

KG

11366

v.986

C XXXIII

133



Plate Date Page

9263 Sept. 27'15 1

9269 " 11

9286 Sept. 28'15 21

[Faint, illegible handwriting, possibly bleed-through from the reverse side of the page]

Harvard Lunar Plates
Measures and Reductions.
Martha C. Burton.

9/76

$\frac{1}{19}$
19 $\frac{2}{26}$
11 $\frac{3}{28}$
31 $\frac{1}{23}$
15 $\frac{2}{25}$
15 $\frac{3}{29}$
16

9 263 x

Star Measures.

4

1

1	d	x	~	1	4
17.3	17858	16562	20058	17092	
19.9	1968687	9750	1136878	1581817	
	8887	5859	8878	1617	
	58	72	86	120	
	<u>14.3170</u>	<u>14.3182</u>	<u>19.8702</u>	<u>19.8709</u>	

2					
26.2	18260	20250	19299	17712	
11.7	1591207	1264037	12100095	1989692	
	0207	3937	90	88	
	78	68	306	30	
	<u>26.2356</u>	<u>26.2372</u>	<u>24.7208</u>	<u>24.7178</u>	

3					
28.7	18168	16712	16918	17800	
31.9	1195049	129983893	830809	1841021	
	4899	3893	10	32	
	80	18	32	28	
	<u>28.6726</u>	<u>28.6728</u>	<u>31.8620</u>	<u>31.8616</u>	

Moon Measures.

1					
23.3	20294	19920	19568	20190	
15.2	1279096	1692225	19626	1515853	
	803	2825	26	4853	
	06	22	82	218	
	<u>23.7506</u>	<u>23.7509</u>	<u>15.9938</u>	<u>15.9948</u>	

2					
29			19569	19212	
15.8			11800	16972	
			788799	70	
			92	49	
			<u>15.7790</u>	<u>15.7750</u>	

3					
29.2	17958	19006			
16	1653836	104364892			
	3736	4892			
	74	90			
	<u>29.1924</u>	<u>29.1932</u>			

9263

Star Measures

1	17858	10562	20058	17092
19.3	176867	9750	11368	1581817
17.9	88	3859	3878	1617
	58	72	86	120
	<u>14.3170</u>	<u>14.3182</u>	<u>14.8702</u>	<u>198709</u>

2	18260	20250	17279	17712
26.2	1291207	12640	12100095	1989692
11.7	0207	3937	70	38
	78	68	306	30
	<u>26.2356</u>	<u>26.2372</u>	<u>14.7208</u>	<u>14.7179</u>

3	18168	15712	16918	17800
28.7	11950	12498	330809	1841021
31.9	1899	3893	10	32
	80	18	32	28
	<u>28.6726</u>	<u>28.6728</u>	<u>31.8620</u>	<u>31.8616</u>

Moon Measures

1	20299	19420	19563	20190
23.3	1279096	169225	19626	1515853
15.2	802	2825	26	7853
	06	22	82	218
	<u>23.7506</u>	<u>23.7509</u>	<u>15.9938</u>	<u>15.9998</u>

2			19569	19212
29			11800	16972
15.8			788799	70
			72	99
			<u>15.7790</u>	<u>15.7750</u>

2	17958	19006	
29.2	16538	10436	
16.	3936	9892	
	77	10	
	<u>29.1928</u>	<u>29.1932</u>	

$$\begin{array}{r} \frac{7}{2} \\ 18 \\ \hline 9 \\ 2 \\ 18 \\ + \\ \hline 27 \\ 18 \\ 8 \end{array}$$

9263

Moon Measures

2

7	17022	17968
29.4	13470	11532
16.9	6767	1825
+X	36	68
	<u>29.3560</u>	<u>24.3558</u>

5	17036	17954
29.3	13528	11468
17	28	65
	36	62
	<u>29.3508</u>	<u>24.3506</u>

6
27
17.9

18960	19108
8980	18628
82	1019
90	28
<u>17.9508</u>	<u>17.9510</u>

7
23
18.6

18212	19034
11852	15928
4096	2024
28	72
<u>18.6376</u>	<u>18.6378</u>

8
22.5
18.7
+4

18246	18972
11202	16012
1609	1815
66	92
<u>18.7052</u>	<u>18.7038</u>

Stars

7	16652	16704
12.4	12824	10554
8.7	3831	50
	56	32
	<u>12.3822</u>	<u>12.3826</u>

17920	16930
11512	13450
1815	30
8010	62
<u>8.6488</u>	<u>8.6488</u>

5	17588	16166
27.7	9668	14100
8.9	6667	00
	606	82
	<u>27.7934</u>	<u>27.7930</u>

15144	14950
8690	14926
9899	20
70	88
<u>8.9474</u>	<u>8.9470</u>

7
13
8
2
27
8

9263

Mean Measure

2

L	17022	17968
9.4	13470	11532
6.9	6767	1825
1.1	36	68
	<u>29.3560</u>	<u>24.3558</u>

2	17036	17954
1.3	13528	11968
7	28	62
	36	62
	<u>24.3508</u>	<u>29.3506</u>

-	18960	19108
9	8980	18628
1.9	82	1019
	70	28
	<u>17.9508</u>	<u>17.9510</u>

-	18212	19039
3	11852	12928
2.6	9096	2029
	28	72
	<u>18.6376</u>	<u>18.6378</u>

1.5	18296	18972
1.7	11202	16012
9	1669	1815
	66	92
	<u>18.7052</u>	<u>18.7038</u>

Stars

9	16652	16709	17990	16930
12.4	12829	10259	11012	13420
8.7	3831	20	1815	30
	56	32	8010	82
	<u>12.3822</u>	<u>12.3826</u>	<u>8.6488</u>	<u>8.6488</u>

2	17588	16166	15149	14950
27.7	9668	11100	8670	14926
8.9	667	00	7899	20
	606	82	70	88
	<u>27.7934</u>	<u>27.7930</u>	<u>8.9472</u>	<u>8.9470</u>

9263

Turnes & Etc.

3

Sept. 27/15

Exp. to Stars	09	05	09	17
" " Moon	09	11	05.6"	09 11 05.8"
Clock fast		2	31.9"	

H. Sid T.	09	08	33.8"	$\phi - \alpha = +0^h 18^m$
H. Long.	4	49	31.05"	
g. M. J.	8	53	04.85"	
g. T. M. h.	12	20	46.77"	
Interval	20	32	18.08"	
Reduction		3	21.88"	
g. M. J.	20	28	56.20"	

From Naut Alman.	P.A.	Decl.
Moons 20 ^h	03 49	23.39 +25 08 42.9
Motion in ^m		2.1539"
" 28 ^m 93.67	-1	2.31"
Tabular Place	03 50	25.70" +25 11 28.9"

Moon's age 19 days

$$934 = 14.95$$

$$a = -503$$

$$+ 27$$

$$- 479$$

Parallax	54' 20.05"
Semi-d	19 50.6"
R	890.6"
Aug.	13.8"
Ext (4)	-0.6"
R	903.6"
R	1,937.9"
AR	-928"
(1+AR)	1,874.2"
R	3,901.0"

9263

Times & etc.

6

Sept 27/15

App. Tr Stars	09	05		09	17
Moon	09	11	05.6"	09	11 05.8"
Clock fast		2	31.9"		

H. Sid. T.	09	08	33.8"	$\theta - \eta = +0^h 1.8^m$
H. Long	9	99	31.05"	
g. m. J	8	53	07.85"	
g. T m. n.	12	20	76.77"	
Internal	20	32	18.08"	
Reduction		3	21.88"	
g. m. T.	20	28	56.20"	

From Naut. Alms.	H. A.	Dec.
Moon 20^h	03 99 23.39	+25 08 72.9
Moon μ/m	21.539	57.35
" 28.9367	-1 31	12 70.09
Tabular Place	03 50 23.70	+25 11 28.9

Moon's age 17 days

$$939 = 14.95$$

$$a = -503$$

$$+ 29$$

$$- 479$$

Parallax	54" 20.05"
Semidiameter	19 50.6"
R	890.6"
Aug	13.6"
K.R.	-0.6"
R	903.6"
R	1,937.9"
alt	-92.8"
H + alt	1,845.2"
R	3,901.0"

9

3

+

-

-

+

-

-

9263

Plate Center

7

α	η	α	δ
14 31 76	19.8703	03 45 12.12	25 19 24.9
26.23 67	11.7191	52 21.23	29 12 58.8
28.67 27	31.86 18	53 57.36	26 57 17.7
3) 69.22 67	63.95 12	08 150 87.71	75 88 101.1
23.07 55	21.15 07	3 50 29.27	25 29 53.7
22	18	- 33.17	- 0 27 29.2
- 1.07 55	- 3.15 07	1 49 56.07	25 05 29.2
31.5	766.5		
- 33.17	1768.15	Plate Center { A= 3 49 56.00	{ D=+25 05 29.00

$$\begin{array}{rclcl}
 \alpha - \bar{\alpha} & +5007 & +8.67 & +37 & -13066 \\
 +5693 & +7159 & =+12852 & +171 & =+13023 & +43 & =+13066 & =0 \\
 -232 & +13118 & = & 886 & +101 & = & 12987 & +79 & = & 66 & 0 \\
 -1630 & +19336 & = & 706 & +273 & = & 12979 & +86 & = & 65 & -1 \\
 22.5116 & +11256 & & +145 & & +68 & = & 22.3519
 \end{array}$$

$$\begin{array}{rclcl}
 \eta - \bar{\eta} & +5007 & -9.07 & +3.87 & -10197 \\
 +313 & +9935 & =+10248 & -127 & =+ & 10119 & +75 & =+10194 & =0 \\
 +9525 & +5860 & =+10385 & -238 & =+ & 10147 & +97 & = & 93 & -1 \\
 -5600 & +10931 & =+10331 & -258 & = & 10073 & +121 & = & 99 & =0 \\
 16.8607 & +8430 & & -203 & & +64 & = & 16.6704
 \end{array}$$

$$\begin{array}{rclcl}
 \text{Tables } a & = -1.0 & e & = -1.3 & a-e & = +0.3 & b+d & = -0 \\
 \text{Obs} & = +503 & & = -503.8 & & = +1.8 & & = -.3 \\
 0-C & -502.0 & & -502.5 & & & & -0.5
 \end{array}$$

9263.

Cape No 552-mg 3.7

03 93 12.87

12.89

12.89

03 93 12.85

53.72

03 99 06.27

3 99 36.00

- 5 99.73

+ 3 99.69

2.59 36.9 h

9.96 17.3

1.01 23.6 h

-10.2.881

-50

11.70 69

12.38 29

+ 67.55

23 99 51.31

52.0

23 99 51.6

23 99 51.8

2 93.5

23 97 35.1

25 05 47

- 1 18 11.9

+ 96 92.7

3.67 17.2 h

1.00 25.7 h

9.69 9.3

2.02 9.7

8.72 2.9

+100.508

+0.0328

28.0015

28.6988

+ 6056

A. 9. 1271-mg 7.8

03 52 22.66

03 52 22.66

53.55

03 53 16.21

3 99 36.00

+ 3 20.21

+ 200.20

2.30 17.6

9.96 17.3

0.769 9.8

11.588 21

+19

27.8900

27.7932

- 968

23 97 39.9

23 97 39.9

2 31.1

23 50 11.0

25 05 47

- 1 15 36.0

- 45 36.7

3.66 67.4 h

0.987 9.8

9.69 9.3

1.539 9

8.23 8.5

- 9.72 5.0

+ 0.0173

8.2923

8.9977

+ 6554

92

9263

Plate Center

L. 7

19.3176	19.9703	0.3 95	12.12	25	19	24.7
26.2369	11.7191	52	21.23	24	12	58.8
25.6727	11.8618	53	24.36	26	57	17.7
69.2267	23.9512	03 120	87.71	75	88	101.1
13.0735	21.1007	1 50	29.29	25	29	33.7
32	18		33.17	0	29	29.2
1.0755	-3	1 49	54.07	25	05	29.2
13	16.65					
33.17	17.8.45					

Plate Center { A = 3.79 56.0
 { D = +23 15 29.0

$$\begin{aligned}
 &X-5 \quad +5004 \quad +8.64 \quad +31 \quad -13066 \\
 &+5693 +7159 = +12852 +171 = +13023 +93 = +13066 = 0 \\
 &-232 +13118 = 886 +101 = 12987 +77 = 13066 = 0 \\
 &-1630 +19336 = 706 +273 = 12979 +86 = 13065 = -1 \\
 &22.5116 +11256 = +145 +68 = 22.3519.
 \end{aligned}$$

$$\begin{aligned}
 &Y-4 \quad +5004 \quad -9.01 \quad +3.84 \quad -10199 \\
 &+313 +9933 = +10248 -128 = +10119 +75 = +10199 = 0 \\
 &+9525 +5860 = +10385 -236 = +10149 +99 = 93 = -1 \\
 &-5600 +10931 = +10331 -258 = +10073 +125 = 99 = -1 \\
 &16.8607 +8930 = -203 +64 = 16.6704
 \end{aligned}$$

Tables a: -1.0 e -13 a-c +03 b+d: -0
 cbs -+503 -+503.8 = +.8 - -.5

9263.

