t ₅₉	t ₆₀	α -t ₅₉	α -t ₆₀	α 1853	s ₅₉	s ₆₀	α -s ₅₉	α -s ₆₀
15..57..25.10	24.90	25.00	+0.20	+0.10	0..03.08	3..06	3.07	+2.0	+1.0
51..59.80	59.70	0.00	+1.10	-0.20	05.28	5..26	5.27	+2.0	+1.0
52..24.30	24.30	24.65	.00	-.35	05.52	5..49	5.50	+3.0	+2.0
			+0.06	-.15				+2.3	+1.3

End of Lones 59 & 60

α 1853	t ₅₉	t ₆₀	α -t ₅₉	α -t ₆₀	α 1853	s ₅₉	s ₆₀	α -s ₅₉	α -s ₆₀
18..09..55.26	55.35	55.65	-.09	-.39	0..06..26.3	6..28	6..31	-1.7	-4.7
11..31.53	31.30	31.80	+0.23	-.27	00..49.3	0..57	0..53	-1.7	-1.7
14..37.23	37.15	37.25	+0.08	-.30	05..30.3	5..32	5..36	-1.7	-1.7
			+0.07	-.32				-1.7	-2.7

1 mistake in getting α 1853

Comparison of Stars with Zones 57 & 52 for the beginning of Zones 59 & 60.

Zone 57	α	Zone 52	α	δ 1853
		0° 3' 05" + 3" 0		0° 3' 08"
		5..25		5..28
		5..49		5..52

Comparison of Stars with Zones ¹⁸⁵²8 & 9 for the end of Zones ¹⁸⁵³59 & 60

Zone 8.	α	Zone 9.	α	δ 1852	prec.	δ 1853.
0° 6' 24" + 1" 0		0° 6' 29" - 2.5		+ 0° 6' 25.8	+ 0" 5	+ 0° 6' 26.3
0..48		0..51		0..48.8	0.5	0..49.3
5..29		5..32		5..29.8	0.5	5..30.3

Comparison of Stars with Zones 15 & 17 for the beginning of Zones 61 & 62.

Mag.	Zone 15	κ	Zone 17.
11	21..23..26.55		21..23..25.95
12	24..07.70		24..07.15
13	24..08.70		24..08.05
9	25..30.75		25..30.05

Zones 20 & 21 for the end of Zones 61 & 62

Mag.	Zone 20.	κ	Zone 21.
7-8	21..39..20.45		21..39..19.95
11	40..42.80		40..42.10
9	44..03.00		44..02.30
10	49..38.25		49..37.70

Omitted in its proper place Book - B.

$$\begin{aligned}
 \text{Zone 48} \quad d\tau &= +0.31 \\
 ds &= +1.82 \\
 ds - d\tau &= +1.51 \\
 d\delta - d\delta_1 &= -0.05 \\
 d_1 &= -1.56
 \end{aligned}$$

Zone 47. N 2 See Book B.

K		$d' = -0.09$										
h_m	S	$0'$	$1'$	$2'$	$3'$	$4'$	$5'$	$6'$	$7'$	$8'$	$9'$	$10'$
8.00	+ 0.40	+ 6.2	6.11	6.02	5.93	5.84	5.75	5.66	5.57	5.48	5.39	5.30
10	+ .30	+ 6.3	6.21	6.12	6.03	5.94	5.85	5.76	5.67	5.58	5.49	5.40
20	+ .19	+ 6.3	6.21	6.12	6.03	5.94	5.85	5.76	5.67	5.58	5.49	5.40
30	+ .09	+ 6.4	6.31	6.22	6.13	6.04	5.95	5.86	5.77	5.68	5.59	5.50
40	- .02	+ 6.5	6.41	6.32	6.23	6.14	6.05	5.96	5.87	5.78	5.69	5.60
50	- .13	+ 6.6	6.51	6.42	6.33	6.24	6.15	6.06	5.97	5.88	5.79	5.70
9.00	- .24	+ 6.6	6.51	6.42	6.33	6.24	6.15	6.06	5.97	5.88	5.79	5.70
10	- .35	+ 6.7	6.61	6.52	6.43	6.34	6.25	6.16	6.07	5.98	5.89	5.80
20	- .45	+ 6.7	6.61	6.52	6.43	6.34	6.25	6.16	6.07	5.98	5.89	5.80
30	- .55	+ 6.8	6.71	6.62	6.53	6.44	6.35	6.26	6.17	6.08	5.99	5.90
40	- .66	+ 6.9	6.81	6.72	6.63	6.54	6.45	6.36	6.27	6.18	6.09	6.00
50	- .76	+ 6.9	6.81	6.72	6.63	6.54	6.45	6.36	6.27	6.18	6.09	6.00
10.00	- .87	+ 7.0	6.91	6.82	6.73	6.64	6.55	6.46	6.37	6.28	6.19	6.10

K		$d' = -0.165$										
h_m	S	$0'$	$1'$	$2'$	$3'$	$4'$	$5'$	$6'$	$7'$	$8'$	$9'$	$10'$
8.00	+ 0.28	+ 5.7	5.54	5.38	5.22	5.06	4.90	4.74	4.58	4.42	4.26	4.10
10	+ .20	+ 5.7	5.54	5.38	5.22	5.06	4.90	4.74	4.58	4.42	4.26	4.10
20	+ .13	+ 5.8	5.64	5.48	5.32	5.16	5.00	4.84	4.68	4.52	4.36	4.20
30	+ .06	+ 5.8	5.64	5.48	5.32	5.16	5.00	4.84	4.68	4.52	4.36	4.20
40	- .01	+ 5.9	5.74	5.58	5.42	5.26	5.10	4.94	4.78	4.62	4.46	4.30
50	- .09	+ 5.9	5.74	5.58	5.42	5.26	5.10	4.94	4.78	4.62	4.46	4.30
9.00	- .17	+ 6.0	5.84	5.68	5.52	5.36	5.20	5.04	4.88	4.72	4.56	4.40
10	- .24	+ 6.0	5.84	5.68	5.52	5.36	5.20	5.04	4.88	4.72	4.56	4.40
20	- .32	+ 6.1	5.94	5.78	5.62	5.46	5.30	5.14	4.98	4.82	4.66	4.50
30	- .40	+ 6.1	5.94	5.78	5.62	5.46	5.30	5.14	4.98	4.82	4.66	4.50
40	- .48	+ 6.2	6.04	5.88	5.72	5.56	5.40	5.24	5.08	4.92	4.76	4.60
50	- .55	+ 6.2	6.04	5.88	5.72	5.56	5.40	5.24	5.08	4.92	4.76	4.60
10.00	- .63	+ 6.3	6.14	5.98	5.82	5.66	5.50	5.34	5.18	5.02	4.86	4.70

.. . Omitted in its proper place Book B.

