

82455

9

28.8 -47 23

+36.6 to 1.0 C<sub>2</sub>(F)

0-013141

342  
200

8.65 +0.65 6-5 D Cap

van?

42270

44.8  
41.5

8.65  
916 178 267 (1)

415 180

+64 -40 -32 -016

+

-244 +056 GC  
-244 +060 GC  

---

-214 +057

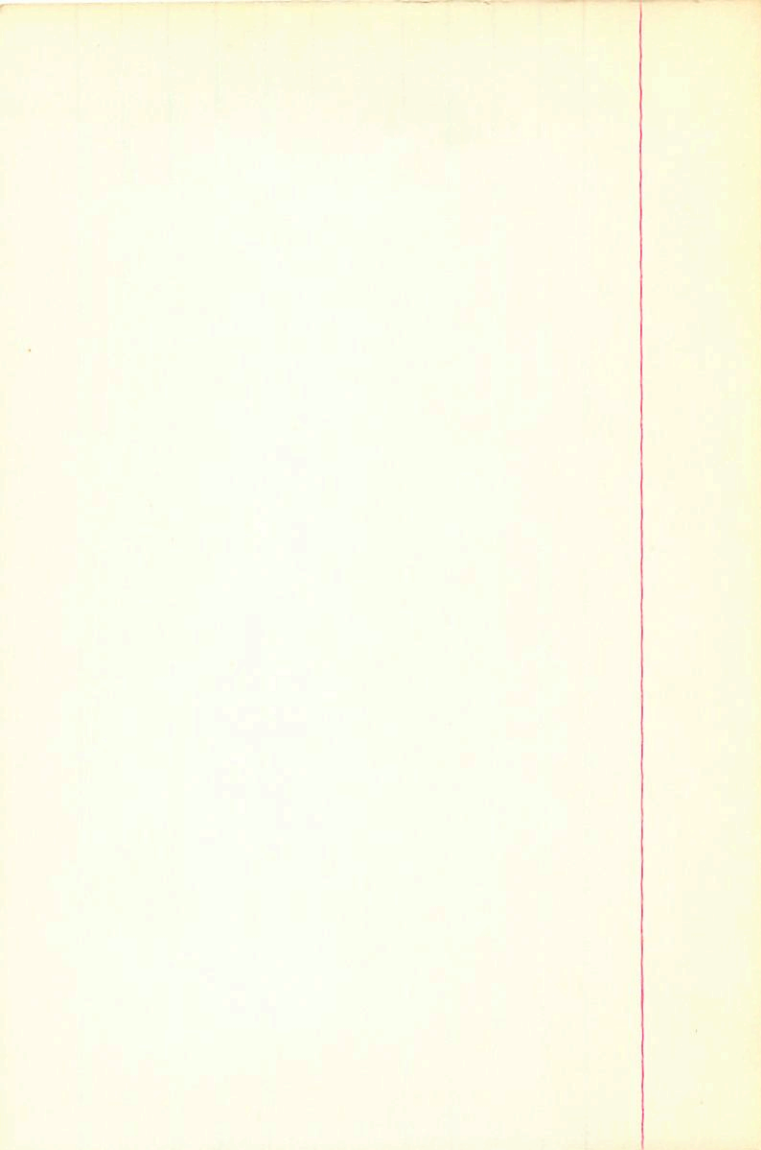
24713 C(6)

82515 9 28.9 -55 01 7.27 +162 MBIT +40.5

-0.009 +0.007 # 7 CP

~~-1.6~~ - +.8

-0.010 +0.003





-0009 ± 2.4 -0.14 ± 2.0  
-0008 -006

324ya 9

29.4 -00 58

+5.6 a

HRC3787

4.5

~~142 1008 60~~

4UG173

43 III

-0.13 -0.14

82446

26.009 1897.9

-0

5.7

47.99

1895.9

13153

$\frac{047}{.056}$

$\frac{+76}{47.23}$

6173

$\frac{25.997}{-1.24}$

$\frac{+257}{47.57}$

25.997

47.76 1940.24

39.7

$\frac{26.021}{.021}$

7520

021

26.020

11.85 1934.96

371.6

$\frac{16.512}{-0.31}$

46.95

47.50

$\frac{26.033}{.010}$

47.79

47.50

$\frac{26.040}{.029}$

47.30

-1.27

021

47.19

47.17

021

47.1

47.1

611-792 0 1 -0.13 -0.14  
008 010 ~~1.92~~ +0.65 +5.6 0 0 ~~3.22~~ -0.66  
617 0 +5.2 0 ~~5.5~~ ~~7.2~~ +5.6 -4.4 +3.4 0  
038 047

-0.2 +8.6 -2.3

009

-1.7 +6.8 -4.7

064

NVW

3.4-4.2

-0044±2.7 -00152.4  
-0045 -013

5 mo

4703803

9 29.7 -56 49 -13.9 e

6613140

3.19 +1.58

-036 -00462<sup>10+</sup>  
-031 -012030

42668

18160

42.082  
181  
.263

1408.9 -56 48 47.60 19028

+05  
47.55

6176

598  
148  
595

39.9

42.127

165

120  
15.124 .082  
-1.181

48.13 1940.46

-1  
48.14

9753  
48.8

48.14  
-1.59

46.0

-00419 -0007 6000  
22 -002  
-00349 -0034

-032-000

42.045

47.88 19 57.07

425  
48.13

0



~~Q 28.2 56 26~~



50.77 - 420  
808 0.89

3651 9 09.6 +4 05 A0

95167

79108  
12695

18.2  
55.2

6.13 -01 +01 C

36

DAO 487<sup>1</sup> +37+6  
7,1 +7+28  
1 +1 9.1  
44.1

-003 154 1036 2.879 at end

RWD

208  
1037  
45  
1.339  
1.339

a = -007  
a = 49

-46  
-4  
588  
+20

7914 -9496/0195  
6112 -3283/0122

48



A.	:	9.150
C.	:	4.100
A.	:	0.000
C.	:	0.000
CE	:	0.000
US	:	10
L.	:	0.000
D)	:	-0.686
D)	:	0.443
D)	:	0.576
HU	:	0.000
U	:	0.000
D)	:	-0.004
D)	:	0.790
D)	:	-0.613
V	:	0.000
V	:	0.000
D)	:	0.727
D)	:	0.423
D)	:	0.541
W	:	0.000
W	:	0.000

W8

8255 9 20.0 -10 55

-10.2857 ~~150 4950~~ 9.5

W 385 / ~~242+030~~ -110

816/45 ~~0.91 +03 (Sunday)~~ -267

30

-757 +031

2.00

77.3

-256

31

111

545

0.543 972  
1.021  
1.564

-0.583 -5.6  
-0.177 6  
-0.173  
-0.177

+028 753  
+0200  
0200  
00.5 ✓  
1.24  
4429

00.247  
5  
542

48.80  
-0.1  
48.01

-0.177 +023  
-0.177 +024  
5

0.221  
227  
223

20.19  
47.54

-1  
48.03

-2686  
-262 +020



10/1



99.500  
- 11.000  
- 267.000  
68.000  
2.000  
7.000  
- 8.700  
8.500  
8.377  
991.000  
87.054  
8.057  
8.004  
- 8.700  
14.075  
- 5.404  
8.070  
8.501  
8.475  
- 700.015  
- 15.071