Cape No 552-mg 3.7

03 93 12.87

12.84

12.84

03 93 12.85

53.72

03 94 06.27

3 99 56.00

- 5 49.73

+ 349.69

2.57 369 h

9.96 14.3

1.01 236 h

-10.2881

-50

3 11.7069

X 12.3827

X-3 +.6755

23 94 51.31

52.0

23 94 51.6

23 94 51.8

2 43.5

+ 23 97 36.1

25 05 47

- 1 18 11.9

+4692.7

3.67 14.2 h

1.00 257 h

9.6443

2.0247

8.7224

+10.0508

+0.0528

h 28.0012

q 28.6488

q-h +.6476

A.G. 1271-mg 7.8

03 52 22.66

03 52 22.66

5-3.55

03 53 16.21

3 99 56.00

+ 3 2 0.21

+200.20

2.30 176

9.96 128

0.76998

+5.8881

+19

27 8900

27 7932

- 968

23 97 39.9

23 97 39.9

2 31.1

23 50 11.0

25 05 47

- 1 15 36.0

-4536.7

3.65 6.74 h

0.98789 h

9.6443

1.5399

8.2385

-9.7250

+0.0173

8.2923

8.9477

+1.6554

9263 Standard Coordinates

Cape No. 559-m95.3 Cape No 575-m96.7 Cape No 576-m97.9

C 03 44 18.11 03 51 27.54 03 52 59.60

S
E 18.13 27.49 59.60

Mean 03 44 18.12 03 51 27.51 03 52 59.60

Prec 59.00 53.72 59.76

α 03 45 12.12 03 52 21.23 03 53 54.36

A 3 49 56.00 3 49 56.00 3 49 56.00

α-A - 7 43.88 + 2 25.23 + 3 58.36

Sen (α-A) - 283.86 + 145.23 + 238.33

log " 2.45311n 2.16206 2.37718

" cosδ 9.95612 9.96000 9.95009

" $\sin \delta$ 0.91642n 0.62930 0.89451

$\tan \delta$ - 8.2503 + 4.2589 + 6.8314

$\tan \delta$ - 14 + 7 + 43

$\tan \delta$ 13.7483 26.2596 28.8357

$\tan \delta$ 14.3176 26.2367 28.6727

$\tan \delta$ + 5.693 - 2.32 - 1.630

C + 25 16 38.7 + 24 10 19.6 + 26 54 39.8

S

C 40.0 19.0 39.8

Mean + 25 16 39.3 24 10 19.3 26 54 39.8

Prec + 2 45.6 2 39.5 2 37.6

S + 25 19 299 24 12 388 26 57 174

D 25 05 240 25 05 240 25 05 240

S-D + 14 00.9 - 52 25.2 + 1 51 53.4

$\tan(S-D)$ + 840.9 - 31 45.4 + 6 74 5.8

" 2.92474 3.49788n 3.82705

" $\sin \delta$ 0.25588 0.82883n 1.15820

$\tan \delta$ 9.6751 9.6530 9.7063

$\tan \delta$ 1.8327 1.2586 1.6690

$\tan \delta$ 8.5614 7.9650 8.4287

$\tan \delta$

$\tan \delta$

$\tan \delta$

$\tan \delta$

$\tan \delta$

$\tan \delta$

$\tan \delta$

$$\begin{array}{r} -0.14 - 24.51 = -24 = +90 \\ -0.05 + 18.84 = -8 = -30 \end{array}$$

$$\begin{array}{r} 2) -1.92 + 16.19 = +29 = +89 \\ - .71 + 8.40 = +17.5 = +84.5 \\ +0.66 - 16.94 = -22.5 = -74.5 \\ - [] - 0.15 = -2.4 = -1.7 \\ - 17.09 = -24.9 = -76.2 \\ \eta = +1.5 = +7.5 \end{array}$$

$$\begin{array}{r} 1 -8.20 +1.80 -14 +27 = -13 -2 = -15 -18 \\ 2 +9.26 -6.74 +7 -14 = -7 +7 = 0 +1 \\ 3 +6.83 +19.39 +7.3 -23 = +20 -14 = +6 +7 \\ 4 -10.29 -10.05 -50 +34 = -16 +10 = -6 -5 \\ 5 +5.89 -9.72 +19 -19 = 0 +10 = +10 +11 \end{array}$$

$$M + 0.35 -133 = -1 +1 +1$$

$$\begin{array}{r} \Delta \eta -8.5\eta -1.6\eta -5 \\ +3 -8 = -5 +13 = +8 \\ -10 +30 = +20 -7 = +13 \\ +86 -65 = +21 -11 = +10 \\ -50 +45 = -5 +16 = +11 \\ -30 +48 = +18 -9 = +9 \end{array}$$

$$0 +6 -1 0$$

$$\begin{array}{r} 2) -18.54 -8.25 = -64 = -47 \\ -9.27 -4.12 = -32 = -23.5 \end{array}$$

$$\begin{array}{r} 3) +16.98 -2.07 = +69 = +46 \\ +5.66 -0.69 = +23 = +15.3 \end{array}$$

$$\begin{array}{r} -14.93 -3.43 = -55 = -38.8 \\ -14.93 = -49.9 = -23.4 \end{array}$$

$$\eta = +3.3 = +1.6$$

Two Small
Amalgams

9263			Stanford Coordinates		
Cap. No.	559-1145.3		Cap. No.	575-1146.9	Cap. No. 576-1147.9
C	03 99 18.11		03 51 27.59		03 52 37.60
E	18.13		27.99		59.60
Mean	03 47 18.12		03 51 21.51		03 52 37.60
Pre	59.00		53.72		54.76
q	03 45 12.12		03 52 21.23		03 53 51.36
A	3 79 56.00		3 77 56.00		3 79 56.00
I-A	- 9 93.88		+ 2 25.23		+ 3 58.36
Sum (I-A)	- 253.86		+ 175.23		+ 238.33
log. "	2.903111		2.16206		2.37718
cos	9.95012		9.96000		9.95009
h ₅₀	0.91697		0.62930		0.33451
z ₁₀	- 8.2503		+ 4.2289		+ 6.8314
z ₁	- 1.9		+ 1		+ 1.3
z ₁	12.7183		26.2071		28.8367
z ₁	17.3176		26.2369		25.6727
z ₁	+ 5.693		- 2.3		+ 6.35
C	+ 25 16 38.7		+ 29 10 19.6		+ 26 59 39.8
I					
C	90.0		17.0		39.8
Mean	+ 25 16 39.3		29 10 17.3		26 59 39.8
Pre	+ 2 92.6		- 17.2		2 37.6
J	+ 25 17 29.7		29 12 54.8		26 57 11.4
D	25 05 29.0		25 05 29.0		25 05 29.0
J-D	+ 19 09.9		- 52 25.2		+ 1 51 53.4
Sum (J-D)	+ 590.9		- 31 85.9		+ 6 71 5.8
log. "	2.92474		3.49768		3.82705
h ₅₀	0.25589		0.22883		1.12820
z ₁₀	9.751		9.6530		9.7065
z ₁	18.329		1.2386		1.6690
z ₁	8.5614		7.7620		8.4281
z ₁	+ 1.8026		- 6.7924		+ 1.3750
z ₁	+ 0.0307		+ 0.071		+ 0.268
z ₁	17.8390		11.2666		32.9238
z ₁	17.773		11.7171		31.8618
z ₁	+ 31.3		+ 9.525		- 5.608

$B = 7.4$ 

92 63

Moon's Center

6

	x	$x - x_0$	Δx	$(x - x_0)^2$	$(x - x_0)(y - y_0)$	$y - y_0$
1	23.7505	+1.2385	0	1.5338	3.9099	+ 7.4
2	24.0000	+1.4880	0	2.2141	3.3957	+ 6.8
3	24.1928	+1.6308	0	2.6595	3.4060	+ 3.5
4	+24.3559	+1.8739	0	3.3999	3.3999	- 2.6
5	24.3501	+1.8381	0	3.3786	3.3971	- 5.7
6	24.0000	+1.4880	0	2.2141	3.3955	- 7.0
7	23.0000	+0.4880	0	0.2381	3.3845	- 18.0
8	22.5120	0.0000	0	0.0000	3.3878	- 19.7

	y	$y - y_0$	$(y - y_0)^2$	R	R^2
				3.9025	3.9010
1	15.9993	-1.3697	-1	1.8761	+138°
2	15.7770	-1.0870	-0	1.1816	126°
3	16.0000	-0.8640	-0	0.7965	118°
4	16.8690	0.0000	0	0.0000	90°
5	17.0000	+0.1360	+0	0.0185	86°
6	17.9509	+1.0869	+0	1.1819	54°
7	18.6377	+1.7737	+1	3.1469	15°
8	+18.7095	+1.8405	+1	3.3878	0 / 138°

Approx. Center

$$x = 24 \quad y = 15.7770$$

$$17.9509$$

$$33.7279$$

$$y_0 = 16.8690$$

$$y_{\max} = 18.7095$$

$$R = 1.8405$$

$$x_{\max} = 24.3559$$

$$x_0 = 22.5113$$

Moon's Center

$$\begin{cases} x_0 = 22.5120 \\ y_0 = 16.8690 \end{cases}$$

92.63

Moor's Center

6

	x	y	z	x^2	y^2	z^2	$x^2+y^2+z^2$
1	23.7505	+1.2382		1.5338	39.099	+ 79	
2	24.0000	+1.4440		2.2191	33.937	+ 68	
3	24.1925	+1.6308		2.6395	34.060	+ 35	
4	+24.3557	+1.8939		3.3979	33.999	- 26	
5	24.3501	+1.8341		3.3732	33.971	- 58	
6	24.0000	+1.4880		2.2191	33.905	- 70	
7	23.0000	+0.9880		0.2381	3.3495	- 180	
8	22.5120	0.0000		0.0000	3.3878	- 197	

 $R = 3.9025$

	x	y	z	x^2	y^2	z^2	$x^2+y^2+z^2$
1	15.9993	-1.3497	-1	1.8161		+13.8	
2	15.7770	-1.0870	-0	1.1816		12.6	
3	16.0000	-0.8640	-0	0.7462		11.8	
4	16.8690	0.0000	0	0.0000		9.0	
5	17.0000	+0.1360	+0	0.0185		8.6	
6	17.9529	+1.0869	+0	1.1817		5.9	
7	18.6377	+1.7737	+1	3.1964		15	
8	+18.7075	+1.8905	+1	3.3878		0	

Moor's Center

$$\begin{aligned}
 x &= 24 & y &= 15.7770 \\
 & & & 17.9529 \\
 & & & 33.7279 \\
 y_0 &= 16.8690
 \end{aligned}$$

$$\begin{aligned}
 y_{max} &= 18.7075 \\
 z &= 1.8905
 \end{aligned}$$

$$\begin{aligned}
 x_{max} &= 24.3559 \\
 y_0 &= 22.5113
 \end{aligned}$$

Moor's Center

$$\begin{cases}
 x = 22.5120 \\
 y_0 = 16.8690
 \end{cases}$$

Formation of Normals.