Reduction of Zones 47 & 48

Zone 47

April 9 1853 Sid. Time $9^h 07^m$ Bar 29.800 Alt. Therm. 67 Ext. Therm 57.5
 " 11.18 " 29.867 " " " 68 " " " 47.3

Zone 48

April 15 1853 Sid. Time $10^h 08^m$ Bar 30.138 - Alt. Therm. 66 Ext. Therm. 39.1
 " 12.25 " 30.349 " " " 65 " " " 35.2

Zone 47

$$t_0 = 8^h 00^m$$

$$k_1' = 0.00005$$

$$d' = -0.090$$

8.14	$+0.34 = x_{47} + \frac{0.23}{0.25} x_{47}'$	$+7.5 = y_{47} + 0.25 y_{47}'$	2
8.15	$+0.19 = " + 0.25 "$	$+4.2 = " + 0.25 "$	1
8.22	$+0.23 = " + 0.37 "$	$+4.6 = " + 0.37 "$	2
8.24	$+0.18 = " + 0.40 "$	$+6.5 = " + 0.40 "$	1
8.37	$-0.13 = " + 0.62 "$	$+5.8 = " + 0.62 "$	1
8.38	$-0.09 = " + 0.63 "$	$+5.8 = " + 0.63 "$	1
8.38	$+0.08 = " + 0.63 "$	$+6.1 = " + 0.63 "$	1
8.39	$+0.19 = " + 0.65 "$	$+6.4 = " + 0.65 "$	1
<u>8.39</u>	<u>$+0.22 = " + 0.65 "$</u>	<u>$+7.8 = " + 0.65 "$</u>	<u>2</u>
9.02	$-0.24 = " + 1.03 "$	$+11.5 = " + 1.03 "$	1
9.03	$-0.39 = " + 1.05 "$	$+6.3 = " + 1.05 "$	1
9.15	$-0.22 = " + 1.25 "$	$+7.4 = " + 1.25 "$	1
9.20	$-0.84 = " + 1.33 "$	$+5.2 = " + 1.33 "$	1
9.30	$-0.49 = " + 1.50 "$	$+6.1 = " + 1.50 "$	3
9.36	$-0.72 = " + 1.60 "$	$+8.5 = " + 1.60 "$	1
<u>9.38</u>	<u>$-0.60 = " + 1.63 "$</u>	<u>$+7.5 = " + 1.63 "$</u>	<u>1</u>
9.49	$-0.55 = " + 1.82 "$	$+8.3 = " + 1.82 "$	1
9.57	$-1.19 = " + 1.95 "$	$+7.3 = " + 1.95 "$	1
10.00	$-0.68 = " + 2.00 "$	$+6.2 = " + 2.00 "$	3
10.17	$-1.12 = " + 2.29 "$	$+8.1 = " + 2.29 "$	1
10.19	$-1.22 = x_{47} + 2.32 x_{47}'$	$+6.5 = y_{47} + 2.32 y_{47}'$	2

Zone 48

$$t_0 = 8^h 00^m$$

$$k_1' = 0.00005$$

$$d' = -0.163$$

8.15	$+0.08 x_{48} + 0.25 x_{48}'$	$+7.0 y_{48} + 0.25 y_{48}'$	2
8.15	$-0.01 = " + 0.25 "$	$+3.7 = " + 0.25 "$	1

Zone 48.

8" 22	+0.18=r	$x_{48} + 0.37 x'_{48}$	+3.7=r	$y_{48} + 0.37 y'_{48}$	1
8" 24	-0.07=✓	" + 0.40 "	+5.8✓	" + 0.40 "	1
8" 37	-0.18=✓	" + 0.62 "	+4.1✓	" + 0.62 "	1
8" 38	-0.04=✓	" + 0.63 "	+4.9✓	" + 0.63 "	1
8" 38	-0.12=✓	" + 0.63 "	+6.6✓	" + 0.63 "	1
8" 39	-0.04=✓	" + 0.65 "	+5.8✓	" + 0.65 "	1
8" 39	+0.22=✓	" + 0.65 "	+7.8✓	" + 0.65 "	3
9" 02	-0.14=✓	" + 1.03 "	+10.6✓	" + 1.03 "	1
9" 03	-0.34=✓	" + 1.05 "	+4.8✓	" + 1.05 "	1
9" 15	-0.07=✓	" + 1.25 "	+5.5✓	" + 1.25 "	1
9" 20	-0.64=✓	" + 1.33 "	+5.7✓	" + 1.33 "	1
9" 30	-0.29=✓	" + 1.50 "	+5.7✓	" + 1.50 "	3
~~9" 36~~	~~—~~	~~" + 1.60 "~~	~~—~~	~~" + 1.60 "~~	~~—~~
~~9" 38~~	~~—~~	~~" + 1.63 "~~	~~—~~	~~" + 1.63 "~~	~~—~~
9" 49	-0.55=✓	" + 1.82 "	+6.5✓	" + 1.82 "	1
9" 57	-0.89=✓	" + 1.95 "	+5.5✓	" + 1.95 "	1
10" 00	-0.48=✓	" + 2.00 "	+6.9✓	" + 2.00 "	3
10" 17	-0.72=✓	" + 2.28 "	+7.8✓	" + 2.28 "	1
10" 18	-0.87=	$x_{48} + 2.30 x'_{48}$	+4.9	$y_{48} + 2.30 y'_{48}$	2

Comparison of magnitude of Lone Stars. observation with catalogue.

Lone 182 lat. diff

7-8 7-8

5 5-6

6 7.0

8-9 9

4 4-5

6-7 7

7-8 9

Lone 2-3 lat. diff

7-8 7

5 5-6

6 7

9 9

3 4-5

6-7 7

8-9 9

Lone 4-5 lat. diff

9 9-10

9 9

8 8-9

7 9

Lone

6-7

9 9

7 8-9

7 7

9 9

9 9

8-9 9

Lone

8-9

10

9

7 7-8

9 10 8-9

10 8

5 5-6

9 8

9 8

8 8

9 9

8 8

9 8-9

9 8-9

9 8-9

9 9

7 6

7 6

7 8

9-10 9

5 5-6

Lone

8-9

7-8

7

9 9

9-10 9

9 9

Comparisons of magnitudes of stars in Zones with Catalogue.