49

AD. VELL. : 7.00  
 MODULES : 11  
 DISTANCE : 1.110  
 PM. DEC. : 31.000  
 PM. R.A. : -21.000  
 DEC. : 8.070  
 R.A. : 8.180

U : 18.000  
 Q1 (U) : 8.000  
 Q2 (U) : 8.000  
 Q3 (U) : 8.000  
 Q4 (U) : 8.000  
 Q5 (U) : 8.000

V : 1.000  
 Q1 (V) : 8.000  
 Q2 (V) : 8.000  
 Q3 (V) : 8.000  
 Q4 (V) : 8.000  
 Q5 (V) : 8.000

Q1 (W) : 8.000  
 Q2 (W) : 8.000  
 Q3 (W) : 8.000  
 Q4 (W) : 8.000  
 Q5 (W) : 8.000

R.A. : 9.500  
DEC. : -10.950  
PM. R.A. : -256.000  
PM. DEC. : 31.000  
DISTANCE : 1.110  
MODULUS : 17  
AD. VEL. : 9.500

q1 (U) : -0.733  
q2 (U) : 0.566  
q3 (U) : 0.378  
dU : 956.585  
U : 19.536

q1 (V) : 0.057  
q2 (V) : 0.605  
q3 (V) : -0.794  
dV : 20.563  
V : -7.204

q1 (W) : 0.678  
q2 (W) : 0.561  
q3 (W) : 0.476  
dW : -724.871  
W : -7.566

49

3794 0349

9 30.1 +02 05

317 542

-0011 ± 3.4 -039 ± 2.7 -049

6.360 7.4 -0012 11.47 6.8 -041

47 -003 1.68 -045  
907 -001 B.15

-0012 -045

-0013 -0453

6.317 66.71 10.48 9.5

4 -25 +2.1

38 10.20 -18

-0145

-015 -042

6.304 20.60 10.18 -42

21 10.52 4.25

325 +27.6

10.25  
368

E=060

6.343 24.96 11.43

21 +22  
367 11.65

82543 9 30.1 + 2 05 6.2 FS + 2768

13172

6180

(3744)

23  
-0010 -047 N30

-0011 ± 3.4 -034 ± 2.7 66 → N80

-00115  
-043

-0012

-0180

-016-040

3.6

3.7

5.70

5.55

6.10

(2.4)

1500

10/24

69.70 137.6 0.144 (2) 64.37 121.4 0.141 (3)

6.36 134.9 0.136 (2) 63.38 119.7 0.158 (3)

62.37 108.7 0.125 (3)

61.36 110.5 0.124 (2)

60.37 90.1 0.132 (3)

54.26 73.1 0.120 (2)

25





07  
P.A. 1

2.000  
2.100  
18.000  
42.000  
4.220  
51.000  
52.000

4  
RANGE  
MODULUS  
RAD. VEL.

8.733  
8.428  
8.428  
30.125  
11.248

d1 (U)  
d2 (U)  
d3 (U)  
d4 (U)  
U

8.428  
8.428  
-0.428  
-127.428  
-58.428

d1 (U)  
d2 (U)  
d3 (U)  
d4 (U)  
U

8.428  
8.428  
8.428  
-142.142  
0.015

d1 (U)  
d2 (U)  
d3 (U)  
d4 (U)  
U

9.500  
2.100  
DEC. : -18.000  
DISTANCE : 50 -42.000  
MODULUS : 100 4.250  
RAD. VEL. : 70.79  
203 : 27.600

q1 (U) : -0.733  
q2 (U) : 0.466  
q3 (U) : 0.496  
du : -30.197  
U : 11.540

759  
q1 (V) : 0.057  
q2 (V) : 0.768  
q3 (V) : -0.637  
du : -157.873  
U : -28.767

80  
q1 (W) : 0.678  
q2 (W) : 0.439  
q3 (W) : 0.590  
MP : -145.146  
W : 6.012

300-

22 uwa

+0160 ± 2.9 -080 ± 2.0

82189

9 30.2 +72 26 5.8 dF6 -38.26

13178

6183

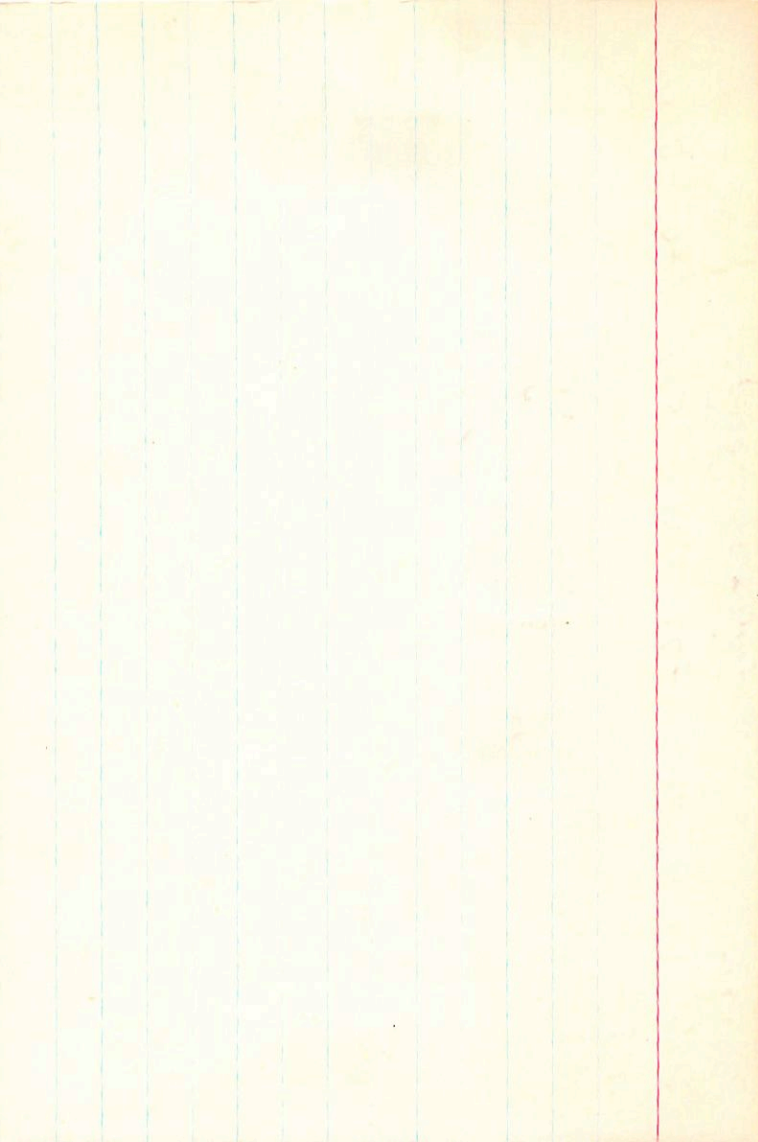
13.318 1888.6 +72 25 45.50 1892.9

-1.019

12.299

4.57

50.07



92523 9 30.4 28 35 A2 +24e

HR3792

-046 -0416c

6.35 +0.12 +0.10

A3III?

very diffuse line

-048 -058 X

1045

→ part A<sup>m</sup>  
above  
M.S.