1	- 1.70	+	92.0	-	101.5
2	- 1.63	-	101.5	+	75.0
3	- 1.40	+	57.0	-	30.0
4	+ 0.00	-	98.0		0.0
5	+ 2.52	-	99.5	-	74.0
6	+ 1.63	-	109.0	-	76.0
7	+ 0.88	-	88.0	-	349.0
8	+ 0.00	-	00	-	270.0
	<u>+ 5.02</u>		<u>+ 149.0</u>		<u>+ 75.0</u>
	<u>- 7.73</u>		<u>- 441.0</u>		<u>- 870.5</u>
	<u>+ 0.29</u>		<u>- 292.0</u>		<u>- 795.5</u>
			<u>+ 150.1</u>		<u>+ 71.2</u>
			<u>- 141.9</u>		<u>- 757.3</u>

	a	b	c	
a	+ 9	+ 11	- 5	- 9
b	+ 7	+ 13	- 4	- 6
c	- 15	+ 14	- 3	- 4
		+ 17	0	+ 2
		+ 17	+ 5	- 7
		+ 13	+ 4	- 2
		+ 4	+ 4	- 4
		+ 0	+ 4	- 8

0.0185

$$+ 0.29 + 11.5^{\circ} = + 2.75^{\circ}$$

$$+ [] + 0 = + 1.05^{\circ}$$

$$+ 15.63 + 0.29 = + 16.02$$

9263

Conditional Equations

+15" to each

7
0-c
new

1	+	1.29	-	1.37	=	+	78	-	10	+	89	=	+	79	-	5	-	17
2	+	1.49	-	1.09	=	-	68	-	12	+	71	=	+	59	-	127	-	133
3	+	1.63	-	0.86	=	+	35	-	13	+	56	=	+	43	-	8	-	12
4	+	1.89	0.00	=	-	26	-	15	0	=	-	15	-	11	-	9	-	9
5	+	1.89	+	1.37	=	-	54	-	15	-	89	=	-	104	+	50	+	57
6	+	1.99	+	1.09	=	-	70	-	12	-	71	=	-	83	+	13	+	15
7	+	0.49	+	1.77	=	-	180	-	4	-	116	=	-	120	-	60	-	69
8	-	0.00	+	1.84	=	-	147	-	0	-	120	=	-	120	-	27	-	35
		+	10.02	+	2.75								+	63	-	238		

$$+15.63 + 0.29 = -292 - 191.9$$

$$+15 \times 8 = +120 \text{ } 38$$

$$+183 - 118$$

$$+0.29 + 11.53 = -795.5 - 757.3$$

$$+ .29 \quad 0 = -5.9 - 2.6$$

$$+11.53 = -790.1 - 751.7$$

$$b = -68.5$$

$$+15.63 = -292 + 19.9 = -272.1$$

$$= -191.9 + 18.9 = -123.0$$

$$a = -17.4$$

$$+0.27 \Delta$$

$$b = -65.2$$

$$a = -7.9$$

$$+0.63 \Delta$$

Arc Measured 138°

$$\frac{P}{n} = .105$$

$$\frac{\Sigma V}{n} = +8$$

$$\text{Inv } 9 \quad 1.87$$

$$+8 \quad - \quad +76 \quad \Delta P = +0.9$$

$$-2PC = -0.77$$

$$110.5$$

$$\text{Corr } +0.2$$

$$\Delta C = -0.18$$

$$\Delta D = -0.2$$

$$\Delta P = +0.7$$

$$\Delta A = -0.47$$

$$\Delta d = -0.02$$

9.16.3

Conditional Equations

7

+ 15' equal

10.6

1	+	1.29	-	1.37	=	+ 79	-	10	+	89	=	+ 79	-	35
2	+	1.79	-	1.09	=	- 68	-	12	+	71	=	+ 59	-	127
3	+	1.63	-	0.86	=	+ 32	-	13	+	56	=	+ 93	-	8
4	+	1.89	-	0.00	=	- 26	-	15	0	=	- 15	-	11	
5	+	1.89	+	1.37	=	- 39	-	15	-	89	=	- 104	+	50
6	+	1.79	+	1.09	=	- 70	-	12	-	71	=	- 83	+	13
7	+	0.49	+	1.77	=	- 180	-	4	-	116	=	- 120	-	60
8		0.00	+	1.84	=	- 147	-	0	-	120	=	- 120	-	27
	+	10.	-	12.75								+	63	- 138

$$+ 15.63 + 0.29 = - 292 - 191.9$$

$$+ 0.29 + 11.53 = - 795.5 - 758.3$$

$$+ 29 \quad 0 = - 5.9 - 2.6$$

$$+ 11.53 = - 290.1 - 751.7$$

$$b = - 68.0$$

$$+ 15.63 = - 292 + 19.9 = - 272.1$$

$$a = - 11.4$$

$$= - 191.9 + 18.9 = - 123.0$$

$$b = - 65.2$$

$$a = - 7.9$$

Arc Measure of 138°

$$\frac{P}{n} = 10.5$$

$$\frac{E}{n} = 18.9$$

$$\frac{-28.9}{10.5} = +27.6 \quad \text{diff} = \pm 0.9$$

9263 Moon's Mean Position

8

$$\begin{array}{r} \gamma_0 = 22.5120'' \\ - 7'' \\ \hline 22.5113'' \end{array}$$

$$\begin{array}{r} \gamma_0 = 16.8690'' \\ - 39'' \\ \hline 16.8651'' \end{array}$$

From Plate Constants

$$x = 22.3518''$$

$$y = 16.6704''$$

$$\xi = +0.3519''$$

$$\eta = -1.3298''$$

$$\log \gamma = 9.57692''$$

$$\log \delta = 9.95757''$$

$$8.50724''$$

$$1.08164''$$

$$\log \tan \delta = 9.6654''$$

$$\xi = 9.0928''$$

$$7.0539''$$

$$5.8117''$$

A-A

$$+12.05''$$

$$\eta_1 = +0.0001''$$

$$A \quad 3 \quad 49 \quad 56.00''$$

$$\log h_0 = 0.12375''$$

$$\gamma_0 \quad 3 \quad 50 \quad 08.05''$$

$$7.33115''$$

$$2.79260''$$

Red

$$+4.21''$$

S-D

$$-10 \quad 20.3''$$

$$\delta' \quad 3 \quad 50 \quad 12.28''$$

$$D + 25 \quad 05 \quad 29.0''$$

$$S_0 + 24 \quad 55 \quad 03.7''$$

Red

$$+17.3''$$

$$\delta' + 24 \quad 55 \quad 21.0''$$

7263 Wilson Mean Position

8

$$\begin{array}{r}
 10 - 22.5120'' \\
 \quad - 4'' \\
 \hline
 22.5116''
 \end{array}$$

$$\begin{array}{r}
 40 - 16.8690'' \\
 \quad - 39'' \\
 \hline
 16.8609''
 \end{array}$$

From Plate Constants

$$x = 22.3318''$$

$$y = 16.6709''$$

$$z = +0.3519''$$

$$u = -1.3296''$$

$$-9.7957692''$$

$$+9.95737''$$

$$8.20724''$$

$$1.08161''$$

$$-6.70''$$

$$-9.6659''$$

$$+9.2726''$$

$$1.0539''$$

$$5.8117''$$

$$1-A$$

$$+1.207''$$

$$n_1 + 0.0001''$$

$$A \quad 3 \quad 99 \quad 56.00''$$

$$-9.44 \quad 0.12375''$$

$$40 \quad 3 \quad 50 \quad 08.07''$$

$$7.23113''$$

$$2.79260''$$

$$red$$

$$+7.21''$$

$$D-D$$

$$-10 \quad 20.3''$$

$$4' \quad 3 \quad 50 \quad 12.28''$$

$$D + 25' \quad 05' \quad 29.0''$$

$$50 + 29 \quad 53 \quad 03.7''$$

$$red$$

$$+17.3''$$

$$5' + 29 \quad 55' \quad 21.0''$$

$$\begin{array}{r} 3 \quad 42 \quad 29.93 \\ \underline{25.72} \\ 4.21 \end{array}$$

$$\begin{array}{r} +23 \quad 50 \quad 53.5 \\ \underline{35.2} \\ 18.3 \end{array}$$

$$\begin{array}{r} 3 \quad 48 \quad 51.50 \\ \underline{47.10} \\ 4.40 \end{array}$$

$$\begin{array}{r} +31 \quad 37 \quad 71.0 \\ \underline{55.5} \\ 15.5 \end{array}$$

$$\begin{array}{r} 3 \quad 59 \quad 47.73 \\ \underline{40.05} \\ 7.12 \end{array}$$

$$\begin{array}{r} 21 \quad 51 \quad 19.6 \\ \underline{2.0} \\ 17.6 \end{array}$$

-40

-30°

3.
60 55 50 45 40 3½ +21°

9263

Reduction to Apparent Place

9

H + a	9	32.2 =	143° 03.0
H	5	72.1	
a	3	50.1	
G	22	71.1	
O + a	2	31.2 =	37° 48.0

Leg Cost 9 9576
 1 0 9098 +
 7 0 8674

Exp	Exp G + d	9	8	9	7	7
	g	1	3	1	9	2
	Sum g + d	9	7	8	7	7
	Jan's	9	6	6	7	0
		8	8	2	3	9

Log Supd	9.6276
Cus (H+d)	9.9026 n
to	1.2739
Sum (H+d)	9.7790
Sec 6	0.0724
	8.8239

lung 1, 2 1 1 9
" g 9, 5 9 2 5

log $h' 0,8011$ h
 $h 9,9192$

$$\begin{array}{r} f \\ g \\ h \\ \hline + 2,987 \\ + 0,391 \\ + 0,830 \\ \hline + 4,208 \end{array} \checkmark$$

$$\begin{array}{r} 9' + 16,296 \\ h' - 6,326 \\ i' + 7,370 \\ \hline + 17,344 \end{array}$$

1263

Reduction to Apparent Place

9

$$H_1 \alpha \quad 9 \quad 322.2 \quad 143^\circ \quad 63.0 \quad = \quad 2.4 \quad 55.06$$

$$H_2 \quad 5 \quad 72.1$$

$$L \quad 3 \quad 50.1$$

$$G \quad 22 \quad 71.1$$

$$G+L \quad 2 \quad 31.2 \quad 37^\circ \quad 98.0$$

$$\log \cos \delta \quad 9.9516$$

$$L \quad 0.70781$$

$$T \quad 0.8677$$

$$\log \cos G+L \quad 9.8977$$

$$q \quad 1.3192$$

$$\sin G+L \quad 9.7879$$

$$\sin \delta \quad 9.6670$$

$$8.8239$$

$$\log \sin \delta \quad 9.6276$$

$$\cos (H_1+L) \quad 9.9026n$$

$$L \quad 1.2737$$

$$\sin (H_1+L) \quad 9.7170$$

$$\sin \delta \quad 0.0924$$

$$8.8239$$

$$\log \delta \quad 1.2114$$

$$-q \quad 7.5925$$

$$\log T \quad 0.8011n$$

$$L \quad 7.7172$$

$$f \quad +2.987$$

$$g \quad +0.391$$

$$h \quad +0.830$$

$$T \quad 9.208$$

$$g' \quad +16.296$$

$$h' \quad -6.326$$

$$i \quad 1.7370$$

$$1.17349$$

7263

Lunar

Parallax

10

$$\begin{array}{rcl}
 \alpha' & 3 & 50 & 12.28'' \\
 \delta & 4 & 08 & 33.8'' \\
 \alpha - \alpha' & & 18 & 21.52'' \\
 = & + 40 & 35 & 22.60''
 \end{array}$$

$$\begin{array}{rcl}
 \frac{1}{2}(\alpha - \alpha') & + 1 & 46.63 \\
 7 & 33 & 35.97'' \\
 9.95727'' \\
 0.00000'' \\
 0.00138'' \\
 \hline
 9.95865''
 \end{array}$$

$$\gamma \quad 42 \quad 16 \quad 36.0''$$

$$\delta \quad 29 \quad 55'' \quad 21.0''$$

$$\gamma - \delta \quad 17 \quad 21 \quad 15.0''$$

$$\begin{array}{rcl}
 9.82640'' \\
 8.19877'' \\
 9.77462'' \\
 0.17217'' \\
 \hline
 7.67196''
 \end{array}$$

$$\alpha - \delta' \quad + 16 \quad 09.2''$$

$$\delta \quad + 25 \quad 11 \quad 30.4''$$

$$\text{Am Ephs} \quad + 25 \quad 11 \quad 28.9''$$

$$\alpha - \epsilon \quad + 1.2''$$

$$\begin{array}{rcl}
 \text{Cur. of Plate} & + 0.0 \\
 2^{\text{nd}} \text{ Order Ref} & - 0.0
 \end{array}$$

$$\text{I n Corr} \quad - 0.2$$

$$\delta \quad + 25 \quad 11 \quad 29.9$$

$$\alpha - \epsilon \quad + 1.0$$

$$\pi \quad 54' \quad 20''.05''$$

$$9.86913''$$

$$8.19877''$$

$$8.90320''$$

$$0.07340''$$

$$\hline 7.01950''$$

$$\alpha - \delta' \quad + 3' \quad 33''.27''$$

$$= \quad + 17''.22''$$

$$\alpha \quad 3 \quad 50 \quad 26.50''$$

$$\text{Am Ephs} \quad 3 \quad 50 \quad 25.70''$$

$$\alpha - \epsilon \quad + 0.80''$$

$$0.00$$

$$- 0.02$$

$$\alpha \quad 3 \quad 50 \quad 26.78''$$

$$+ 0.78''$$

7263

Zinnar

Parallax

10

$\angle$ 3 50 12.28"
 $\angle$ 9 08 33.8"
 $\theta - \angle$ 18 21.52"
 $= +90^\circ 35'$ 22.60"