Zone Magnitudes
10 & 11 Obs. Cat. diff.

9-10 9
8-9 8-9
9 8
8-9 8
9 9
9 8
9 8-9
10-11 9
10 9
9 9
7-8 8-9
7 7
7-8 8
8-9 8-9

Zone Magnitudes
14-16 Obs. Cat. diff.

9 9
9-10 9
10 9
7 8
9 9
9-10 9
8 8-9
7 8-9
9 9
8 9
7-8 8-9
9 9
7-8 8

Zone Magnitudes
18-19 Obs. Cat. diff.

7-8 8
7-8 8
8 9
8-9 9
9 9
8 9
8-9 9
8 9
6 6.7
7 8-9

Zone 13-14 9 9

9-10 9
10 9
7 8
9 9
9 9
9 9
7-8 8-9
7 9
8-9 9
8 9
7-8 8-9
9 9
7 8

15 & 17 9 9

9 9-10
9 9
8-9 9
9 8
9 9
8 8-9
8 9
8-9 9

20-21 7 8

7 8
9 9
8-9 9
6 6.7
6 6.7
7 6
9 9

comparisons of Stars in Zones with the Catalogue.

Zone magnitudes

22-23 Obs Cat diff

8 8-9
8 8

Zone Magnitude

26-27 Obs Cat diff

8-9 9
7 6-7
10 9
9 9
9 8-9
9 9
9 9
7 7
9 9

Zone Magnitude

30-32 Obs Cat diff

9 9
7-8 8
5 7
8-9 8-9

24-25

8 9
9 9
6 7
10 9
10 9
8 8-9
9 9
9-10 8-9
9-10 8-9
8 8-9
8 8-9
9 9

28-29

9-10 9
9 9
9-10 9
8 8-9
7-8 8
6-7 7-8

31-33

6 7-8
8 9
7 7
9 8
9 9
9 9
8 9
11 9-10
8 9
8 8-9
9 9
7 8
8 9
7 8
9 8

Comparisons of stars in regard to magnitudes in Zones with Catalogue.

Zone Magnitude
obs. cat. diff.

34.35 6-7 7-8
8 9
9 9
7 7-8
9-10 9
8 8
9 9
8 9
7 9
6 8-9
6 8-9
6-7 8-9
6 8
12 7-8
9 9
8 9

Clouds

Zone Magnitude
obs. cat. diff.

36.37 9-10 9
9-10 8-9
7 8-9
8 8-9

Zone Magnitude
obs. cat. diff.

38.39 9 9
9-10 9
10 9
11 9
6-7 7
9-10 9
5 6-7
9 8
10 8-9
10 9
9-10 9
9 8-9
7-8 7
10 8
11 9
10-11 9

Zone 36.37 7 8-9
7 8-9
9 8-9
7 7-8
7 7-8
10 9
9 9
5 7
10 9
7 8
6 8
8-9
10 8
9 9
5 7

38.39 8-9 9
7-8 8
6-7 8
10 9
8 9
9 9
9 8-9
9 9
8
8 8-9
10-11 9
5-6 8
10 9
9 9

40-41 8-9 8-9
10 9
9-10 9
9 9
9 9
9-10 9
10 9
8 8
11 9
8 8
8 9
9 8-9
10 9
10 9
9-10 9

Comparison of the magnitudes of stars in Zones with the catalogue.

Zone Magnitude
obs. cat. diff.

40-41 11 8
9 8
10 9
9 7
10 9
9 9
10 9
10 9
10 9
9-10 8-9
10 8-9
10 9
10 9
8 7-8
11 9-10

Zone Magnitude
obs. cat. diff.

44-45 8 7-8
9-10 9
8-9 8
9 9
10 9
9-10 9
10-11 9-10
9-10 9
8 8
9 8
11 9
6 6
10 9
9 9
9 9
8-9 8
10 9

Zone Magnitude
obs. cat. diff.

46-47 10 9
4 4-5
9 7-8

42-43 11 9
11 9
10 9
9-10 9

46-47 8 9
9 7-8
10 9
10 8-9
10 8-9
9 9
8 8
9-10 8
9 8
7 8
10-11 9
9 8
10 9
8 8
8-9 8

47-48 8 9
8 7-8
9 9
10 8-9
10 8-9
10 8-9
10 9
7-8 8
9-10 8
9 8
7-9 8
10-11 9
9 8
10 9
8 8

Comparison of Stars in regard to magnitudes in Zones with the Catalogue.

Zone Magnitude
obs. cat. diff.

47-48 9 8
10 9
4 4.5
9 8

Zone Magnitude
obs. cat. diff.

57-52 8 8
8 7
8 9
11 9
9-10 8
11 9
9 8

Zone Magnitude
obs. cat. diff.

55-56 10 9
9 8-9
10 9
9-10 8-9
9 8
10 9
9 8-9
10-11 9
11 9
8 8
10 8-9
9 8
10 8
11 9
10-11 9
10 9
9 8
8 7
9-10 8-9

Zone 49-50 9 9
8-10 7-8
10 8
6 6
3-12 4
8-9 8
9 8-9
9 8-9
9 8-9
10 9
6 7
9 9
1 3-4

53-54 8 8
9 9
9 8
12 9
8 8
8 8
7-8 7-8
9 8-9

Comparison of the magnitudes of stars in Zones with the catalogue.

Zone Magnitude
57-58 Obs. Cat. diff.

10-11	9
10	9
10	9
8	7
10	9
9	8
9	8
11	9
9-10	8-9
9	8
9	8
10	9
9	8
10	8-9

Zone Magnitude
59-60 Obs. Cat. diff.

59-60	9-10	8
	12	9
	9-10	8
	11	9
	10	9
	10	9
	8-9	7
	10	8-9

Zone Magnitude
Obs. Cat. diff.