100

-733 +197 +650

+057 +971 -230

+678 +131 +723

+1600 -0428

-0124 -2760

+1490 -6291

+1172

-2284

-1771

+11.7

-22.8

-17.8

+15.9

-6.0

+18.8

+28

-29

+1

608-794 479578-044-041 126 -020 412 -171 ✓  
028 012-037 016 057 232 +22.9 -18 +14  
-11 +42-9 008



-17.0

3791

9

30.4

+36

43

6265104

+032 -072-60

41 :

-041 :

;

57



886"9

0"236

0"098

-35"296

-0"088

-0"184

-37"602

0"671

-0"131

-17"000

199"526

\*6"500\*

-0"041\*

\*0"032\*

\*43"000\*

\*36"000\*

\*30"400\*

\*9"000\*

\*3791"000\*

+1200 -002  
3813 -34 0  
-8 -6

1317 1088 250  
-004  
-66 30 +002  
-017

+3.4 @

42854

-0039 ± 6.5 -012 ± 5.2

-0030 -1006 148  
-0043 1034

32409 99.1 -0017  
148  
33.107

87.58 94.4  
67  
50.91

~~1175~~  
-014 001 424  
33010 50.50

2625  
30310  
935  
32.50  
885  
1110  
595

12.87  
376.27  
5049  
32  
50.815  
50.80

9.5  
-66.5  
-25  
0

15 1265 1051  
13 1220 1051  
12 1275 101  
1288 1050 247

33.614  
42.05  
51.61  
71  
57.71

605  
-13.4

1000 1000  
1000 1000  
1000 1000  
1000 1000

52

0.733	RAD. VEL.
0.488	MODULUS
162	DISTANCE
2.858	PM. DEC.
0.088	PM. R.A.
137.088	DEC.
130.258	R.A.
0.258	

R.A. :	9.500
DEC. :	-66.500
PM. R.A. :	-35.000
PM. DEC. :	0.000
DISTANCE :	6.050
MODULUS :	162. <sup>h</sup>
RAD. VEL. :	3.400
	-0.733



82582 9 31.1 47 08 6.4 A5 +10.86

13194

6190

$\sim 0062 = 106$   
 $\sim 0063$

3.194 1905.1

$\frac{278}{:492}$

$\sim 0062 - 022$

$\sim 0061 - 021$

$\sim 062 - 021$

74.5 N

30.58 14036

$\frac{75}{3}$

81.3

$\sim 016 \pm 9.8$   
 $\sim 028$

$\sim 062 - 015$  CC  $\rightarrow$

63.143

030

$\frac{03173}{299}$

299

30.36

$\frac{-40}{2596}$

$\frac{1}{1.3}$

1952.26

$\frac{48666}{}$

-733 -020 680 | +2154 +0020

057 994 091 | -0168 -0989

678 -106 728 | -1962 +0106

+2174 +17.3 +7.3

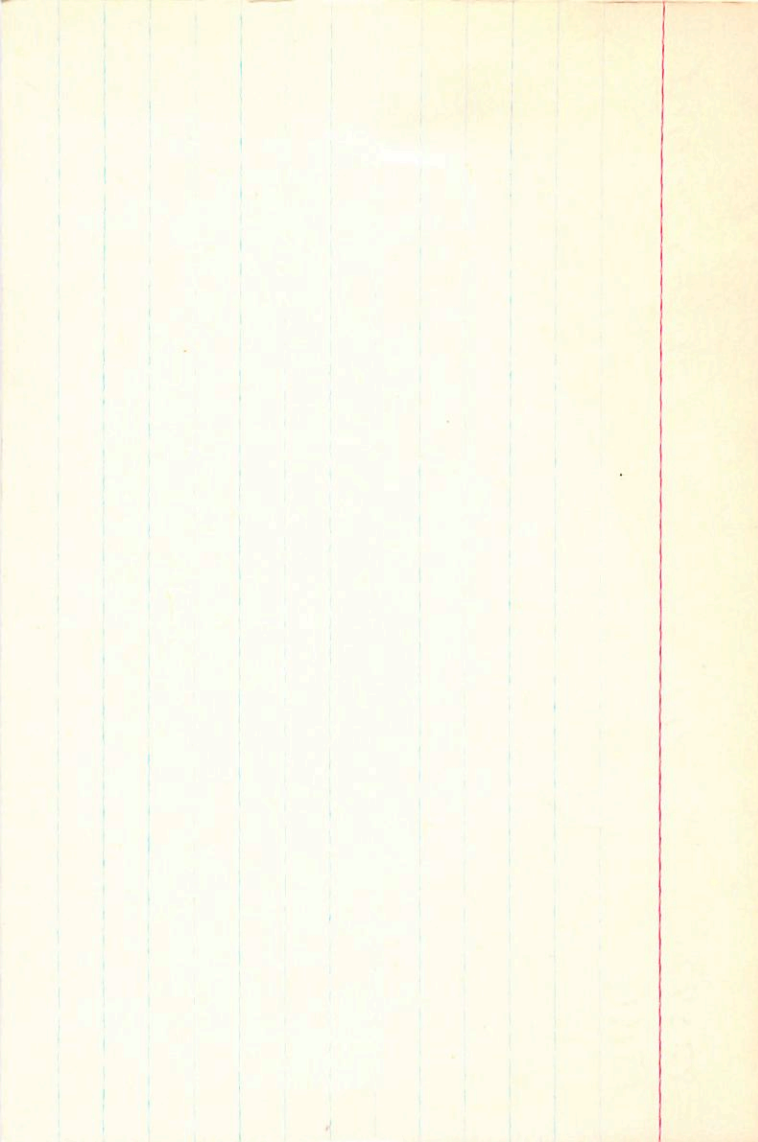
-1157 -9.2 +1.0

-1884 -15.0 +7.9

+246

-8.2

-7.1



812 9 312-88 84 F01B

812 ✓  
812 ✓

0022-1035 84m  
+0375

8122

-0374

[150 130]  
-0374 041

82785

18198

9 34.1

-38 54

+25.1(3)

-0032 +03<sup>32</sup> sty

-0375 +0387

-034 +041

G-L 13210  
1288  
+ 24 pm  
+ 44 59  
+ 45 C

-D42-1009 95  
-0040 +0118

S Val

1.97 R  
1.4  
0.55

Abundancy  
2005, 1986  
14.530 1403.7

185  
20.1795  
-0035 -006  
-0033 -004

+0.13 ±13  
024

-0.0040 -0.013

11.02 1503.2  
-61  
11.63  
32.70

30 23.455  
56.615

31 20.045  
11.53  
10604  
1.02  
-0.973

1927.71

034101  
-6.3  
-1.1

38.08  
10.78  
10.21  
11.99  
11.23  
12.2  
-59  
10.9  
5.4  
-6.8  
+1.2  
6.0  
+6.5

733 680 -004  
057 056 -997  
678 731 080  
+1216 -0129  
-0044 -0011  
-1125 -0130  
1087  
-0105  
-1204

+16.7  
-1.6  
-20.0  
+17  
-46  
+16  
0  
-44.9  
+3.0

53



R.A. : 9.500  
DEC. : -45.000  
PM. R.A. : -55.000  
PM. DEC. : 15.000  
DISTANCE : 6.000  
MODULUS : 158  
RAD. VEL. : 45.000

d1 (U) : -0.733  
d2 (U) : 0.480  
d3 (U) : -0.004  
dU : 173.838  
U : 27.380

d1 (V) : 0.027  
d2 (V) : 0.024  
d3 (V) : -0.227  
dV : -7.288  
V : -46.023

d1 (W) : 0.478  
d2 (W) : 0.731  
d3 (W) : 0.080  
dW : -83.330  
W :