$\frac{1}{2}(\angle - \theta)$ +1 46.63
 θ 33 3597"

9.95727"

0.00000"

0.00138"

9.95865"

θ 42 16 36.0"

θ 29 55 21.0"

$\theta - \theta$ 17 21 15.0"

9.82640

8.19877"

9.77962"

0.17217"

7.67196"

$\theta - \theta$ 16 07.1"

θ 125 11 30.1"

Ann Epts +25 11 28.9"

$\theta - \theta$ +1.2"

Error of plate -0.2
 2nd Order Ref 0.0

π 34' 20.05"

9.86913"

8.19877"

8.90320"

0.07390"

7.01950"

$\theta - \angle$ 13' 33.27"

$=$ 17.22"

θ 3 50 26.50"

Ann Epts 3 50 25.70"

$\theta - \theta$ +0.80"

0.00

13
19

2
1

3
2
3

1
2
1
2

2
2
1

4
2
1
1

9269

Star Measures

11

	a	x	u	d	y
1	15300		19838	16292	18350
13.3	12046		13090	897672	16176
19.7	4043		8889	68	3465
	92		20	318	32
	<u>13.3252</u>		<u>13.3264</u>	<u>19.7836</u>	<u>19.7820</u>
2	19720		18420	20270	17968
25.2	17652		1049286	19504998	1320809
11.6	5953		8086	92	1009
	10		12	52	62
	<u>25.2066</u>		<u>25.2072</u>	<u>11.5762</u>	<u>11.5779</u>
3	19570		16246	20320	16518
27.7	12190		1364035	1324666	1358278
31.7	9894		3035	6666	77
	70		22	09	09
	<u>27.7376</u>		<u>27.7390</u>	<u>31.7042</u>	<u>31.7064</u>

Moon Measures

	a	x	u	d	y
1	18960		17506	17838	17290
23.5	1923635		12244	11702	1338688
15.3	34		4072	0403	90
20	48		498	30	22
	<u>23.7720</u>		<u>23.7740</u>	<u>15.6130</u>	<u>15.6156</u>
2	18988		16492		
23.8	11298		14180		
16	98		7075		
	80		72		
	<u>23.7684</u>		<u>23.7698</u>		
4	20612		16824		
24	20498		691008		
17	02		06		
11	10		16		
	<u>24.0112</u>		<u>24.0092</u>		

9269

Star Measures

11

1	12300	19838	16292	18350
3.3	12046	13090	597672	16176
9.7	7073	8819	6872	5963
	72	20	318	32
	<u>13.3252</u>	<u>13.3264</u>	<u>19.7836</u>	<u>19.7820</u>
2	19720	18920	20270	17968
15.2	17652	1049286	17507978	1320809
11.6	5953	8086	72	1009
	10	12	50	62
	<u>25.2066</u>	<u>25.2072</u>	<u>11.3762</u>	<u>11.3799</u>
3	19570	16246	20320	16518
27.7	12190	1364035	1326666	1358278
31.7	1099	3035	6666	74
	70	22	09	09
	<u>27.7326</u>	<u>27.7390</u>	<u>31.7092</u>	<u>31.7069</u>

Moon Measures

1	18960	17506	17838	17290
13.3	1923635	12249	11702	1338688
5.3	39	7072	09	90
	78	498	30	22
	<u>23.9720</u>	<u>23.9740</u>	<u>15.6130</u>	<u>15.6156</u>
2	18988	16492		
38	11298	14180		
6	98	7075		
	80	72		
	<u>23.7689</u>	<u>23.7698</u>		
4	20612	16829		
29	20998	491008		
179	02	06		
61	10	16		
	<u>29.0112</u>	<u>29.0092</u>		

Moon Measures.

$$\begin{array}{r}
 9264 \\
 \underline{3} \quad 19606 \quad 16836 \\
 29- \quad 19498 \quad 6930 \\
 18.9 \quad + 9496 \quad 3633 \\
 + \quad 10 \quad 838 \\
 \hline
 29.0110 \quad 29.0119 \\
 \underline{5} \quad 20930 \quad 16690 \\
 23.7 \quad 13844 \quad 13250 \\
 18 \quad 4846 \quad 6055 \\
 \quad 32 \quad 60 \\
 \hline
 23.6584 \quad 23.6576
 \end{array}$$

$$\begin{array}{r}
 6 \\
 \underline{23} \\
 18.6
 \end{array}$$

$$\begin{array}{r}
 7 \\
 \underline{22.1} \\
 +18.7
 \end{array}$$

$$\begin{array}{r}
 8 \\
 \underline{22} \\
 18.6
 \end{array}$$

$$\begin{array}{r}
 19732 \quad 19862 \\
 19110 \quad 1549797 \\
 \quad 0809 \quad 50097 \\
 \quad 10 \quad 68 \\
 \hline
 18.5612 \quad 18.5626
 \end{array}$$

$$\begin{array}{r}
 19722 \quad 19817 \\
 12130 \quad 1739692 \\
 \quad 2628 \quad 88 \\
 \quad 00 \quad 780 \\
 \hline
 18.7610 \quad 18.7588
 \end{array}$$

$$\begin{array}{r}
 19726 \quad 18746 \\
 12216 \quad 1629879 \\
 \quad 0910 \quad 5079 \\
 \quad 10 \quad 32 \\
 \hline
 18.7528 \quad 18.7488
 \end{array}$$

9264

Moon Measures

12

3	19606	16836
9	19498	69303
6.9	9496	3653
+7	10	818
-	29.0110	29.0119
5	20920	16690
237	13844	13250
18	7876	6055
	32	60
	<u>23.6587</u>	<u>23.6276</u>

6
23
18.6

19732	19862
19110	15494
08	500
10	68
<u>18.5612</u>	<u>18.5626</u>

7
22.1
18.7

19722	19819
12130	17396
2628	88
00	780
<u>18.7610</u>	<u>18.7588</u>

8
22
18.6

19726	18796
12216	16298
0910	5079
10	32
<u>18.7528</u>	<u>18.7488</u>

9269. Times & Etc.

13

Sept. 27/15

Exp. to Star	04	22		04	34
" Moon	7	28	09.1	7	28 09.3
Clock fast		2	31.9		

H. Sid T.	4	25	37.3	$\delta - \alpha = + 0^h$	3 4 ^m
H. Long	4	44	31.05		
G. Sid T.	9	10	08.35		
Sid T. M.N.	12	20	46.77		
Interval	20	49	21.58		
Reduction		3	24.68		
G.M.T.	20	45	56.90		

From Naut alm.	R. A.	Dec.
Moon 20 ^h	03 49	23.39 + 25 08 42.9
Motion in 1 ^m		2.1538 5.721
" 45.9483	1	38.96 4 22.8
Saturn Place	3 51	02.35 + 25 13 05.7

Moon's age	19 days
Parallax	54' 49.9
Semi-d.	14 49.9
R.	889.9
Aug	13.6
Dist (7)	-0.6
R ₁	902.7
R ₂	1,935.5
AR	-926
(H+V)/R	1,842.9
R ₂	3,396.2

$$934 = 14.9$$

$$\begin{array}{r}
 a = -502.3 \\
 \quad 27 \\
 \hline
 -478.3
 \end{array}$$

9269. *James & Etc*

13

Sept 27/15

Egg to Star	0.9	2.2	0.9	3.9
1/1000	9	28	09.1	9 28 09.3
Clock fast		2	31.9	

H. Sid J.	9	2.5	37.3	8-X = +0" 3.9m
H. Long	9	7.9	31.05	
G. Sid J.	9	1.0	0.335	
Sid J. M. H.	12	2.0	96.77	
Intervall	20	4.9	21.58	
Reduction		3	24.68	
G. M. J.	20	9.5	5.6.70	

From Hunt Alm	R. A.	Dec.
Moons 20"	0.3	99 23.37 + 25 0.8 92.9
Moons in 1"		2.1238 5.721
" 45.9983	1	896 9 2.8
Jatular Place	3	51 0.235 + 25 1.3 0.7

Moons	Age	19 days
Parallax	59'	19.9
Semi-d.	19	99.7
R.		889.9
Ang		13.6
Int (H)		-0.6
R.		902.7
R.		1.9355
Ang		-9.26
11/4/10		1.8729
1/10		3.3962

939 = 14.9

- 502.3

27

- 478.3

9269

Plate Constants

19

χ	13.3258	25.2069	27.7383
ξ	13.7983	26.2596	28.8357
$\chi - \xi$	-4225	-10527	-10974

η	19.7828	11.5753	31.7053
η	19.8390	11.2666	32.7218
$\eta - \chi$	+0562	+3087	-7165

$$\begin{array}{rclclcl}
 \chi - \xi & +500\chi & & -91\chi & & +2.3\chi & & -165^{\circ}9 \\
 -4225 & +6663 & = +2438 & -811 & = +1627 & +31 & = +165^{\circ}8 & = -1 \\
 -10527 & +12603 & = +2076 & -975 & = 1601 & +58 & = 59 & = 0 \\
 -10974 & +13869 & = +2895 & -1300 & = 1595 & +64 & = 59 & = 0 \\
 22.1689 & +11084 & & -699 & & +51 & = 23.0971 &
 \end{array}$$

$$\begin{array}{rclclcl}
 \eta - \chi & +500\eta & & +91\chi & & +7.1\chi & & -995^{\circ}5 \\
 -562 & +9891 & +546 & = +9875 & +81 & = +995^{\circ}6 & = +1 \\
 +3087 & +5788 & +1033 & = +9908 & +47 & = 995^{\circ}5 & = 0 \\
 -7165 & +15853 & +1137 & = +9825 & +130 & = 995^{\circ}5 & = 0 \\
 16.9170 & +8958 & +909 & & +69 & = 16.8651 &
 \end{array}$$

$$\begin{array}{rclcl}
 \text{Tables} & a = -.8 & e = -1.2 & a - e = +.4 & b + d = 0 \\
 \text{lbs} & = -502.3 & = -504.1 & = +1.8 & : 0 \\
 o - c & -501.5 & -502.9 & & 0
 \end{array}$$