Zone 59-60

9	8
9	8
9-10	8
9	8
10	8-9
9-10	8-9
12	9-10
10	9
7-8	7
11	9
7	7-9
9-10	8-9
7	6
9-10	8

Stars in Zones -

Zone 59-60 contains -

8th 1 8-9th 9th 4 9-10th 7

55-56 contains

8th 5 8-9th 0 9th 6 9-10th 2

57-58

8th 3 8-9th 0 9th 2 9-10th 161-62 has 8th 2, of 8-9 none, 9th 1, of 9-10 none -

57-58 contains

8th 1 8-9th 0 9th 5 9-10th 1

53-54

8th 3 8-9th 0 9th 6 9-10th 2

49-50

8th 3 8-9th 1 9th 9 9-10th 0

47-48

4 0 4 3

44-45

2 2 7 4

40-41

6 3 13 8

36-37

2 0 7 7

31-33

9 0 16 8

28-29

2 0 2 5

24-25

4 0 9 4

20-21

0 1 2 8

15-17

3 3 11 21

13-14

3 1 25 10

8-9

5 2 20 8

46-47

3 1 10 4

42-43

1 0 1 2

38-39

2 1 13 7

34-35

5 1 17 5

30-32

0 1 2 5

26-27

1 1 7 1

22-23

3 0 5 6

18-19

4 3 7 6

14-16

3 1 19 14

10-11

0 4 13 11

6-7

2 1 20 6

8th 2 4-5 8-9 #1 9th 15 9-10th 14

8th 1 2-3 8-9th 2 9th 17 9-10th 15

Results for magnitudes

(Cat. mag.) - (Obsd mag.)

Cat mag = 9th

Cat. mag = 8.9

= 8th

7.8th to 1st inclusive

-0.5

+1.5

0.0

0.0

+0.5

~~+0.5~~

+0.5

0.0

+2.0

0.0

0

0

+0.5

-1.0

-1.0

0.0

0.0

-0.5

+0.5

+0.5

+1.5

-

-1.5

-0.5

-0.5

-0.5

-1.0

-3.0

0.0

9/-5.0

-0.5

-1.0

+1.0

0.0

0.00

10 comp.

-2.0

-1.0

-1.0

0.0

-0.5

-0.5

-6.0

-6.5

+1.5

-1.0

-0.5

-1.0

+0.5

-

-0.55

9 comp.

+0.5

+1.0

+1.5

+1.5

-1.5

+1.5

+1.0

+1.5

+0.5

+0.5

0.0

+0.5

+0.5

-1.0

-1.0

-1.0

-1.0

-1.0

+0.5

-0.5

+5.0

17/+5.0 (3

0.0

0.0

0.0

0.0

+0.30

17 comp.

-2.0 +2.0

0.0

-2.0 +1.0

-0.5

-0.5 +0.5

+1.0

-1.0 +5.0

-1.0

4.0 3.0

-0.5

-1.0 +2.0

-6.0 +1.0

-2.0 +3.0

+0.5

-6.0 +5.0

0.0

-3.0 +3.0

-6.5 +1.5

-3.0 +8.0

-0.5

27/-1.0 (0.04

-0.5

0.0

+1.5

-1.0

+5.0

25/11 (0.44

0.0

9/-5.0

-0.5

17/+5.0 (3

-1.5

-0.5

-1.0

0.0

-1.0

0.0

+1.0

+0.5

10th -11th

Mean

-0.04 ± 0.39

0.00

-0.55

+0.30

25 comp.

10 comp.

9 comp.

17 comp.

Beginning with Zone 38-39

9 th	8-9	8 th	7-8 to 1 st
+1.0	+0.5	+0.5	+1.0
0.0	-1.0	+0.5	-0.5
+	-1.0	-1.0	0.0
-1.0	+0.5	+1.0	+1.0
-1.0	+0.5	+1.0	+2.0
0.0	-0.5	-1.0	+1.5
0.0	+0.5	0.0	0.0
+0.5	0.0	+1.0	+1.0
-1.0	-0.5	+2.0	+0.5
0.0	+1.5	-2.0	+0.5
0.0	+1.5	<u>+0.5</u>	+0.5
0.0	-0.5		+2.0
0.0	-1.0	-4.0	<u>+2.0</u>
-0.5	<u>+1.5</u>	<u>+10.5</u>	
0.0	-2.0	+6.5	+11.5
-0.5	<u>-3.0</u>	13.04	13.04
0.0	+4.5		
+1.0	<u>+3.0</u>		
0.0	-5.0		
0.0	<u>+7.5</u>		
+1.0	+2.5		
-1.0	17.04		
+1.0			
0.0			
+1.0			
+1.0			
0.0			
0.0			
-0.5			
0.0			
<u>+1.0</u>			

-1.0	+0.5	+1.5
0.0	-0.5	<u>+2.5</u>
-1.0	<u>+0.5</u>	
0.0		
<u>-0.5</u>	End of 36-37	
+0.5		
-1.0		
+1.0		
+0.0		
0.0		
<u>-1.5</u>	Milkyway	
-1.0		
~~0.0~~		
0.0		
-0.5		
-1.0		

Sancti Spiritus Zone 48 to 49 incl.

9 th	8-9	8 th	7-8 to 1 st
-0.5	-9.5		
-1.0	-45.5	-15.5	-4.5
-0.5	0.0	10.04	24.04
-1.5	48) 33.0		
-2.0			
-1.0			
-0.5			
0.0			
0.0			
-0.5			
-1.0			
-2.0			
+1.0			
-1.0			
-1.0			
-0.5			
-1.0			
-1.0			
0.0			

Zone 22 to end of Zone 39
(9th mag Cat - Zone 39)
31) 15.5 (5)
15.5 85
42

80
48
560
110
66) 450 (68

65) 37.6 (58
325
510 + 49

-2.5 +1.0
-9.0 80
-18.5
+9.0 +9.0
51) 20.5 (21
102
31

g^{2-} 8-9 g^{2-} 7.8 2, 10 g^{2-} 8-9 8 7.8 2, 10

-1.0	-1.5	-1.0	+0.5	0.0	-1.5	-1	+0.5
-1.0	-0.5	-1.0	+1.5	~~+1~~	-1.5	-0	-1.5
-1	0.0	0.0	-0.5	~~-2~~	-1.5	-1.5	+0.5
-1	0.5	0.0	-2.0 ⁴⁰⁻⁴¹	~~-2~~	-1.5	-1	~~71.5~~
-1	-1.0	~~-2.0~~	-0.5	0 ⁴⁷⁻⁴⁸	~~-1.5~~	+1.0	-0.5 ⁴⁷⁻⁴⁸
⁴⁰⁻⁴¹ -1.5	-1.5	-1.0	-0.5	~~-2~~	-0.5	-1.0	~~-0.5~~
-2		-0.5	0.0 ⁴⁴⁻⁴⁵	-1	-0.5	-0.0	~~+0.5~~
-2		0.0		-1	-0.5	-0.5	~~+0.5~~
-1		-1.0		-1	-0.5	-0.5	-1.0
-0.5		-0.5		-1	-1	+0.5	-0.5
-0.5				-1.5	-0.5	-1.5	-1.0
0				-2	-1.5	-1.0	-1.0