R.A. : 9.500  
DEC. : -45.000  
PM. R.A. : -55.000  
PM. DEC. : 12.000  
DISTANCE : 6.000  
MODULUS : 158  
RAD. VEL. : 45.000

q1 (U) : -0.733  
q2 (U) : 0.680  
q3 (U) : -0.004  
dU : 173.838  
U : 27.380

q1 (V) : 0.057  
q2 (V) : 0.056  
q3 (V) : -0.997  
dV : -7.368  
V : -46.023

53  
q1 (W) : 0.678  
q2 (W) : 0.731  
q3 (W) : 0.080  
dW : -83.332  
W :



82819 9 32.0 +8 25 2m3

17-5  
115

7.34 + 1.67 + 1965 ③

6.22 + 0.92 ③

60887 584  
121  
443 596 82  
570  
115  
455  
385

+4574

+0002 -005 86 20  
0 +1  
+0002 -004 84

+003 +3

+005 -001

+low

455  
205  
815

+low

54



19,000\*

NR 3809

9 32.0 +39

14082741

474	474
23	474
14722	5214
948	
10902	

~~-032 +012~~

-023 +010 GC

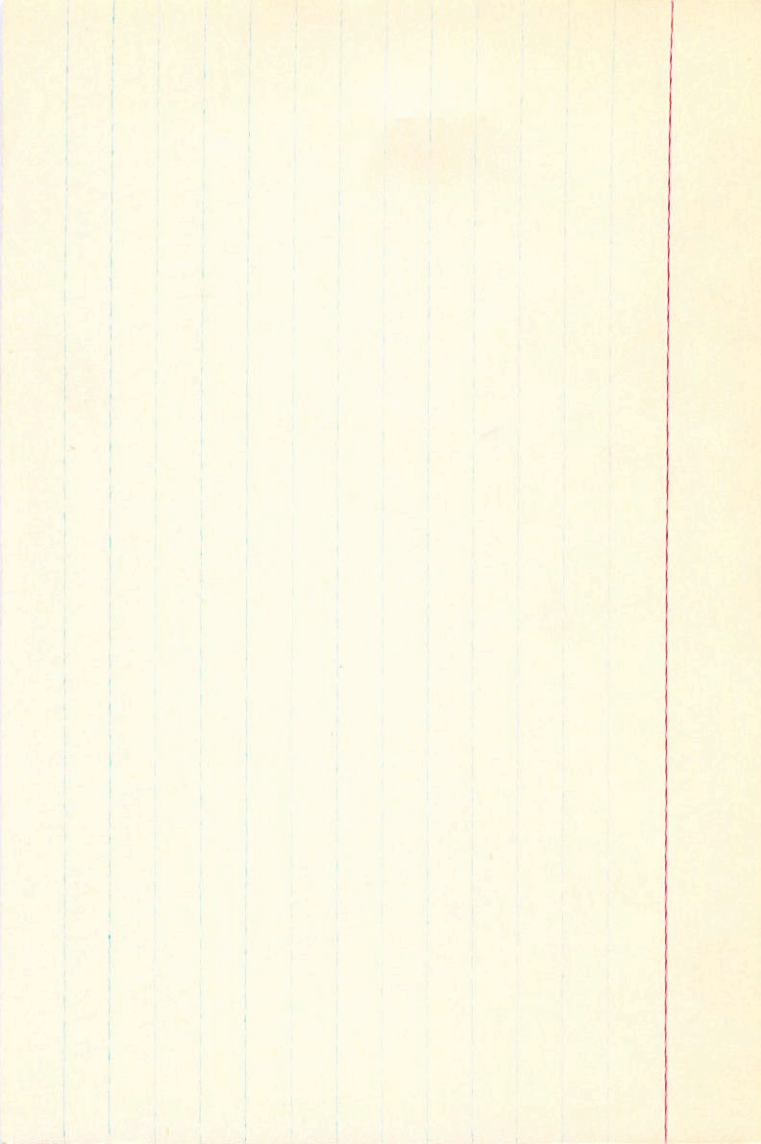
-0020

4.94

26.82

-738 068 670	+0806 +0035	+0.841 +4.8-8.0	-3.2
065 998 -030	-0071 +0518	+0447 +2.6 +0.4	+30
670 -020 740	-0732 -0010	-0742 -4.2 -8.8	-13.2