9269

Plate Constants

19

x	13.3258	25.2069	27.7383
y	13.7983	26.2596	28.8357
$-y$	-9225	-10527	-10979

x	19.7828	11.5753	31.7053
y	1983.90	11.2666	22.7618
$-y$	+0562	+3087	-7165

$$\begin{array}{rclcl}
 x-y & +500x & -914 & +2.3x & -165.9 \\
 1220 & +6663 & = +2438 - 811 & = +1627 + 31 & = +165.8 = -1 \\
 0527 & +12602 & = +2076 - 975 & = 1601 + 28 & = 59 = 0 \\
 10979 & +12869 & = +2895 - 1300 & = 1595 + 69 & = 59 = 0 \\
 22.1689 & +11089 & -699 & +51 & = 23.0971
 \end{array}$$

$$\begin{array}{rclcl}
 y-y & +500y & +914 & +7.14 & -995.5 \\
 562 & +9891 & +576 & = +9875 + 81 & = +9956 = +1 \\
 3687 & +5788 & +1033 & = +9908 + 97 & = 9955 = 0 \\
 7165 & +12853 & +1137 & = +9525 + 130 & = 9955 = 0 \\
 16.9170 & +8958 & +909 & +69 & = 16.8651
 \end{array}$$

$$\begin{array}{rclcl}
 \text{Tables} & a = -.8 & e = -1.2 & a-e = +.4 & b+d = 0 \\
 \text{Obs} & = 502.3 & = 509.1 & = +6.8 & = 0
 \end{array}$$

$$B = +,3$$

9267		Moon's Center							
x		$x - x_0$		$Ax(x - x_0)^2$		$(x - x_0)^2 + (y - y_0)^2$		$0 - C$	
1	23.9738	+	1.3050	0	1.7030	3.4000	+	38	
2	23.7691	+	1.6011	0	2.5635	3.4044	+	82	
3	+ 24.0112	+	1.8432	0	3.3973	3.3973	+	11	
4	24.0102	+	1.8422	0	3.3937	3.4006	+	49	
5	23.6580	+	1.4900	0	2.2201	3.3930	-	32	
6	23.0000	+	0.8320	0	0.6922	3.3982	+	20	
7	22.1680		0.0000	0	0.0000	3.3966	+	4	
8	22.0000	-	0.1680	0	0.0282	3.3918	-	48	

$$R^2 = 3.3962 \quad -7$$

y		$y - y_0$		$Ay(y - y_0)^2$		L			
1	15.6143	-	1.3027	-	1.6970	1.35	✓		
2	16.0000	-	0.9170	-	0.8409	1.20	✓		
3	16.9170		0.0000	0	0.0000	90	✓		
4	17.0000	+	0.0830	+	0.0069	90	-	88	
5	18.0000	+	1.0830	+	1.1729	58	✓		
6	18.5619	+	1.6449	+	2.7050	27	✓		
7	+ 18.7599	+	1.8429	+	3.3966	0	✓		
8	18.7508	+	1.8338	+	3.3632	355	✓	140	°

Approx Center

$$x_{max} = 24.0112$$

$$R_c = 1.8429$$

$$x_0 = 22.1682$$

$$y_{max} = 18.7599$$

$$y_0 = 16.9170$$

$$\text{Moon's Center} \begin{cases} x_0 = 22.1680 \\ y_0 = 16.9170 \end{cases}$$

7269		Moon's Center					
x		x - x ₀		x(x - x ₀) ²		(x - x ₀) ² (y - y ₀) ²	
1	23.9738	+1.3050	0	1.7030	3.4000	+	38
2	23.7691	+1.6011	0	2.5635	3.4049	+	82
3	+29.0112	+1.8932	0	3.3973	3.3973	+	11
4	29.0102	+1.8922	0	3.3937	3.9006	+	99
5	23.6580	+1.9900	0	2.2201	3.3930	-	32
6	23.0000	+0.8320	0	0.6922	3.3982	+	20
7	22.1680	0.0000	0	0.0000	3.3966	+	4
8	22.0000	-0.1680	0	0.0282	3.3919	-	98

$\Sigma = 3.3962$

y		y - y ₀		y(y - y ₀) ²		L	
1	15.6193	-1.3027	0	1.6970	1.35		
2	16.0000	-0.9170	0	0.8909	1.20		
3	16.9170	0.0000	0	0.0000	90		
4	17.0000	+0.0830	0	0.0069	90 -		
5	18.0000	+1.0830	0	1.1729	59		
6	18.5619	+1.6949	1	2.7053	27		
7	+18.7399	+1.8929	1	3.3966	0		
8	18.7508	+1.8338	1	3.3632	355		

Approx Center

$$x_{max} = 29.0112$$

$$R_c = 1.8929$$

$$x_0 = 22.1682$$

$$y_{max} = 18.7599$$

$$y_0 = 16.9170$$

Moon's Center { $x_0 = 22.1680$
 $y_0 = 16.9170$

Formation of normals.

$$1 - 1.69$$

$$2 - 1.47$$

$$3 + 0.00$$

$$4 + 0.08$$

$$5 + 1.61$$

$$6 + 1.36$$

$$7 + 0.0$$

$$8 - 0.31$$

$$+ 3.51$$

$$- 3.47$$

$$+ 0.04$$

$$+ 49.5$$

$$+ 131.5$$

$$+ 20.2$$

$$+ 81.0$$

$$- 47.5$$

$$+ 16.5$$

$$0.0$$

$$+ 8.2$$

$$+ 306.9$$

$$- 47.5$$

$$+ 259.4$$

$$- 49.5$$

$$- 75.5$$

$$0.0$$

$$+ 35.0$$

$$- 37.5$$

$$+ 33.0$$

$$+ 7.5$$

$$+ 88.0$$

$$+ 16.3.5$$

$$- 139.5$$

$$+ 7.0$$

		a	b	c		new 0-C
a	+ 9	+ 12	- 6	- 21	- 9	+ 5
b	+ 5	+ 14	- 5	- 27	- 6	+ 44
c	- 13	+ 16	0	- 31	+ 1	- 22
		+ 16	+ 0	- 31	+ 1	+ 11
		+ 13	+ 5	- 33	+ 3	- 57
		+ 17	+ 8	- 30	0	+ 4
		+ 0	+ 9	- 27	- 6	- 3
		+ 1	+ 9	- 23	- 7	- 53

+ 25.0

9269

Conditional Equations

								10-C	new 0-C
1	+ 3.30	- 1.30	= + 38	+ 24	- 0	= + 24	+ 19	+ 19	- 7
2	+ 1.60	- 0.92	= + 82	+ 30	- 0	= + 30	+ 50	+ 50	+ 25
3	+ 1.87	0.0	= + 11	+ 34	0	= + 34	- 23	- 23	- 54
4	+ 1.87	+ 0.08	= + 97	+ 34	+ 0	= + 34	+ 10	+ 10	- 21
5	+ 1.79	+ 1.08	= - 32	+ 28	- 0	= + 28	- 60	- 60	- 93
6	+ 0.83	+ 1.69	= + 20	+ 15	+ 1	= + 16	+ 4	+ 4	- 24
7	0.00	+ 1.87	= + 7	0	+ 1	= + 1	+ 3	+ 3	- 21
8	- 0.17	+ 1.83	= - 98	- 3	+ 1	= - 2	- 46	- 46	- 23

+ 81 - 129
Average 26

$$\begin{aligned}
 14.00 + 0.09 &= + 259.7 + 8.83 \Delta \\
 + 0.07 + 13.18 &= + 7.0 + 4.25 \Delta \\
 + .09 + 0 &= + .7
 \end{aligned}$$

$$+ 13.18 = + 7.7$$

$$b = + 0.35 + 0.32 \Delta$$

$$14.0 = + 259.7 - 1 = + 259.3$$

$$a = + 18.5 + 0.64 \Delta$$

Arc Measured 180°

$$\frac{C}{n} = 1.11$$

$$\frac{\Sigma V}{n} = -6$$

$$\text{See } R = 1.883$$

$$\frac{-6}{1.11}$$

$$- 54.5 \quad \Delta P = -0.7$$

$$\text{Correction} = +0.2$$

$$- 2R \times \text{Corr} = + 0.74 = \Delta$$

$$\text{True } \Delta = -0.5$$

$$\therefore \delta B = + 0''.24$$

$$\Delta \delta = + 0''.1$$

$$\text{neg} - ? \quad - 0.9$$

$$\Delta a = + 0''.47$$

$$\Delta \alpha = + 0''.02$$

$$\text{neg} - ?$$

9269

Conditional Equations

16

							16-C
1	+ 1.30	- 1.30	= + 38	+ 29	- 0	= + 29	+ 17
2	+ 1.60	- 0.92	= + 82	+ 30	- 0	= + 30	+ 50
3	+ 1.84	0.0	= + 11	+ 39	- 0	= + 39	- 23
4	+ 1.89	+ 0.08	= + 94	+ 34	+ 0	= + 34	+ 10
5	+ 1.79	+ 1.08	= - 33	+ 28	+ 0	= + 28	- 60
6	+ 0.83	+ 1.69	= + 20	+ 12	+ 1	= + 16	+ 7
7	0.00	+ 1.89	= + 9	0	+ 1	= + 1	+ 3
8	- 0.17	+ 1.83	= - 98	- 3	+ 1	= - 2	- 96

+ 81 - 129
Average 26

$$14.00 + 0.09 = + 259.7$$

$$+ 0.09 + 13.18 = + 9.0$$

$$+ 0.09 + 0 = + 7$$

$$+ 13.18 = + 9.7$$

$$b = + 0.35$$

$$14.0 = + 259.7 - 1 = + 258.7$$

$$a = + 18.5$$

Arc measured 190°

$$\frac{C}{h} = .11$$

$$\frac{\Sigma V}{h} = -6$$

$$\frac{-6}{.11} = -54.5 \quad \Delta H = -0.7$$

9269 Moon's Mean Position

17

$$\begin{array}{r} \alpha_0 \ 22.1680^{\circ} \\ + 9^{\circ} \\ \hline 22.1689^{\circ} \end{array}$$

$$\begin{array}{r} \gamma_0 \ 16.9170^{\circ} \\ 0^{\circ} \end{array}$$

From Plate Constants

$$\alpha \ 23.0971^{\circ}$$

$$\alpha \ 16.8651^{\circ}$$

$$\xi_0 + 1.0971^{\circ}$$

$$\eta_0 - 1.1349^{\circ}$$

$$\log \xi \ 0.01999^{\circ}$$

$$\log \tan \delta \ 9.6673^{\circ}$$

$$\log \xi \ 9.93748^{\circ}$$

$$\xi_0 \ 0.0399^{\circ}$$

$$\underline{8.50724^{\circ}}$$

$$\underline{7.0537^{\circ}}$$

$$15.5527^{\circ}$$

$$6.7606^{\circ}$$

$$\alpha - A \quad + 35.91^{\circ}$$

$$\eta \quad + 0.0006^{\circ}$$

$$A \ 3 \ 99 \ 56.00^{\circ}$$

$$\log \eta_0 \ 0.05519^{\circ}$$

$$\underline{7.33115^{\circ}}$$

$$\alpha_0 \ 3 \ 50 \ 31.91^{\circ}$$

$$\underline{2.72408^{\circ}}$$

$$\text{Red} \quad + 7.21^{\circ}$$

$$\delta - D \quad - 8 \ 49.7^{\circ}$$

$$\alpha' \ 3 \ 50 \ 36.12^{\circ}$$

$$D \ 25 \ 05 \ 24.0^{\circ}$$

$$S_0 \ 24 \ 56 \ 343^{\circ}$$

$$\text{Red} \quad + 17.3^{\circ}$$

$$S' \ 24 \ 56 \ 51.6^{\circ}$$

209 Moon's Mean

Position

17

$$\begin{array}{r} \lambda_0 \quad 22.1680'' \\ \quad \quad + 9'' \\ \hline 22.1689'' \end{array}$$

$$\begin{array}{r} \gamma_0 \quad 16.9170'' \\ \quad \quad \quad 0'' \\ \hline \end{array}$$