Summary of results

- .5						- 1.5	- /	<u>- 1.0</u>	80%
- /	Zones	9 ^{to}	8-9	8	7.8 to 1 st	- 1.0	- 1.5	0.0	
- .5		10 to 11	- 0.04	0.00	- 0.55	+ 0.30	- 1.5	- 1.5	- 1.0
- 2		12 " 21	+ 0.25	+ .90	+ .61	+ .12	- 1.0	- 1.0	- 1.0
- /		22 " 39	- 0.24	+ .15	+ .50	+ .88	- 1.0	- 1.0	- 0.5
0		40 to 48	- 0.68	- 0.94	- .65	- .38	- 1.0	<u>- 1.5</u>	0.0
0		49 to 60	- 1.27	- 0.96	- .75	- .67	- 2	- 13.5	- 1.5
0						- 1	14.0	- 1.0	

Summary of results after

+1.	rejecting all those cases in	-1	~~1.75~~	-1.0
+1	which the magnitude of the	-2		0.0
-1	discrepancy so much exceeds	-2		0.0
0	the probable error of observation	-2		0.0
-1.5	that it is to be inferred either	-1		-0.5
-1	that the star is variable or	-1		0.0

-1	else that clouds have in - $-38^{25} - 29^{1.16}$	-1.0
+1	interfered with the exactness of 30 $\frac{45}{25}$ $\frac{1.50}{25}$	-2.0
0	the estimation: error = 2 magnitudes + constant def. of 0.4.	-1.0
-1	Jones 9^2 8.9 8^2 7.8 to 1^m	-1.0

-1.5	16. 11	-0.12	$\pm 0.39 \pm$		-1.0
-1.0	12. 21	+0.25	$\pm 0.28 \pm$	For Comparisons with Herschels	-1.0
<u>-1.0</u>	22. 37	-0.02	$\pm 0.42 \pm$	Magnitudes in Equineas Book	-1.0
0.0	38. 48	-0.68	$\pm 0.49 \pm$		-1.0
-1.0	49. 60	-1.16	$\pm$		-1.0

24) $11.8 \overline{) 1.46}$

$\underline{96}$

50

$\underline{50}$

0.39

Jones 61462

$$\begin{array}{rcl}
 \delta \alpha & 21..27..54.00(2) & \delta - 19..31.5(3) \\
 t_{61} & 27..53.80 & s_{61} \quad 9..35. \\
 t_{62} & 27..54.00 & s_{62} \quad 9..38 \\
 \alpha - t_{61} & +.20 & -3.5 \\
 \alpha - t_{62} & +.00 & -6.5
 \end{array}$$

$$\begin{array}{rcl}
 \delta \alpha & - 31..39..23.20(6) & \delta \quad 10..36.8(6) \\
 t_{61} & 39..23.25 & s_{61} \quad 0..34 \\
 t_{62} & 39..23.45 & s_{62} \quad 0..39 \\
 \alpha - t_{61} & - 05 & \delta - s_{61} + 2.8 \\
 \alpha - t_{62} & - 25 & \delta - s_{62} + 2.2
 \end{array}$$

Comparison of Stars with Zones 15 & 17 for Beginning of Zones 61 & 62

Mag.	Zone 15	K	Zone 17	K	α 1852.0	pro
10-11	21..23..26.55	-0.60	21..23..25.95	-0.10	21..23..25.95	+ 3.06-29.00
13	24..08.70		24..08.05		24..08.02	11..08
9	25..30.75		25..30.05		25..30.05	33.11

Comparison of Stars with Zones 20 & 21 for the end of Zones 61 & 62

	Zone 20	K	Zone 21 - K		
11	21..45..54.60	-0.40	21..45..54.00	+1.00	21..45..54.10 + 3.06 57.16
11	46..55.80		46..55.15		46..55.27 58.33
11	47..10.00		47..09.40		47..09.50 12.56

Beginning of Zones 61 & 62

α 1853.0	t_{61}	t_{62}	$\alpha-t_{61}$	$\alpha-t_{62}$	S 1853.0	S_{61}	S_{62}	$\delta-S_{61}$	$\delta-S_{62}$
21..23..29.00	28.70	28.90	+ 0.30	+ 0.10	14..58.8	14.56	14.57	+2.8	+1.8
24..11.08	10.80	10.95	0.28	0.13	14..37.8	14.34	14.35	3.8	+2.8
25 33.11	33.05	33.05	+ 0.06	+ 0.06	9..58.4	9.56	9.57	-2.4	+1.4
			64	29				9.0	6.0
			+ 0.21	+ 0.10				+3.0	+2.0

End of Zones 61 & 62

	b_1	b_2				b_1	b_2		
21..45..57.16	57.35	57.60	-0.19	-0.44	14..33.1	14.34	14.38	-0.9	-4.9
46..58.33	58.65	58.60	-0.32	-1.27	17..36.6	17.40	17.43	-3.4	-6.4
47..12.56	12.90	12.95	-0.34	-1.39	13..07.6	13.10	13.13	-2.4	-5.4
			0.85	1.10				6.7	16.7
			-0.28	-0.37				-2.2	-5.6

Comparison of Stars with Lones 15 & 17 for beginning of Lones 61862.

Lone 15	d	Lone 17	d	δ 1852.0	pm:
0° 4' 48" - 5.0		0° 4' 48" - 5.5		0° 14' 42.7 + 16.1	58.8
4.27		4.27		0° 14' 21.7	37.8
-0.12		-0.12		0° 09' 42.3	58.4

Comparison with Stars in Lones 20 & 21 for the end of Lones 61862.