5.04 57.5



X 14ya  
83048

13247  
6203

-043-006  
9 33.1

-0075 ± 12.9  
-14 28

-038 ± 11.0  
7.2 9M7e + 42d

1402543

~~32~~ 6.939 1919.7

-14 28 3.43 1918.6

227  
7.16

+ 1.19  
2.24

-738 550 334  
064 558 829  
670 540 447

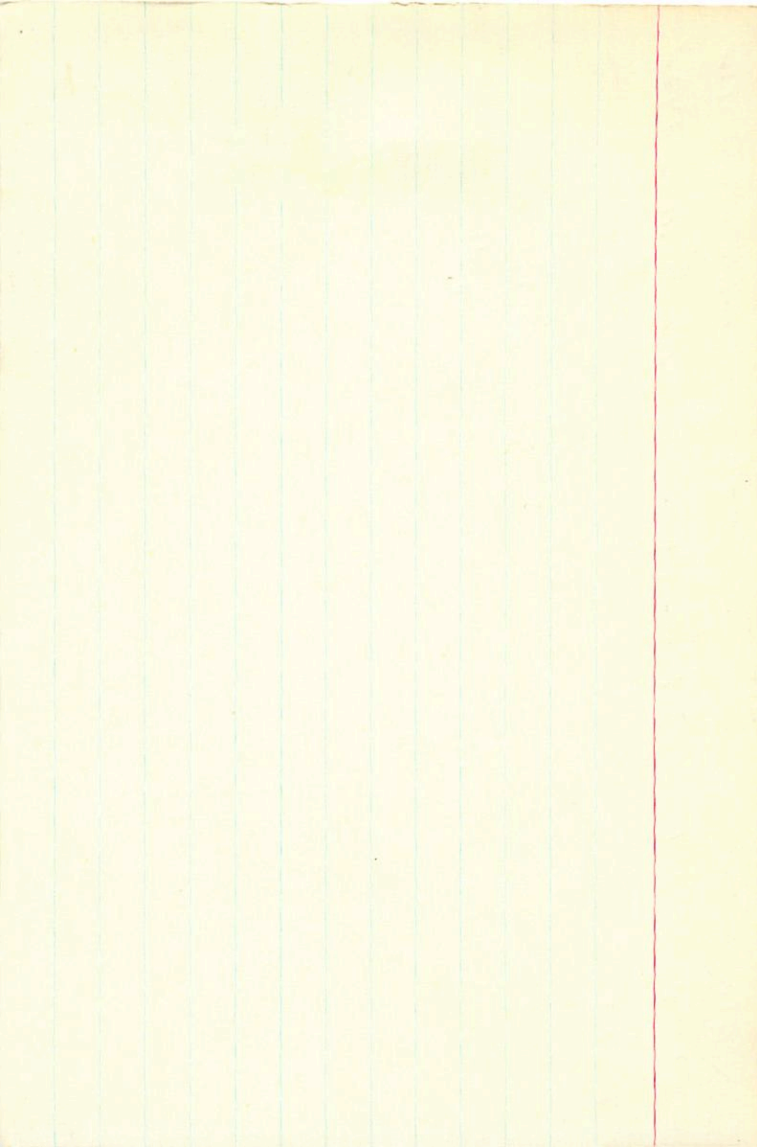
+1504-0156  
-0130-0156  
-1365-0166

1348  
-0288  
-1533

+148  
-64  
-134

+140  
-348  
+188

100000





+58<sup>0</sup> 1199

9 33.2

+58 8

-16.26

9.96 +0.63 +0.03 G3D R

AD57447

9.1 2 ?  
9.87 2.5  
10.75 2.3

S=14

4.15 = 67.7 ps

S

+0313 -318 Y

-2 0

+0311 -318

+1 0

~~+0312 -318~~

-777 -095 +624 | -9060 +1281 | -7779 -52.7 -10.1

+123 +952 +283 | +1434 -1.4347 | -1.2913 -87.4 -4.6

+617 -297 +728 | +7194 + 4476 | +1.1670 +79.0 -11.8

82685

9 33,2 +70 19 F0

HR3806

GC13252

2.2

0m20 4.3

~~-041 -029~~

~~-043 -026~~

-042 -033

<del>9532</del>	<del>17654</del>	] 0496 -0078
3022	-6436	

0534

5112

0084

5.37

~0096±34

~030±30  
~036

12.696 989 -0559

20.21 99.6

$\frac{490}{36}$

$\frac{146}{89}$

13.136

99.86

20.32

12.706  
 $-\frac{17}{89}$

$\frac{24}{20.06}$

~00565

~0335

~00013

+6013

~00998

~0322

~0467

~0011  
~0333

~042~033

EA 1.09

Y Leo 9 34.0 +26 27 9.72 A3+06 +10.8

6208

7110 Obacht

✓ B-V

$$\begin{array}{r} +0.19 \\ \hline -0.27 \\ \hline -0.08 \end{array} Y$$

97.5 +0.09 A

M6 +1.2 B

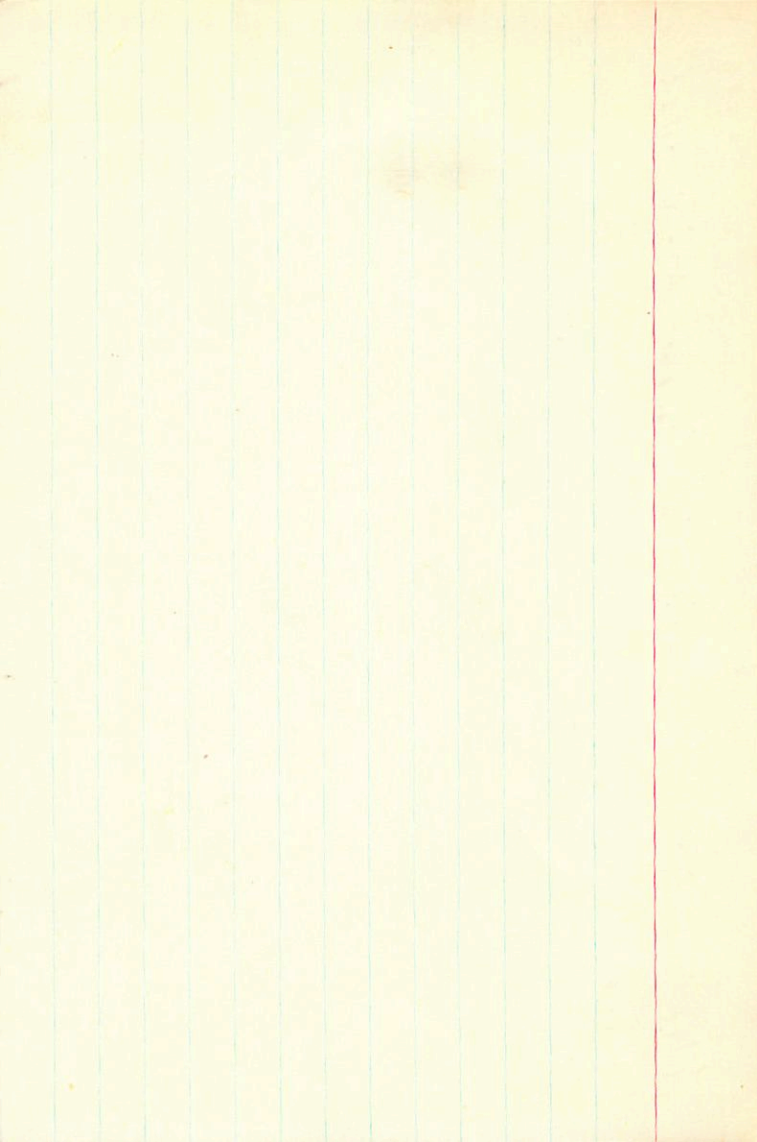
$$\begin{array}{r} -0.04 \\ \hline -0.31 \end{array}$$

" +0.20 " -0.10 → Reib-  
→ act

$$m_2^3 = 0.038 \quad a_1 = 1.3 \times 10^6 \text{ km}^2$$

$$\begin{array}{r} -2 \\ \hline +0.18 -0.09 \end{array} +1$$

$$\frac{m_2^3}{(m_1 + m_2)^2}$$





Answer

Q38B

67.35 10723 0.123 (B) 89.30 151.6 0.117

68.43 914 0.123 (D)

66.35 118.5 0.121 (B)

65.40 150.9 0.125 (A)

64.42 166.6 0.141 (C)

55-





g 32.0 - 21 15.

83273 9 35.0 +24 54 dF8 +31.48

9 Dec 6.6 -101 -022-6c

W6213 09 -0076<sup>12</sup> -022 N30  
-021±1.866 → N30

83273 350 188 400  
13291  
6213  
-107 -029 Y  
-103 -024

-0.9943 -0.0175

757-9723 1006 P<sub>0</sub> = +2.96  
657-9334 -0062  
+29.6 -1.8  
0.0161 3.96

1057  
0006  
D<sub>22</sub>  
0145  
4.19

591506 421 507 -103 -024 +31.4 -010 +13 -104 ✓

061006 083 008 251 422 +28.6 -23 +17

~~0074~~ -022

-6 +45 +6

015

591507 023

~~0074~~ -022 -020 4581 861

$\boxed{+42 -19 +1}$

427

140

9471

~~588 410~~  
588 571

-0023 -021 4554 418 -10 +38 +8

02

591442

-0024

+4  
4563

$\boxed{+36 -16 +7}$

+21

-0025

+39 -15 +4 017

-0550

23

$\boxed{-0993 -017.8}$

83443

+0025 ± 8.3  
+0013  
9 353

-153 ± 7.8  
-173

+31.2  
+27.6 ± 0.5 C<sub>2</sub>(4)

13300

sk → +0014 -13.6

8.21 + 81 NOZ

+26.6 (2)

42.887 14.786  
-0.98  
13.808

1910.6 -43 2 43.74 1910.2

+22 (3)

+0016 -135 →

6.09  
37.67

14.746

718

43.44

-30

43.74

1954.31

175)