From Plate Constants

$$\lambda \quad 23.0971''$$

$$\gamma \quad 16.8657''$$

$$\lambda_1 \quad +1.0971''$$

$$\gamma_1 \quad -1.1397''$$

$$\log \epsilon_1 \quad 0.01979''$$

$$\log \tan \delta \quad 9.6673''$$

$$\cos \delta \quad 9.92798''$$

$$\epsilon_1'' \quad 0.0379''$$

$$8.50724''$$

$$7.0538''$$

$$1.55527''$$

$$6.7606''$$

$$\lambda - A \quad +35.91''$$

$$\gamma_1 \quad +0.0006''$$

$$A \quad 3 \quad 99 \quad 56.00''$$

$$\log H_0 \quad 0.05518''$$

$$7.33115''$$

$$\lambda_0 \quad 3 \quad 50 \quad 31.91''$$

$$2.7290''$$

$$\text{Red} \quad +7.21''$$

$$\delta - D \quad - \quad 8 \quad 99.7$$

$$\lambda' \quad 3 \quad 50 \quad 36.12''$$

$$D \quad 25 \quad 03 \quad 29.0''$$

$$S_0 \quad 29 \quad 56 \quad 39.3$$

$$\text{Red} \quad 1.7.3$$

$$S' \quad 29 \quad 56 \quad 51.6$$

9269

Reduction to Apparent Place 18

$$H + \alpha \quad 9 \quad 32.4 = 193^\circ 6.$$

$$H \quad 5 \quad 47.9$$

$$\alpha \quad 3 \quad 50.5$$

$$G \quad 22 \quad 41.1$$

$$G + \alpha \quad 2 \quad 31.6 = 37^\circ 54$$

$$\delta \quad 24 \quad 56.6$$

$$\log \cos \delta \quad 9.9575$$

$$+ \quad 0.9098 +$$

$$= 0.8673$$

$$\log \cos G + \alpha \quad 9.8971$$

$$q \quad 1.3177$$

$$\sin \quad 9.7887$$

$$\tan \delta \quad 9.6675$$

$$8.8237$$

$$\log \sin \delta \quad 9.6250$$

$$\cos H + \alpha \quad 9.9029$$

$$h \quad 1.2739$$

$$\sin H + \alpha \quad 9.7785$$

$$\sec \delta \quad 0.0925$$

$$8.8239$$

$$\log q' \quad 1.2115$$

$$q \quad 9.5942$$

$$h' \quad 0.8018$$

$$h \quad 9.9188$$

$$f + \quad 2.987$$

$$q \quad +0.393$$

$$h \quad +0.829$$

$$+4.209 \checkmark$$

$$q' + 16.275$$

$$h' - 6.336$$

$$i + 73.68$$

$$17.307 \checkmark$$

9267

Reduction to Apparent Place 1.

$H + \alpha$ 9 32.9 - 193° 6.
 H 5 41.9
 α 3 50.5
 G 22 41.1
 $G + \alpha$ 2 31.6 - 37° 54

δ 24 56.6
 $\log \cos \delta$ 9.9375
 $+ 0.9098 +$
 $= 0.8673$

$\log \cos G + \alpha$ 9.8971
 q 1.3199
 Sum 9.7889
 tamed 9.6675
 8.8239

$\log \text{Sum } S$ 9.6250
 $\cos H + \alpha$ 9.9029
 t_h 1.2739
 $\text{Sum } H + \alpha$ 9.7785
 $\text{Sec } \delta$ 0.0925
 8.8239

$\log q'$ 1.2113
 q 9.5992

h' 0.8018
 h 9.7188

$f +$ 2.987
 q + 0.393
 h + 0.829
 $+ 4.209$

$q' + 162.75$
 $h' - 6.336$
 $i + 73.68$
 173.07

9269

Lunar Parallax

19

α' 3 50 36.12^h
 δ 4 25 37.3^h
 $\delta - \alpha'$ 35 1.18^h
 $=$ 8 45 17.70^h
 $\frac{1}{2} \delta$ 3 22.87^h
 $\frac{1}{2} \alpha'$ 8 41 59.83^h

π 54 19.9^h

9.86913^h
 8.19876^h
 9.18277^h
 0.04379^h
 7.29382^h

9.95727^h
 0.00000^h
 0.00301^h
 9.96228^h

$\delta - \alpha'$ 6 45.77^h

$=$ + 27.05^h

δ 42 30 53.2^h

δ 29 56 51.6^h

$\delta - \alpha$ 17 34 1.6^h

9.82670^h
 8.19876^h
 9.97975^h
 0.17019^h
 7.67590^h

$\delta - \alpha'$ + 16 16.2^h

δ 25 13 07.8^h

α 3 51 03.17^h

Ann Eph 25 13 05.7^h

Ann Eph 3 51 02.35^h

U-C + 2.1^h

U-C + 0.82^h

Curv. of Plate - 0.0

0.00

2nd Order ref 0.0

Irr Corr - 0.1

- 0.02

δ + 25 13 07.7^h

α 3 51 03.15^h

U-C + 2.0

+ 0.80

4269

Lunar Parallax

19

λ' 3 50 36.12"
 μ 7 25 37.3"
 $\delta - \lambda'$ 35 118"
 δ 8 45 17.70"
 μ 8 3 22.87"
 δ 8 41 59.83"

μ 57 19.9"
 9.86913"
 8.19876"
 9.18279"
 0.09397"
 7.29382"

9.95727"
 0.00000"
 0.00301"
 9.96228"

$\delta - \lambda'$ 6 45.79
 δ 27.05

μ 72 30 53.2"

δ 29 56 51.6"

$\delta - \lambda'$ 17 34 1.6"

9.12690"
 8.19876"
 9.97975"
 0.12299"
 7.47540"

$\delta - \lambda'$ 16 162

μ 25 13 07.8"

μ 3 51 03.17"

μ 25 13 05.7"

μ 3 51 02.35"

$\mu - \lambda'$ 12.8"

$\mu - \lambda'$ 0.82"

Curve of Plate - 0.0
 2nd Order 1/2 0.0

0.00

1
16
16
2
16
2
3
2
2
2
2
2
2
16
2
2
16
4

9286

Star Measures

31

	^d	ⁿ	^d	ⁿ
1	182132	18158	18296	17489
16.6	13172	13219	12080	13672
10.7	3036	14	80	6267
	18	38	77	82
	<u>16.5078</u>	<u>16.5066</u>	<u>10.6202</u>	<u>10.6189</u>
2	29858	17777	18752	17040
16.9	20232	17376	15508	10277
24.4	3835	72	0205	6067
	90	64	36	20
	<u>16.9606</u>	<u>16.9600</u>	<u>24.3242</u>	<u>24.3240</u>
3	17912	20310	19150	16282
27.1	17144	11050	19550	10868
29.6	3841	50	50	5961
	890	04	22	62
	<u>27.0770</u>	<u>27.0746</u>	<u>29.4588</u>	<u>24.4590</u>

Moon Measures

2	16872	20598
23.0	15898	11582
15.4	96	7277
	66	82
	<u>15.1029</u>	<u>15.0999</u>

~~2~~
~~22~~
~~15.1~~

2	20502	18368
23.6	15160	13698
16.0	4857	98
4X	790	56
	<u>23.5342</u>	<u>23.5372</u>

9286

Tar Measures

31

1	182132	18158	18296	17784
16.6	13182	13214	12080	13672
10.7	30362	19	80	4267
	18	38	79	82
	<u>165078</u>	<u>165066</u>	<u>166202</u>	<u>106189</u>

2	19858	17779	18752	17090
16.9	10232	17376	15508	10277
29.4	3835	72	0205	6067
	90	64	36	20
	<u>167606</u>	<u>167600</u>	<u>293292</u>	<u>293290</u>

2	17912	20310	19150	16282
17.1	17144	11050	19550	10868
29.6	3891	0	50	5961
	890	04	22	62
	<u>270770</u>	<u>270746</u>	<u>299588</u>	<u>299590</u>

Moon Measures

2	16872	20598
3.0	15898	11582
15.4	96	7277
	66	82
	<u>151629</u>	<u>150999</u>

~~2~~
~~3.0~~
~~15.4~~

2	20502	18368
13.6	15160	13698
16.0	4859	98
17	790	56
	<u>235392</u>	<u>235372</u>

9286

Moon Measures

2	19762	18360
23.7	13782	14302
16.4	8885	0805
+X	60	36
	<u>23.5976</u>	<u>23.5956</u>

5	19788	18328
23.6	14658	13953
17	4853	4850
	82	06
	<u>23.5134</u>	<u>23.5132</u>

6		18926	18812
23		11798	16920
17.9		8893	1015
		98	00
		<u>17.8112</u>	<u>11.8106</u>

5	20160	18352
22.8	12670	15902
18	8879	8292
	60	38
	<u>22.7480</u>	<u>22.7544</u>

8		18830	19080
22		16050	11878
18.3		3849	9089
		22	62
		<u>18.2787</u>	<u>18.2818</u>

2		18817	19070
20.6		15862	12000
18.3		5056	9296
+Y		820	38
		<u>18.2960</u>	<u>18.2958</u>

9286

Green Measures

2	19762	18360
23.7	13782	19302
16.9	8885	0885
17	60	36
	<u>23.5976</u>	<u>23.5956</u>

2	19788	18328
23.6	19658	13953
17	9853	9850
	82	06
	<u>23.5134</u>	<u>23.5132</u>

6		19926	18812
23		11798	1692015
17.9		8873	10
		98	00
		<u>17.9112</u>	<u>11.8106</u>

2	20160	18352
22.8	12670	12902
18	8879	8292
	60	38
	<u>22.7980</u>	<u>22.7594</u>

8		18830	19080
22		16050	1187889
18.3		3899	90
		22	62
		<u>18.2787</u>	<u>18.2818</u>

2		18817	19070
20.6		12862	12000
18.3		50	96
17		820	38
		<u>18.2960</u>	<u>18.2958</u>

9286

Times & etc.

33

Sept. 28 '15

Cp. to Stars	4	59		5	06
" .. Moon	4	59	57.3"	4	59 57.5"
Clock fast		2	33.9"		

H. Sid. J.	4	57	20.5"	$\delta - \alpha = +0^h 13^m$
H. Long.	4	44	31.03"	
G. Sid. J.	9	71	51.53"	
Sid. J. M. N.	12	27	43.32"	
Internal	21	17	08.23"	
Reduction		3	29.23"	
G. M. J.	21	13	39.00"	

From Naut. Alman.		P. A.		Dec.
Moon 21"	4	43	53.70	+26 57 30.0
Motion m/m			2.2032"	+2.641"
" " 13.6500			30.07"	+36.0"
Tabular Place.	4	44	23.77"	+26 55 06.0"

Moon's Age 20 days.

Parallax	54' 11".85
Semid.	17 47.7"
P.	88 7.7"
Aug.	13.6"
Ln. (S)	0.8"
P.	90 0.5"
IP.	1.9303"
app.	- 92.2"
(1+app)	1.8381"
P.	3.3786"

$$937 = 15.1$$

$$\begin{aligned} a &= -501.6 \\ &+ 29 \\ &\hline &= -477.6 \end{aligned}$$

9 2 86

Times & etc

3.