Lone 20	d	Lone 21 - d.			
0° 4' 24" - 7.0		0° 4' 25" - 8.0		0° 64' 17.0 + 16.1	33.1
7.28		7.28		47.20.5	36.6
2.58		3.00		0° 62' 51.5	13.076

$$ds = +0.40''$$

$$dr = +0.30$$

$$ds - dr = +0.10$$

$$d\delta = 0.00$$

$$d\delta_1 = +0.02$$

$$d\delta - d\delta_1 = -0.02$$

$$ds - dr = +0.10$$

$$10 \times d' = -0.12$$

Reduction of Zones 61 & 62

Zone 61

Sept 8th 1853 Sid. Time 19^h.08 Bar 30.184 Alt Vrr 67 Ext Vrr 61.2
 20^h.09 " 30.200 " 67 " 59.8

Zone 62

Sept 8th 1853 Sid. Time 19^h.08 Bar 30.184 Alt Vrr 67 Ext Vrr 61.2
 " 20^h.09 " 30.200 " 67 " 59.8

Zone 61

$$t_0 = 21^h 20^m \quad K' = 0.0005 \quad d' = -0.015$$

21.24	$+0.21 = x_{61} + 0.07 x'_{61}$	$+3.0 = z_{61} + 0.07 z'_{61}$	2
21.28	$+0.20 = x_{61} + 0.13 x'_{61}$	$-3.5 = z_{61} + 0.13 z'_{61}$	2
21.39	$-0.05 = x_{61} + 0.32 x'_{61}$	$+2.8 = z_{61} + 0.32 z'_{61}$	3
21.47	$-0.28 = x_{61} + 0.48 x'_{61}$	$-2.2 = z_{61} + 0.48 z'_{61}$	2

Zone 62

$$t_0 = 21^h 20^m \quad K' = 0.0005 \quad d' = -0.015$$

21.24	$+0.10 = x_{62} + 0.07 x'_{62}$	$+2.0 = z_{62} + 0.07 z'_{62}$	2
21.28	$+0.00 = x_{62} + 0.13 x'_{62}$	$-6.5 = z_{62} + 0.13 z'_{62}$	2
21.39	$-0.25 = x_{62} + 0.32 x'_{62}$	$-2.2 = z_{62} + 0.32 z'_{62}$	3
21.47	$-0.37 = x_{62} + 0.48 x'_{62}$	$-5.6 = z_{62} + 0.48 z'_{62}$	2

Zone 61.

		K	d										
			$d = -0''.01$										
t_0	h m	s	$0'$	$1'$	$2'$	$3'$	$4'$	$5'$	$6'$	$7'$	$8'$	$9'$	$10'$
	21.20	+	0.33	-0.4	-0.41	-0.42	-0.43	-0.44	-0.45	-0.46	-0.47	-0.48	-0.49
	30	+	.12	+0.1	+0.09	+0.08	+0.07	+0.06	+0.05	+0.04	+0.03	+0.02	+0.01
	40	-	.10	+0.7	+0.69	+0.68	+0.67	+0.66	+0.65	+0.64	+0.63	+0.62	+0.61
	50	-	.30	+1.2	+1.19	+1.18	+1.17	+1.16	+1.15	+1.14	+1.13	+1.12	+1.11

Lone 6262.

k			d											$d' = -0.015$																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Extent and Declinations of Zones

Zone	in R	Dec	No	Dec
1	10.14 to 11.53	0-10	39	5.58 to 7.49 0-10
2	10.14 " 11.54	0-10	40	6.17 " 8.17 10-20
3	10.14 " 11.54	0-10	41	6.24 " 8.11 10-20
4	10.17 " 12.00	10-20	42	7.47 " 8.07 0-10
5	10.17 " 11.23	10-20	43	7.47 " 8.13 0-10
6	11.13 " 13.05	10-20	44	8.15 " 10.18 0-10
7	11.13 " 12.59	10-20	45	8.15 " 10.18 0-10
8	18.06 " 19.42	0-10	46	8.08 " 9.03 10-20
9	18.06 " 19.55	0-10	47	8.14 " 10.20 10-20 repeated
10	18.06 " 19.45	10-20	48	8.14 " 10.18 10-20 47 repeated
11	18.06 " 19.41	10-20	49	11.52 " 13.52 10-20
12	Belongs to next Northern Zone		50	11.52 " 13.50 10-20
13	19.48 to 21.39	0-10	51	13.47 " 15.47 0-10
14	19.48 " 21.39	0-10	52	13.47 " 15.55 0-10
15	19.39 " 21.25	10-20	53	12.58 " 15.03 10-20
16	19.48 " 21.39	0-10	54	12.58 " 15.02 10-20
17	19.39 " 21.25	10-20	55	15.01 " 16.55 10-20
18	21.33 " 23.07	0-10	56	15.01 " 16.58 10-20
19	21.33 " 23.07	0-10	57	16.53 " 18.25 10-20
20	21.39 " 23.28	10-20	58	16.53 " 18.25 10-20
21	21.39 " 23.31	10-20	59	15.57 " 18.14 0-10
22	23.00 " 24.06	0-10	60	15.57 " 18.14 0-10
23	23.00 " 24.43	0-10	61	21.23 " 21.49 10-20
24	23.24 " 25.08	10-20	62	21.23 " 21.49 10-20
25	23.24 " 25.08	10-20	63	
26	0.40 " 2.27	0-10	64	
27	0.40 " 2.27	0-10	65	
28	1.04 " 2.49	10-20	66	
29	1.04 " 2.48	10-20	67	
30	2.21 " 4.08	0-10	68	
31	4.08 " 6.12	0-10	69	
32	2.21 " 3.53	0-10	70	
33	4.08 " 6.02	0-10	71	
34	2.42 " 4.21	10-20	72	
35	2.42 " 4.22	10-20	73	
36	4.29 " 6.19	10-20	74	
37	4.29 " 6.19	10-20	75	
38	5.58 " 7.48	0-10	76	

Order of Lines in Right Ascension.