+0.018 -1.135

<del>-596</del>	<del>-799</del>	<del>+668</del>	<del>-0508</del>	<del>+4761</del>
<del>-059</del>	<del>+093</del>	<del>+091</del>	<del>+0050</del>	<del>-0467</del>
<del>-972</del>	<del>+664</del>	<del>+728</del>	<del>-0402</del>	<del>+7289</del>

30pm

-744	+668	+007	-0635	-4274	-4909	-147	0	-147
+073	+091	-993	+0062	-0582	-0520	-16	-310	-32.6
+664	+738	+116	+0566	-4722	-4156	-125	+36	-89

1160

83343

13303

6216

9 35.3

+14 34

6.6 df=2 +23.06

-0048 ± 2.5 -091 ± 2.4  
-0045 -094

17.700 1901.0 +14 34 26.65 1898.3

$\frac{235}{935}$

$\frac{+4.70}{31.35}$

17.773  
 $\frac{220}{795}$

33.0

27.93  
 $\frac{11}{27.94}$

1433.9

$\frac{34.0}{85.7}$

17.731  
 $\frac{17}{748}$

$\frac{778}{778}$

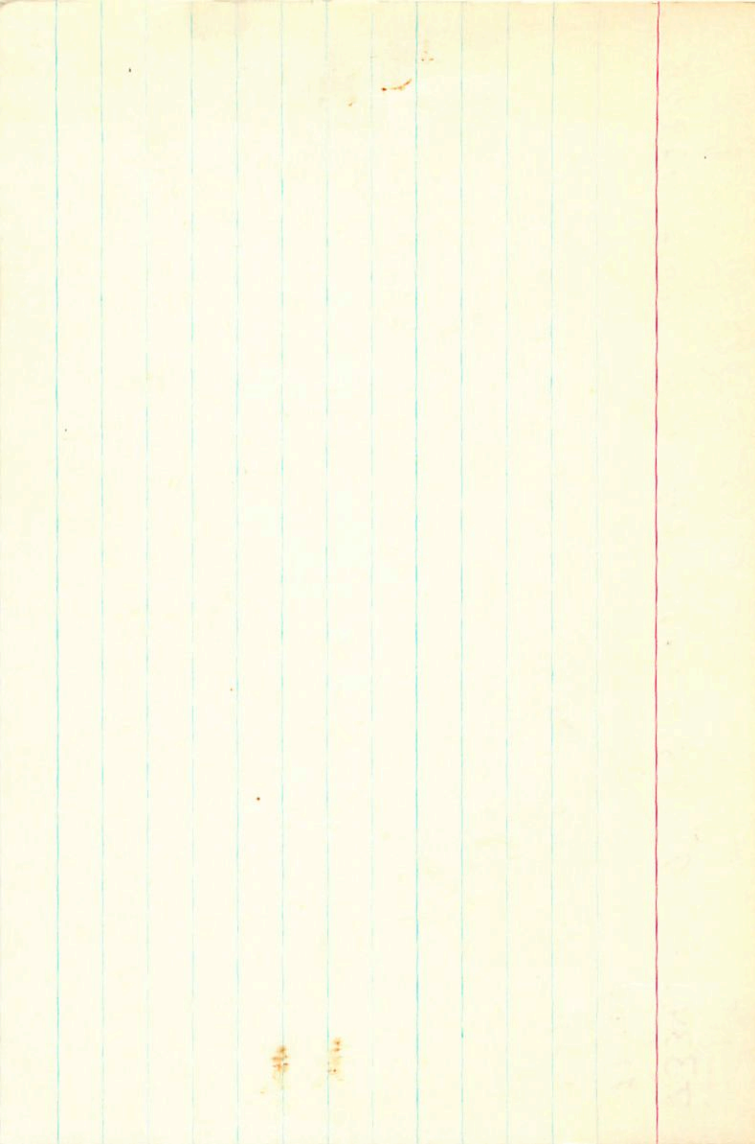
27.59 1440.51

$\frac{27.98}{-3.37}$

55.747  
22.030  
 $\frac{17.8261}{17.8261}$   
- .7

- .147

~~38.79~~ 71.99  
~~42.77~~ 42.72 1427.56  
 $\frac{29.27}{28.40}$





9 233  
-11 84

83442

9 35.2

-41 48

485 340

052  
304  
31343  
41.3 918

+48.7  
~~94~~  
Quint

<sup>s</sup>  
~~0062~~ -004 446

-069

-066 000  
49

269 476

E.g

10 MV 20-11

3796 272 46.7 401

5.5 1.85 7.35

3794 273 46.3

4015 5.05 47

685

~~3817 273 42.0 4628~~



56

20 141 278 120 121  
135 138 138  
131 138  
9 3 3  
Set

1004 1004 1004 1004

24366 949  
237  
103

1373  
17249

1038 1004 1004 1004  
1034 1004  
1038 1004 1004 1004

24420  
Set

1056+1004

7  
427

10422 1004

5609 4039  
+31  
5578

9591  
1822

1062  
1004 1004

645 707

24295  
Set

5565 6921  
5603

247 247  
+578 1012

1080

32

DEC 1958  
FM. DISTANCE  
MODULE  
AD. VEL

PI. 110  
D3. 110  
D2. 110  
D1. 110

10. 110  
9. 110  
8. 110  
7. 110  
6. 110  
5. 110  
4. 110  
3. 110  
2. 110  
1. 110

10. 110  
9. 110  
8. 110  
7. 110  
6. 110  
5. 110  
4. 110  
3. 110  
2. 110  
1. 110

R.A. : -9.600  
DEC. : -9.200  
PM. R.A. : -57.000  
PM. DEC. : 4.000  
DISTANCE : 5.730  
MODULUS : 140  
AD. VEL. : 25.300