Sept 28 '15

Opp. to Stars	4	59		5	06
" Moon	4	59	59.3"	4	59 59.5"
Clock fast		2	33.9"		

H. Sid I	4	57	20.5"	4	1:10" 13"
H. Long	4	79	31.05"		
G. Sid I	9	71	31.53"		
Sid I M. M.	12	21	93.32"		
Internal	21	17	08.23"		
Reduction		3	29.23"		
G. M. I.	21	13	39.00"		

From Mount Allen		R. A.		Dec.
Moon 21"	4	93	53.70	+26 57 30.0
Reduction m/m			2.2032"	1.641"
" 13.6500			30.07"	1.26.0"
Tabular Place	4	94	23.77"	+26 55 06.0"

Moon's Age 20 days

Parallax	54' 11" 85"
Secund	17 47.7"
R.	887.7"
Aug	13.6"
Ln	18"
R.	900.5"
R.	1.1303"
all	-922"
total	1.8381"
R.	3.3786"

937 = 15.1

$$\begin{array}{r}
 a = -501.6 \\
 + 2.7 \\
 \hline
 - 477.6
 \end{array}$$

3)
+
+
+
2
+
-
10

9286

Plate Constants

29

x	y	α	δ
16.5072	10.6293	4 40 58.53	25 52 53.7
16.9603	24.3271	4 41 15.09	27 49 47.5
27.0758	24.9589	4 47 28.37	27 45 22.4
3) 60.5433	59.4023	12 128 101.99	79 191 123.6
20.1811	19.8007	4 43 13.99	+27 07 41.2
22	18	+56.39	-13 59.7
+1.8189	-1.8007	4 44 10.38	+26 53 41.5
31.5	266.5		
56.39	-839.7	Plate Center	$\begin{cases} A=4 44 41.5 \\ B=26 53 41.5 \end{cases}$

$$\begin{array}{rclclcl}
 x-3 & +500x & +73.74 & +1.6x & -1865.2 \\
 +9389 & +8254 & =+17843 & +783 & =+18626 & +26 & =+18652 & =0 \\
 +8352 & +8480 & =+16832 & +1793 & =+18625 & +27 & = & 5.2 & =0 \\
 +3268 & +13538 & =+16806 & +1803 & =+18609 & +93 & = & 6.2 & =0 \\
 21.7560 & +10878 & & +1213 & & +35 & = & 21.1639 &
 \end{array}$$

$$\begin{array}{rclclcl}
 y-4 & +500y & -73x & +2.94 & -8303 \\
 +4167 & +5310 & =+9477 & -1205 & =8272 & +31 & =+8303 & =0 \\
 -2692 & +12162 & =+9470 & -1238 & =8232 & +71 & = & 3 & =0 \\
 -2020 & +12229 & =+10209 & -1977 & =8232 & +71 & = & 3 & =0 \\
 16.9561 & +8228 & & -1588 & & +48 & = & 16.2976 &
 \end{array}$$

$$\begin{array}{lclcl}
 \text{Tables } a & = -9 & e & = -9 & a-e & = 0 & b+d & = -.2 \\
 \text{obs} & = -501.6 & & = -502.9 & & = +1.3 & & = -.7
 \end{array}$$

$$\begin{array}{lclcl}
 0-C & -500.7 & -502.0 & & -0.5
 \end{array}$$

9286

Plate Constants

29

x	y	x	y
16.5072	10.6193	9 90 58.53	25 52 53.7
16.9603	29.3291	9 91 15.09	27 49 97.5
27.0758	29.7589	9 97 28.37	27 45 22.9
60.5733	59.9023	12 128 101.99	79 191 123.6
20.1811	19.8007	9 93 13.99	+27 07 91.2
22	18	+56.39	-13 59.7
+1.8189	-1.8007	+77 10.38	+26.53 91.5
3.3	766.2		
56.39	-839.7		

Plate center $\begin{cases} A = 9 99 91.5 \\ B = 26 53 91.0 \end{cases}$

$$21.7560 + 10878 \quad + 1213 \quad + 35 \quad - 21.1039$$

$$16.9561 + 8228 \quad - 1588 \quad + 78 \quad - 16.2976$$

Tables $a = -1$ $e = -1$ $a - e = 0$ $b + d = -1.2$
 $b =$ $c =$ $d =$ $e =$

ξ	η	$\Delta \xi$	-1.83	-34	$+3$
1	-6.95	-7.82	-17	+12 ~ -5	+2 ~ -3
2	-5.87	+6.57	-12	+11 ~ -1	-2 ~ -3
3	+4.72	+6.65	+8	-9 ~ -1	-2 ~ -3
M	-0.90	-1.71	+2	+1	<u>+6</u>
	$\Delta \eta$	-2.74	-43	-3	
	+19	-19 ~ 0	+3 ~ +3		
	-15	+16 ~ +1	+2 ~ +3		
	-12	+16 ~ +4	-2 ~ +2		
	0	+8	0	<u>+1</u>	

9286				Standard Coordinates				25-			
Cape No 693-mq7.5				Cape No 694-mq8.3				Cape No 706-mq6.0			
C	4	40	03.30	04	40	19.10		04	46	32.28	
L			3.34			19.13				32.27	
E	4	40	3.27			19.03				32.26	
Mean	4	40	03.30	04	40	19.09		04	46	32.27	
Prec			+55.23			56.00				56.10	
α	4	40	58.53	04	41	15.09		04	47	28.37	
A	4	44	41.5	4	44	41.5		4	44	41.5	
A-A	-	3	42.97	-	3	26.41		+	2	46.87	
tan(A-A)	-	2	22.96	-	2	06.90		+	1	66.87	
" "	2	34	82.2 n	2	31	47.1 n		2	22	23.8	
End	9	9	54.10	9	9	46.96		9	9	46.92	
Σ	0	8	09.56 n	0	7	68.91 n		0	6	76.53	
Σ	-	6	45.00	-	5	87.37		+	4	74.82	
Σ	-		17	-		12		+		8	
Σ	1	5	54.83	1	6	12.51		2	6	74.90	
X	1	6	50.72	1	6	96.03		2	7	07.58	
X- Σ	+	9	58.9	+	8	35.2		+	3	26.8	
C	+	2	55.1	2	7	43.05.2		2	7	43.48.2	
L			11.5			5.7				48.3	
E			11.2			5.6				48.2	
Mean	2	5	51.11.5	2	7	43.05.5		2	7	43.48.2	
Prec	+	1	42.2	+	1	42.0		+	1	34.2	
S	2	5	52.53.7	2	7	44.47.5		2	7	45.22.4	
D	2	6	53.41.5	2	6	53.41.5		2	6	53.41.5	
S-D	-	1	00.47.8	+	5	10.6.0		+	5	14.0.9	
tan(S-D)	-	3	64.8.2	+	3	06.6.2		+	3	10.1.1	
log "	3	5	6.207 n	3	4	86.60		3	4	91.51	
log "	0	8	93.22 n	0	8	17.75		0	8	22.66	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
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log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
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Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
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Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
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Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	
Σ	1	6	19.1	1	5	37.8		1	3	53.1	
Σ	8	3	58.4	8	3	12.2		8	1	27.7	
log tan S	9	6	85.9	9	7	21.0		9	7	21.2	

7286			Standard Coordinates			23		
Cape No 693-1147.5			Cape No 694-1148.3			Cape No 706-1146.6		
C	7	90 03.30	09 90	19.10	09 96	32.28		
L		3.39		19.13		32.27		
E	4	94 3.27		19.03		32.26		
Mean	7	90 03.30	09 90	19.09	09 96	32.27		
Prec		55.23		56.00		56.10		
L	7	90 58.53	09 91	15.09	09 97	2.837		
A	7	99 91.5	7 99	91.5	7 99	91.5		
A-A	-	3 92.97	-3	26.91	+2	96.87		
Sum(A)		-222.96		-206.90		+166.87		
" "	2	34822 n	2	31971 n	2	22238		
End		9.95910		9.94096		9.94691		
E		0.80956 n		0.76891 n		0.67653		
70								
L	-	6.9500	-	5.8737	+7	7982		
70		-17		-12		18		
L		15.5783		16.1251		26.7990		
L		16.5072		16.9603		27.0758		
L-7		+9589		+8352		+3268		
C		+25 51 11.7		27 93 05.2		27 93 98.2		
L		11.5		5.7		98.3		
E		11.2		5.6		98.2		
Mean		25 51 11.5		27 93 05.5		27 93 98.2		
Prec		+1 92.2		+1 92.0		1 54.2		
E		25 52 537		27 94 97.5		27 93 224		
D		26 53 41.5		26 53 91.5		26 53 91.5		
D-D	-	1 00 91.8		+51 06.0		+51 90.9		
Sum(D-D)		-36 98.2		+30 66.2		+3101.1		
Log..		3.56207 n		3.98660		3.99151		
70		0.89322 n		0.81775		0.82266		
LogTand		7.6859		97.210		9.7212		
C ²		1.6191		1.5378		1.3531		
70		8.3584		83122		8.1277		
70								
70		-7.8202		+6.5728		+6.475		
70		+0.0228		15.0205		+0.0139		
70		10.2026		29.5733		29.6609		
70		10.6193		29.3291		29.4589		
70		+9167		-2692		-2020		

$$A \sim 0$$

$$B = +3$$



9286

Moon's Center

26

	x	$x - x_0$	Δx	$(x - x_0)^2$	$(x - x_0) + (y - y_0)^2$	
1			0			
2	23,0000	+1,2930	↓	1,5450	3,3813	+27
3	23,5342	+1,7772		3,1584	3,3663	-123
4	+23,5966	+1,8396		3,3831	3,3831	+95
5	23,5133	+1,7563		3,0845	3,3804	+18
6	23,0000	+1,2930		1,5376	3,3733	-53
7	22,7762	+0,9892		0,9785	3,3624	-162
8	22,0000	+0,2930		0,0590	3,3867	+81
9	21,7570	0,0000		0,0000	3,3856	+70

	y	$y - y_0$	Δy	$(y - y_0)^2$	$R = 3.3786$
1					
2	15,1009	-1,3551	-0	1,8363	+138
3	16,0000	-0,4560	-0	0,2079	104
4	16,9560	0,0000	0	0,0000	90
5	17,0000	+0,5470	+0	0,2959	73
6	17,8109	+1,3549	+0	1,8357	82 43
7	18,0000	+1,6470	+0	2,3839	32
8	18,2801	+1,8241	+1	3,3277	8
9	+18,2959	+1,8399	+1	3,3856	0 - 1380

Approx. Center

$$\begin{aligned}
 x = 23 \quad y = & \begin{array}{r} 15,1009 \\ 17,8109 \\ \hline 32,9118 \end{array} \\
 & y_0 \quad 16,4559 \\
 & y_{\max} \quad 18,2959 \\
 & R \quad 1,8400 \\
 & x_{\max} \quad 23,5966 \\
 & x_0 \quad 21,7566
 \end{aligned}$$

$$\text{Moon's Center} \quad \begin{cases} x_0 = 21,7570 \\ y_0 = 16,4560 \end{cases}$$

Feb 8 60

Moore's Center

6

4

$$24 = 40$$
 Δy
$$12/11 = 1.1$$

$V = 3, 3, 7, 8, 6$

4

Approx. 11/10/1911

$x = 1 \times 10^{-3}$ 20 ± 7 1.5×10^9

51- 02 + 17087.09

3	2	9	1	1	8
---	---	---	---	---	---

$$16455392 = 5801 + 104 + 1000000$$

18900

$$X_{\text{max}} = 23.5988 \text{ C} + = 210.21$$

$x = 21.7566$

$$\begin{cases} x_0 = -25/10 \approx -2.5 \\ y_0 = 16.4560 \end{cases}$$

Formation of Normals.