Lines	R	Dec	Lines	R	Dec	Lines	R	Dec
22-23	23.00	0-10	24-25	23.24	10-20	26-27	0.40	0-10
28-29	1.04	10-20	30-31	2.08	0-10	32-33	4.08	0-10
34-35	2.42	10-20	36-37	4.29	10-20	38-39	5.58	0-10
40-41	6.17	10-20	42-43	7.47	0-10	44-45	8.15	0-10
46-47	8.08	10-20	48-49	10.17	10-20	50-51	11.52	0-10
52-53	12.58	10-20	54-55	15.03	10-20	56-57	16.53	10-20
58-59	18.06	0-10	60-61	19.45	10-20	62-63	21.23	10-20
64-65	23.00	0-10	66-67	24.43	0-10	68-69	26.27	0-10
70-71	28.11	10-20	72-73	29.55	0-10	74-75	31.39	10-20
76-77	33.24	10-20	78-79	35.08	10-20	80-81	36.47	0-10
82-83	38.15	0-10	84-85	39.53	10-20	86-87	41.25	10-20
88-89	42.58	0-10	90-91	44.14	0-10	92-93	45.58	0-10
94-95	47.48	0-10	96-97	49.19	0-10	98-99	50.52	0-10
100-101	52.03	10-20	102-103	53.58	10-20	104-105	55.03	10-20
106-107	56.03	10-20	108-109	57.53	10-20	110-111	59.25	10-20
112-113	60.53	10-20	114-115	62.25	10-20	116-117	64.25	10-20
118-119	66.25	10-20	120-121	68.25	10-20	122-123	70.25	10-20
124-125	72.25	10-20	126-127	74.25	10-20	128-129	76.25	10-20
130-131	78.25	10-20	132-133	80.25	10-20	134-135	82.25	10-20
136-137	84.25	10-20	138-139	86.25	10-20	140-141	88.25	10-20
142-143	90.25	10-20	144-145	92.25	10-20	146-147	94.25	10-20
148-149	96.25	10-20	150-151	98.25	10-20	152-153	100.25	10-20
154-155	102.25	10-20	156-157	104.25	10-20	158-159	106.25	10-20
160-161	108.25	10-20	162-163	110.25	10-20	164-165	112.25	10-20
166-167	114.25	10-20	168-169	116.25	10-20	170-171	118.25	10-20
172-173	120.25	10-20	174-175	122.25	10-20	176-177	124.25	10-20
178-179	126.25	10-20	180-181	128.25	10-20	182-183	130.25	10-20
184-185	132.25	10-20	186-187	134.25	10-20	188-189	136.25	10-20
190-191	138.25	10-20	192-193	140.25	10-20	194-195	142.25	10-20
196-197	144.25	10-20	198-199	146.25	10-20	200-201	148.25	10-20
202-203	150.25	10-20	204-205	152.25	10-20	206-207	154.25	10-20
208-209	156.25	10-20	210-211	158.25	10-20	212-213	160.25	10-20
214-215	162.25	10-20	216-217	164.25	10-20	218-219	166.25	10-20
220-221	168.25	10-20	222-223	170.25	10-20	224-225	172.25	10-20
226-227	174.25	10-20	228-229	176.25	10-20	230-231	178.25	10-20
232-233	180.25	10-20	234-235	182.25	10-20	236-237	184.25	10-20
238-239	186.25	10-20	240-241	188.25	10-20	242-243	190.25	10-20
244-245	192.25	10-20	246-247	194.25	10-20	248-249	196.25	10-20
250-251	198.25	10-20	252-253	200.25	10-20	254-255	202.25	10-20
256-257	204.25	10-20	258-259	206.25	10-20	260-261	208.25	10-20
262-263	210.25	10-20	264-265	212.25	10-20	266-267	214.25	10-20
268-269	216.25	10-20	270-271	218.25	10-20	272-273	220.25	10-20
274-275	222.25	10-20	276-277	224.25	10-20	278-279	226.25	10-20
280-281	228.25	10-20	282-283	230.25	10-20	284-285	232.25	10-20
286-287	234.25	10-20	288-289	236.25	10-20	290-291	238.25	10-20
292-293	240.25	10-20	294-295	242.25	10-20	296-297	244.25	10-20
298-299	246.25	10-20	300-301	248.25	10-20	302-303	250.25	10-20
304-305	252.25	10-20	306-307	254.25	10-20	308-309	256.25	10-20
310-311	258.25	10-20	312-313	260.25	10-20	314-315	262.25	10-20
316-317	264.25	10-20	318-319	266.25	10-20	320-321	268.25	10-20
322-323	270.25	10-20	324-325	272.25	10-20	326-327	274.25	10-20
328-329	276.25	10-20	330-331	278.25	10-20	332-333	280.25	10-20
334-335	282.25	10-20	336-337	284.25	10-20	338-339	286.25	10-20
340-341	288.25	10-20	342-343	290.25	10-20	344-345	292.25	10-20
346-347	294.25	10-20	348-349	296.25	10-20	350-351	298.25	10-20
352-353	300.25	10-20	354-355	302.25	10-20	356-357	304.25	10-20
358-359	306.25	10-20	360-361	308.25	10-20	362-363	310.25	10-20
364-365	312.25	10-20	366-367	314.25	10-20	368-369	316.25	10-20
370-371	318.25	10-20	372-373	320.25	10-20	374-375	322.25	10-20
376-377	324.25	10-20	378-379	326.25	10-20	380-381	328.25	10-20
382-383	330.25	10-20	384-385	332.25	10-20	386-387	334.25	10-20
388-389	336.25	10-20	390-391	338.25	10-20	392-393	340.25	10-20
394-395	342.25	10-20	396-397	344.25	10-20	398-399	346.25	10-20
400-401	348.25	10-20	402-403	350.25	10-20	404-405	352.25	10-20
406-407	354.25	10-20	408-409	356.25	10-20	410-411	358.25	10-20
412-413	360.25	10-20	414-415	362.25	10-20	416-417	364.25	10-20
418-419	366.25	10-20	420-421	368.25	10-20	422-423	370.25	10-20
424-425	372.25	10-20	426-427	374.25	10-20	428-429	376.25	10-20
430-431	378.25	10-20	432-433	380.25	10-20	434-435	382.25	10-20
436-437	384.25	10-20	438-439	386.25	10-20	440-441	388.25	10-20
442-443	390.25	10-20	444-445	392.25	10-20	446-447	394.25	10-20
448-449	396.25	10-20	450-451	398.25	10-20	452-453	400.25	10-20
454-455	402.25	10-20	456-457	404.25	10-20	458-459	406.25	10-20
460-461	408.25	10-20	462-463	410.25	10-20	464-465	412.25	10-20
466-467	414.25	10-20	468-469	416.25	10-20	470-471	418.25	10-20
472-473	420.25	10-20	474-475	422.25	10-20	476-477	424.25	10-20
478-479	426.25	10-20	480-481	428.25	10-20	482-483	430.25	10-20
484-485	432.25	10-20	486-487	434.25	10-20	488-489	436.25	10-20
490-491	438.25	10-20	492-493	440.25	10-20	494-495	442.25	10-20
496-497	444.25	10-20	498-499	446.25	10-20	500-501	448.25	10-20
502-503	450.25	10-20	504-505	452.25	10-20	506-507	454.25	10-20
508-509	456.25	10-20	510-511	458.25	10-20	512-513	460.25	10-20
514-515	462.25	10-20	516-517	464.25	10-20	518-519	466.25	10-20
520-521	468.25	10-20	522-523	470.25	10-20	524-525	472.25	10-20
526-527	474.25	10-20	528-529	476.25	10-20	530-531	478.25	10-20
532-533	480.25	10-20	534-535	482.25	10-20	536-537	484.25	10-20
538-539	486.25	10-20	540-541	488.25	10-20	542-543	490.25	10-20
544-545	492.25	10-20	546-547	494.25	10-20	548-549	496.25	10-20
550-551	498.25	10-20	552-553	500.25	10-20	554-555	502.25	10-20
556-557	504.25	10-20	558-559	506.25	10-20	560-561	508.25	10-20
562-563	510.25	10-20	564-565	512.25	10-20	566-567	514.25	10-20
568-569	516.25	10-20	570-571	518.25	10-20	572-573	520.25	10-20
574-575	522.25	10-20	576-577	524.25	10-20	578-579	526.25	10-20
580-581	528.25	10-20	582-583	530.25	10-20	584-585	532.25	10-20
586-587	534.25	10-20	588-589	536.25	10-20	590-591	538.25	10-20
592-593	540.25	10-20	594-595	542.25	10-20	596-597	544.25	10-20
598-599	546.25	10-20	600-601	548.25	10-20	602-603	550.25	10-20
604-605	552.25	10-20	606-607	554.25	10-20	608-609	556.25	10-20
610-611	558.25	10-20	612-613	560.25	10-20	614-615	562.25	10-20
616-617	564.25	10-20	618-619	566.25	10-20	620-621	568.25	10-20
622-623	570.25	10-20	624-625	572.25	10-20	626-627	574.25	10-20
628-629	576.25	10-20	630-631	578.25	10-20	632-633	580.25	10-20
634-635	582.25	10-20	636-637	584.25	10-20	638-639	586.25	10-20
640-641	588.25	10-20	642-643	590.25	10-20	644-645	592.25	10-20
646-647	594.25	10-20	648-649	596.25	10-20	650-651	598.25	10-20
652-653	600.25	10-20	654-655	602.25	10-20	656-657	604.25	10-20
658-659	606.25	10-20	660-661	608.25	10-20	662-663	610.25	10-20
664-665	612.25	10-20	666-667	614.25	10-20	668-669	616.25	10-20
670-671	618.25	10-20	672-673	620.25	10-20	674-675	622.25	10-20
676-677	624.25	10-20	678-679	626.25	10-20	680-681	628.25	10-20
682-683	630.25	10-20	684-685	632.25	10-20	686-687	634.25	10-20
688-689	636.25	10-20	690-691	638.25	10-20	692-693	640.25	10-20
694-695	642.25	10-20	696-697	644.25	10-20	698-699	646.25	10-20
700-701	648.25	10-20	702-703	650.25	10-20	704-705	652.25	10-20
706-707	654.25	10-20	708-709	656.25	10-20	710-711	658.25	10-20
712-713	660.25	10-20	714-715	662.25	10-20	716-717	664.25	10-20
718-719	666.25	10-20	720-721	668.25	10-20	722-723	670.25	10-20
724-725	672.25	10-20	726-727	674.25	10-20	728-729	676.25	10-20
730-731	678.25	10-20						