q1 (U) : -0.745  
q2 (U) : 0.551  
q3 (U) : 0.376  
dU : 209.257  
U : 38.790

q1 (V) : 0.075  
q2 (V) : 0.629  
q3 (V) : -0.774  
dV : -8.001  
V : -20.698

q1 (W) : 0.662  
q2 (W) : 0.549  
q3 (W) : 0.510  
dW : -166.251  
W : -10.365

-0030 ± 155.0  
-0021

83205 9 35.4 + 58

7.5 g M2 + 19.56

13805

6218 23.023 1910.7 + 58 46 26.70 1909.0

$\frac{118}{.141}$

$\frac{66}{27.36}$

33.57  
46.830  

---

23.250  
+1.02  

---

11.2

24.8

70.4 1926.4

$\frac{42.25}{28.15}$   
1.20  

---

26.95

7098  

---

35.5  

---

26.5

180

$\frac{.090}{.051}$

23.068  
0

+12.31  

---

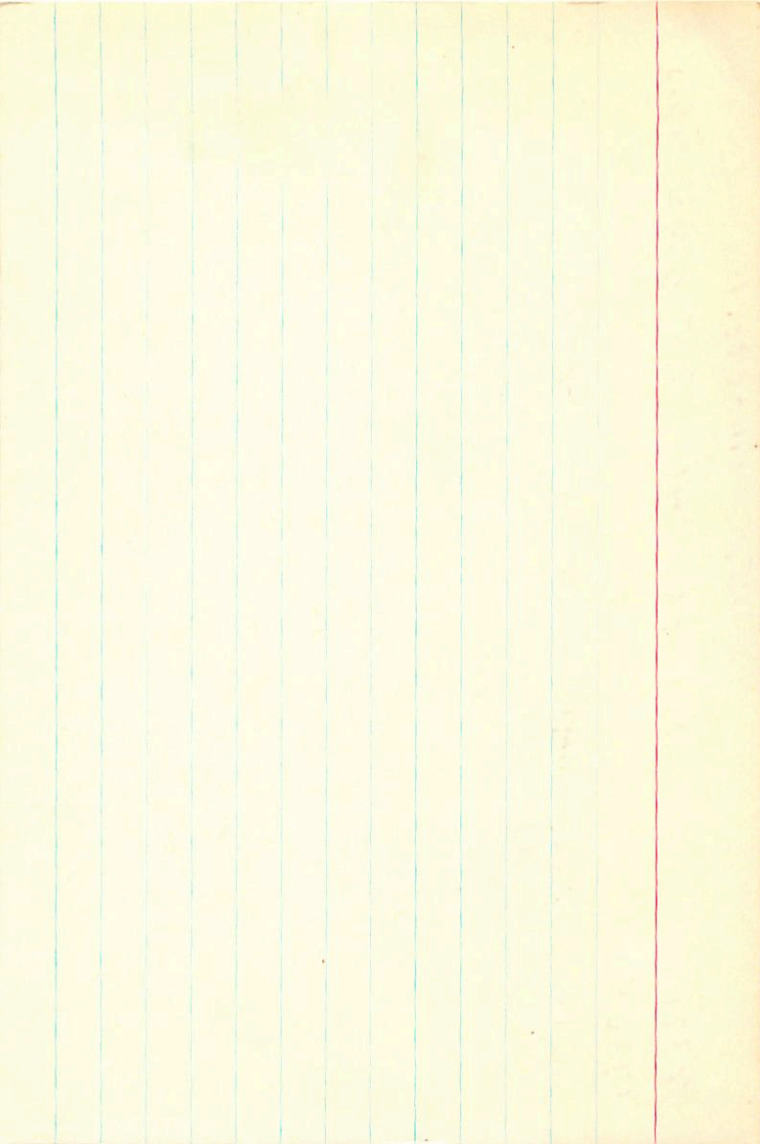
27.07

26.94 1944.58  

---

-18

$\frac{26.76}{26.91}$  1945



83520

9

35.5

-53 27

5.5

A2 -13.38

13309

5.38 + 0.15 + 1.54 28992611

6220

32.006 1903.2

-53 26 34.5-6 18934

$$\frac{309}{.315}$$

$$\frac{+1.07}{33.49}$$

Am=00

0.15

$$-0.002 - 0.01$$

$$-0.0037 - 0.01$$

$$32.170$$

$$\frac{17}{.153}$$

$$33.88 \quad 1940.69$$

$$\frac{-15}{34.03-.54}$$

$$364$$

$$\frac{192}{133}$$

$$32.9 \quad 1938.2$$

$$32.20$$

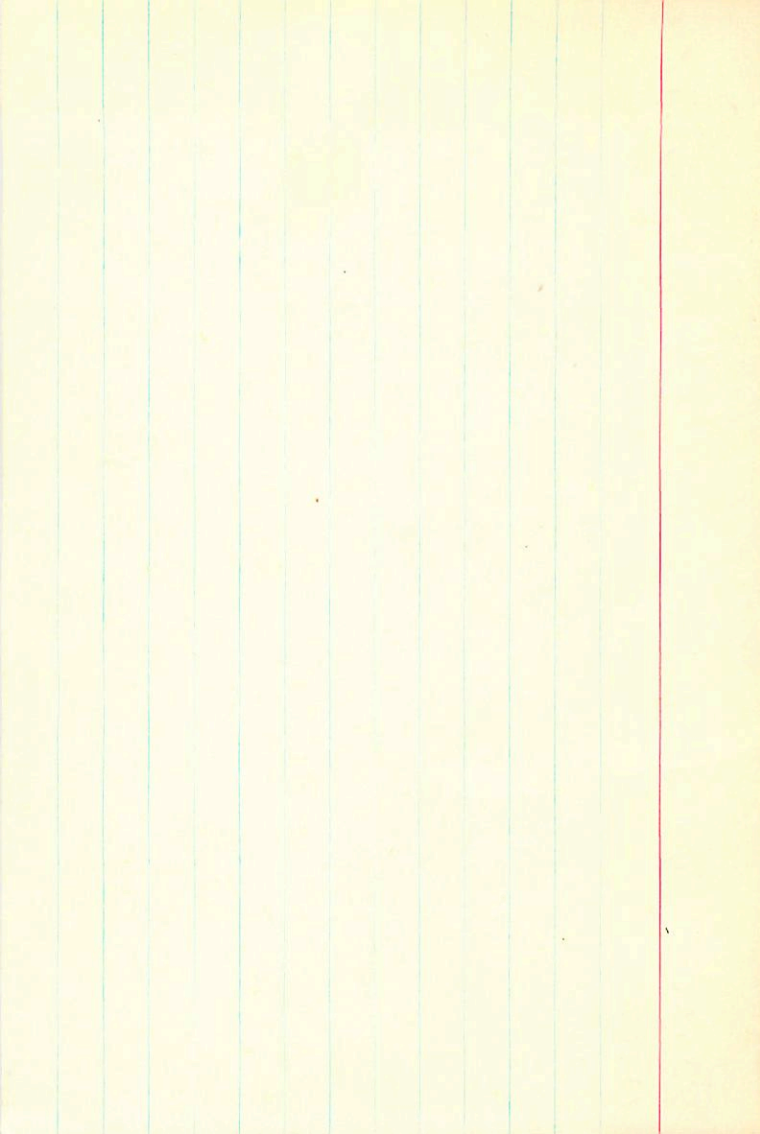
$$+ \frac{11}{211}$$

$$\frac{-46}{33.369}$$

32.69

-20





83516 9 35.9 -34 51 68 TE +42.0 4C

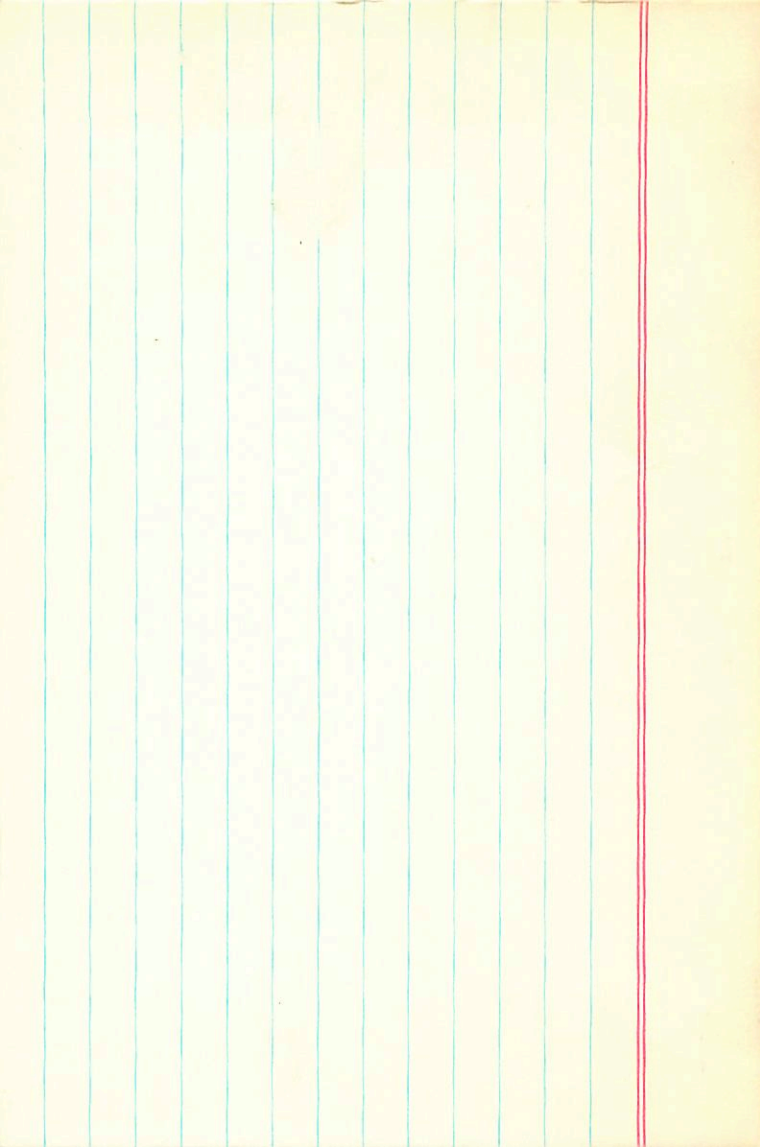
FD904

1241206

8.63 +0.97 (1.58)

4435 (2)

-009 -028



83186 9 36.1 +71 579 d.f. = 5 -272 W(5)

GC13321

7.48 +0.52 0.00199 R

W6224

$\delta = 0.5$

Y2282

T720465

-221 -097 GC

+21 -31 -41 .025

-6.79 f(12)

88509

9 366

+13 32

204

$\frac{10}{47}$

191214

+84

+11

-00453

0000

-00419

+0011

70420

+1027

-0616

$\frac{-060 + 006}{1000}$

7348 - 9987  
1865 - 1100  
5229 - 0611

1017

203 329 125 345 2615