2	-	1.69	+	33.5	-	36.5
3	-	0.82	-	219.0	+	56.5
4	+	0.0	+	81.0	+	0.0
5	+	0.95	+	31.5	+	9.5
6	+	1.67	-	65.5	-	71.5
7	+	1.53	-	160.5	-	249.5
8	+	0.47	+	19.5	+	147.5
9	+	0.0	-	0.0	+	129.0
	+	7.59	+	165.5	+	342.5
	-	2.51	-	445.0	-	357.5
	+	2.08	-	279.5	-	15.0

a +23
b +11
c -37

a	b	c
+29	-15	-23 ^v
+71	-5	-1 ^v
+92	+0	+5 ^v
+90	+6	+9 ^v
+39	+15	+14 ^v
+23	+17	+3 ^v
+6	+20	-11 ^v
+0	+20	-17 ^v

$$+2.08 + 13.27 = +5.27$$

$$+27 + 0.31 = +1.28$$

$$+12.96 = +3.89$$

$$+13.79 = +9.09 - 0.62 = +8.47$$

9286

Conditional Equations

	m	n	0	c	0-c	27 new 8-c
2	+1.24	-1.36	= +27	-26 - 3 = -29	+56	+33
3	+1.78	-0.76	= -123	-37 - 1 = -38	-85	-86
4	+1.89	+0.00	= +95	-38 + 0 = -38	+83	+88
5	+1.76	+0.54	= +18	-36 + 1 = -35	+53	+62
6	+1.24	+1.35	= -53	-26 + 2 = -24	-29	-12
7	+0.99	+1.54	= -162	-20 + 2 = -18	-197	-191
8	+0.24	+1.82	= +81	-5 + 4 = -1	+82	+71
9	+0.00	+1.89	= +70	-0 + 4 = +4	+66	+79

+ 340 - 258
Average 75

$$13.74 + 2.08 = -279.5 - 49.09$$

$$+2.08 + 13.27 = -15.0 + 5.27$$

$$+2.08 + 0.31 = -42.3$$

$$+12.96 = +27.3$$

$$b = +2.11 + 0.30 \Delta$$

$$13.74 = -279.5 - 4.9 = -283.9$$

$$a = -20.6 + 0.62 \Delta$$

Arc Measured 138°

$$\frac{p}{h} = .105$$

$$\frac{\Sigma v}{h} = \frac{10.2}{10.2} = +9.1$$

$$Inv \Delta = R \quad 1.87$$

$$10.2$$

$$-2RC = -1.87$$

$$\frac{+9.1}{.105} = +87$$

$$\Delta R = +1.2$$

$$Corr + 0.5$$

$$\Delta b = -0.55$$

$$\Delta d = -0.3$$

$$\Delta R = +0.7$$

$$\Delta a = -1.14$$

$$\Delta q = -0.09$$

9286

Conditional Equations

27

O-C

1	+1.29	-1.36	=	+27	-16	-3	=	-19	+56
2	+1.78	-0.46	=	-123	-37	-1	=	-38	-80
3	+1.89	+0.00	=	+70	-31	+0.3	=	-38	+83
4	+1.76	+0.54	=	+18	-36	+1	=	-35	+53
5	+1.29	+1.35	=	-53	-26	+2	=	-29	-29
6	+0.99	+1.54	=	-162	-20	+2	=	-18	-99
7	+0.29	+1.82	=	+81	-5	+4	=	-1	+82
8	+0.00	+1.89	=	+70	-0	+4	=	+4	+66

$$+390 - 258$$

Average 75

$$13.79 + 2.08 = -279.5$$

$$+2.08 + 13.67 = -13.0$$

$$+2.08 + 0.31 = -92.3$$

$$+12.96 = +27.3$$

$$b = +2.11$$

$$13.79 = -279.5 - 9.9 = -283.4$$

$$a = -20.6$$

Arc Measured 138°

$$\frac{p}{h} = +10.5$$

$$\frac{E}{h} = +9.1$$

$$\frac{+9.1}{+10.5} = +87 \quad \Delta R = +1.1$$

9268 *Martian Mean Position*

28

$$\begin{array}{r} \lambda_0 \quad 21.7570 \checkmark \\ \quad \quad - 1.0 \checkmark \\ \hline 21.7560 \checkmark \end{array}$$

$$\begin{array}{r} \gamma_0 \quad 16.4560 \checkmark \\ \quad \quad + 1 \checkmark \\ \hline 16.4561 \checkmark \end{array}$$

From Plate Constants.

$$X \quad 21.1034 \checkmark$$

$$y \quad 16.2976 \checkmark$$

$$z \quad -0.8966 \checkmark$$

$$n \quad -1.7054 \checkmark$$

$$\log \xi \quad 9.95260 \checkmark$$

$$\log \tan \delta \quad 9.7024 \checkmark$$

$$\cos \delta \quad 9.95112 \checkmark$$

$$\xi^2 \quad 9.9052 \checkmark$$

$$8.50724 \checkmark$$

$$7.0537 \checkmark$$

$$1.49424 \checkmark$$

$$6.6610 \checkmark$$

$$q-A \quad -31.21 \checkmark$$

$$n_1 \quad +0.0005 \checkmark$$

$$A \quad 9 \quad 49 \quad 91.5 \checkmark$$

$$\log h_0 \quad 0.23195 \checkmark$$

$$q_0 \quad 7 \quad 49 \quad 10.29 \checkmark$$

$$7.33112 \checkmark$$

$$2.90880 \checkmark$$

$$Red \quad 7.11 \checkmark$$

$$S-D \quad -13 \quad 15.8 \checkmark$$

$$q' \quad 9 \quad 49 \quad 17.70 \checkmark$$

$$D+26 \quad 5-3 \quad 91.5 \checkmark$$

$$S_0 \quad 26 \quad 40 \quad 25.7 \checkmark$$

$$Red \quad +12.5 \checkmark$$

$$S' \quad 26 \quad 40 \quad 38.2 \checkmark$$

9268 Moon's Mean Position

23

$$\begin{array}{r} \gamma_0 \quad 21.7570 \\ \quad - 10 \\ \hline 21.7560 \end{array}$$

$$\begin{array}{r} \gamma_0 \quad 16.4560 \\ \quad + 1 \\ \hline 16.4561 \end{array}$$

From Plate Constants

$$x \quad 21.1039$$

$$y \quad 16.2976$$

$$z \quad -0.8966$$

$$w \quad -1.7059$$

$$\log S \quad 9.95260$$

$$\log \tan \delta \quad 9.7029$$

$$\cos \delta \quad 9.95113$$

$$S \quad 9.9052$$

$$8.30729$$

$$T \quad 7.0539$$

$$1.99928$$

$$66610$$

$$9-A \quad - \quad 7.21$$

$$u \quad +0.005$$

$$A \quad 9 \quad 99 \quad 91.5$$

$$\log H_0 \quad 0.23195$$

$$\gamma_0 \quad 9 \quad 99 \quad 10.29$$

$$7.33112$$

$$2.90080$$

$$Red \quad 7.11$$

$$D \quad -13 \quad 12.8$$

$$d' \quad 9 \quad 99 \quad 19.90$$

$$D+26 \quad 5.3 \quad 9.15$$

$$S_0 \quad 26.70 \quad 29.7$$

$$Red \quad 7.12.5$$

$$d' \quad 26.70 \quad 38.2$$

$$\begin{array}{r}
 4 \quad 37 \quad 12.51 \\
 \underline{8.89} \\
 7.02
 \end{array}$$

$$\begin{array}{r}
 + 22 \quad 97 \quad 50.6 \\
 \underline{41.2} \\
 14.4
 \end{array}$$

$$\begin{array}{r}
 4 \quad 51 \quad 31.62 \\
 \underline{27.35} \\
 7.27
 \end{array}$$

$$\begin{array}{r}
 33 \quad 01 \quad 66.9 \\
 \underline{1 \quad 57.1} \\
 9.8
 \end{array}$$

$$\begin{array}{r}
 4 \quad 58 \quad 4.77 \\
 \underline{0.87} \\
 3.90
 \end{array}$$

$$\begin{array}{r}
 21 \quad 28 \quad 22.9 \\
 \underline{9.8} \\
 13.1
 \end{array}$$

$\cdot 40^\circ$
 $\cdot 30^\circ$
 $\cdot 20^\circ$
 $\cdot 10^\circ$
 $\cdot 0^\circ$
 $\cdot 10^\circ$
 $\cdot 20^\circ$
 $\cdot 30^\circ$
 $\cdot 40^\circ$

9268

Reduction to Apparent Place

$$H + \alpha \quad 10 \quad 21.6 = 155^\circ 29.0 \quad \delta + 26 \quad 3 \quad 2.6$$

$$H \quad 5 \quad 37.5$$

$$\alpha \quad 9 \quad 48.6$$

$$G \quad 22 \quad 41.7$$

$$G + \alpha \quad 3 \quad 25.8 = 51^\circ 29.0$$

$$\log \cos \delta \quad 9.9516$$

$$+ \quad 0.9092$$

$$= \quad 0.8608$$

$$\log \cos(G + \alpha) \quad 9.79486$$

$$+ \quad 1.3151$$

$$\sin \quad 9.8932$$

$$\tan \delta \quad 9.6985$$

$$8.8239$$

$$\log \sin \delta \quad 9.6502$$

$$\cos H + \alpha \quad 9.9587n$$

$$+ \quad 1.2790$$

$$\sin \quad 9.6194$$

$$\sec \delta \quad 0.0484$$

$$8.8239$$

$$\log g' \quad 1.1097$$

$$+ \quad 9.7307$$

$$h' \quad 0.8829n$$

$$+ \quad 9.7657$$

$$f \quad +2.994$$

$$g \quad +0.538$$

$$h \quad +0.585$$

$$+4.115$$

$$g' + 12.87$$

$$h' - 7.638$$

$$+ 7.258$$

$$12.496$$

9268

Reduction to Apparent Place

2

$$H + \alpha \quad 10 \quad 21.6 = 155^\circ 290' \quad 3 + 26 \quad 32.6$$

$$H \quad 5 \quad 37.5$$

$$\alpha \quad 9 \quad 99.1$$

$$G \quad 22 \quad 91.7$$

$$G + \alpha \quad 3 \quad 25.8 = 51^\circ 270'$$

$$\log \cos \delta \quad 9.7516$$

$$L \quad 0.90921$$

$$L' \quad 0.8608$$

$$\log \cos (G + \alpha) \quad 9.7996$$

$$g \quad 1.3151$$

$$\sin \quad 9.8932$$

$$\tan \delta \quad 9.6985$$

$$8.8239$$

$$\log \sin \delta \quad 9.6502$$

$$\cos H + \alpha \quad 9.9587n$$

$$L \quad 1.2790$$

$$\sin \quad 9.6799$$

$$\cos \quad 0.0484$$

$$8.8239$$

$$\log g' \quad 1.1097$$

$$g \quad 9.7307$$

$$L' \quad 0.8829n$$

$$L \quad 9.7657$$

$$L \quad +2.999$$

$$g \quad +0.538$$

$$L \quad +0.583$$

$$+9.115$$

$$g' + 12.87$$

$$L' - 7.637$$

$$L + 7.258$$

$$12.491$$

9286

Lunar Parallax

30

α' 4 49 14.90⁻
 δ 4 57 20.5⁻
 $\delta - \alpha'$ + 13 06.10⁻
 $= + 03.16$ 31.5⁻
 $+ 1$ 17.26⁻
 03.15 14.27⁻
 9.95727 ⁻
 0.00000 ⁻
 0.00070 ⁻
 9.95797 ⁻

δ 54 11.85⁻

9.86913 ⁻
 8.19768 ⁻
 8.75898 ⁻
 0.09981 ⁻
 8.87353 ⁻

$\alpha - \delta'$ 2 34.53⁻
 $= + 10.17$

δ 42 13 55.3

δ 26 40 38.2⁻

$\delta - \delta$ 15 33 17.1⁻

9.82670 ⁻
 8.19768 ⁻
 9.92839 ⁻
 0.17258 ⁻

$\delta - \delta$ 7.62504⁻

$\delta - \delta'$ + 14 302
~~29.7~~

δ + 26 55 08.9⁻

α 4 44 24.57⁻

Ann Ephs + 26 55 06.0⁻

Ann Ephs 4 44 23.77⁻

$\delta - \alpha$ + 2.4⁻

$\delta - \alpha$ + 0.80⁻

Curv. of Plate 0.0
 2nd Ord. Ref 0.0

+ 0.02

Im Corr - 0.3

- 0.07

δ + 26 55 8.1

α 4 44 24.53

$\delta - \alpha$ + 2.7

+ 0.76

1256

Lunar Parallax

α 9 49 99.98⁻
 γ 9 57 20.5⁻
 δ +13 00.40⁻
 ϵ +03 26 20.55⁻
 ζ +1 17.26⁻
 η 03 15 19.29⁻
 θ 9.95727⁻
 ι 0.00000⁻
 κ 0.00070⁻
 λ 9.95797⁻

μ 59 11.85⁻

7.86913⁻
 8.19768⁻
 8.75898⁻
 0.09981⁻
 8.87053⁻

ν 2 39.58⁻
 10.19⁻

ξ 42 13 55.3

$\omicron$ 26 90 38.2⁻

π 10 33 27.9⁻

9.82070⁻
 8.19768⁻
 9.92839⁻
 0.17257⁻
 7.62304⁻

ρ 8 19 30.2⁻
~~29.7~~

σ +26 55 08.9⁻

τ 99 29.58⁻

Ann. Eph. +26 55 06.0⁻

Ann. Eph. 9 99 23.77⁻

U-C +2.9⁻

U-C +0.80⁻

Curve of Plate 00
 2nd Ord. Ref. 00

+0.02