No of differences of a certain amount between
certain Zones.

Zones	0 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	Ex ² 59	00 to 09	10 to 19	20 to 29	30 to 39	40 to 49	Ex ² 49
1-2	36	26	2	00	00	00	00	39	19	0	1	0	0
2-3	66	41	9	0	0	0	0	34	44	20	9	5	1
4-5	42	30	11	1	0	0	0	56	29	8	1	0	0
6-7	59	49	17	5	0	0	0	97	38	4	1	1	0
8-9	77	46	14	4	0	0	0	101	26	10	1	0	0
10-11	43	42	11	3	1	1	0	49	31	12	3	0	1
13-14	90	61	11	1	0	0	0	101	49	9	2	0	0
14-16	90	41	14	2	0	0	0	79	36	13	2	0	1
15-17	104	53	8	1	0	0	0	116	36	3	1	0	0
18-19	55	29	5	1	0	0	0	59	23	7	0	1	0
20-21	70	47	13	3	0	0	0	92	35	5	1	1	0
22-23	40	26	15	2	0	0	0	73	28	0	1	0	0
24-25	52	35	14	15	2	1	0	56	36	12	3	3	3
26-27	99	38	11	5	0	0	0	58	55	31	9	0	0
28-29	57	44	21	8	0	1	0	101	27	3	0	0	1
30-32	66	41	16	5	2	0	0	118	32	6	1	0	0
31-33	69	45	13	7	0	0	0	129	31	9	1	3	0
34-35	60	30	18	7	1	0	0	62	38	10	5	3	0
36-37	114	68	24	1	1	0	0	148	45	7	1	0	1
38-39	106	62	10	2	0	0	0	148	77	8	0	0	0
40-41	203	96	20	7	0	0	0	242	69	20	1	0	0
42-43	39	8	0	0	0	0	0	43	12	1	0	0	0
44-45	72	56	19	4	0	0	0	94	57	5	2	0	0
46-47	22	8	2	0	0	0	0	31	10	3	1	0	0
47-48	74	38	8	1	0	0	0	82	45	2	0	0	0
49-50	58	34	22	1	1	0	0	61	40	15	1	0	0
51-52	46	36	7	2	0	0	0	80	27	6	2	0	0
53-54	81	49	15	3	0	0	0	86	44	17	1	1	1
55-56	75	33	7	1	1	1	1	65	34	8	5	5	3
57-58	58	25	2	1	0	0	0	44	28	13	2	0	2
59-60	87	34	11	0	0	0	0	96	34	3	1	0	0
61-62	20	8	1	1	0	0	0	16	12	2	0	0	0
	2105	1273	367	94	9	4	1	2648	1141	272	59	23	14