(3)

$\frac{200}{27}$

204 224  
+416

3845 9 37.3 70 55 232a

83618 W350  
10028 0679

BWT 100283 -0671

1221 1105  
1303 1113 262-575

1.200 1.111 100285 0672 PRS 23.2

1285 1100 254 111  
488  
-647  
470  
221

9.6  
-0.9

444

-64

3.0

0.24  
Area

0.44-0.64

PRS

100285 0672

100457 0672

7

54

R.A. : 9.600  
DEC. : -0.900  
R.A. : 45.800  
DEC. : -64.200  
DISTANCE : 4.200  
MODULUS : 69  
VEL. : 23.200

q1 (U) : -0.745  
q2 (U) : 0.491  
q3 (U) : 0.451  
dU : -311.132  
U : -11.058

q1 (V) : 0.075  
q2 (V) : 0.734  
q3 (V) : -0.675  
dV : -207.168  
V : -29.991

q1 (W) : 0.662  
q2 (W) : 0.469  
q3 (W) : 0.584  
dW : 0.925  
W : 13.610





-40° 5' 40"

9 30.5 40 51

+142  
~~142~~

CRD -40° 37' 49"

4082

-543 +310 Lp

C 0099

-532 +373 Lp

-519 +314 G R

9032  
1293

-8175

650

663

9082  
1200

5759

1001

8.4  
16.

002

428

1008

0.15

5750

0765

~~100~~

58

0.62

8.34

58  
8.87

83489 9 38.0 +6.9 28 9.6-9 -8.6 8

13358

6235

60 -0.119 -0.74 N30

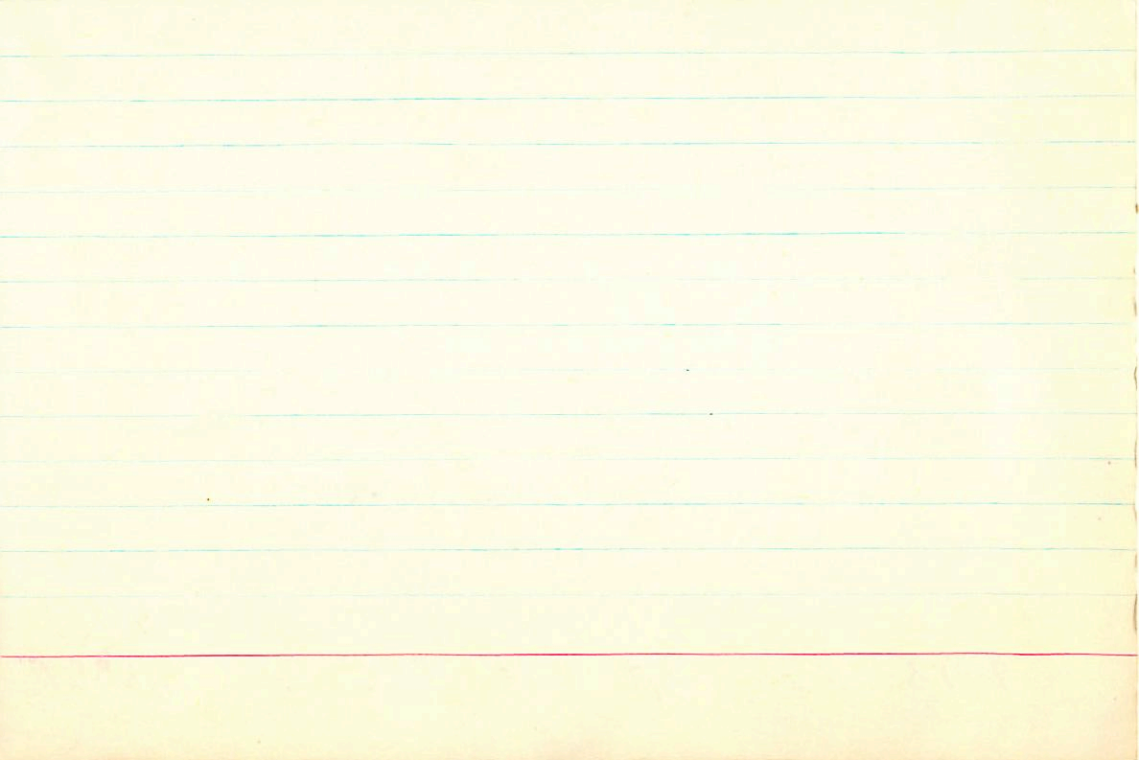
-0.122 ± 1.5 -0.71 ± 1.8 66 → N30

-0.62 -0.70.5 P105 ✓

-5432  
-1051

9419

3360



83683 9 37.9 +13 17 6.8 F4 -22.28

13352  
6232

52.480 1903.3 +13 16 57.8/ 1901.3  
12.1  
35.9  
0.40  
0.209

4.00  
39  
+10130 -0996  
+100164 -0981

(27.8)

59.82 1933.9  
+11  
59.93

30.925  
21.482  
52.407  
32  
+1000 475  
+1011 444

400  
400  
+1011  
-30-29  
-18-45  
-20

97.93 1928.28  
36.08  
133.5  
137  
168

00.61  
3.24

1025093

4488 -9546  
+1007 22.27  
-113

62.18  
31.1  
29.8

+0026 ± 8.3 -124 ± 6.5  
+0015 -109

AD 3839      9 38.4 +72 29      17.32

42/8

AD 63506      174      17 - 026 - 032 - 02

42/8

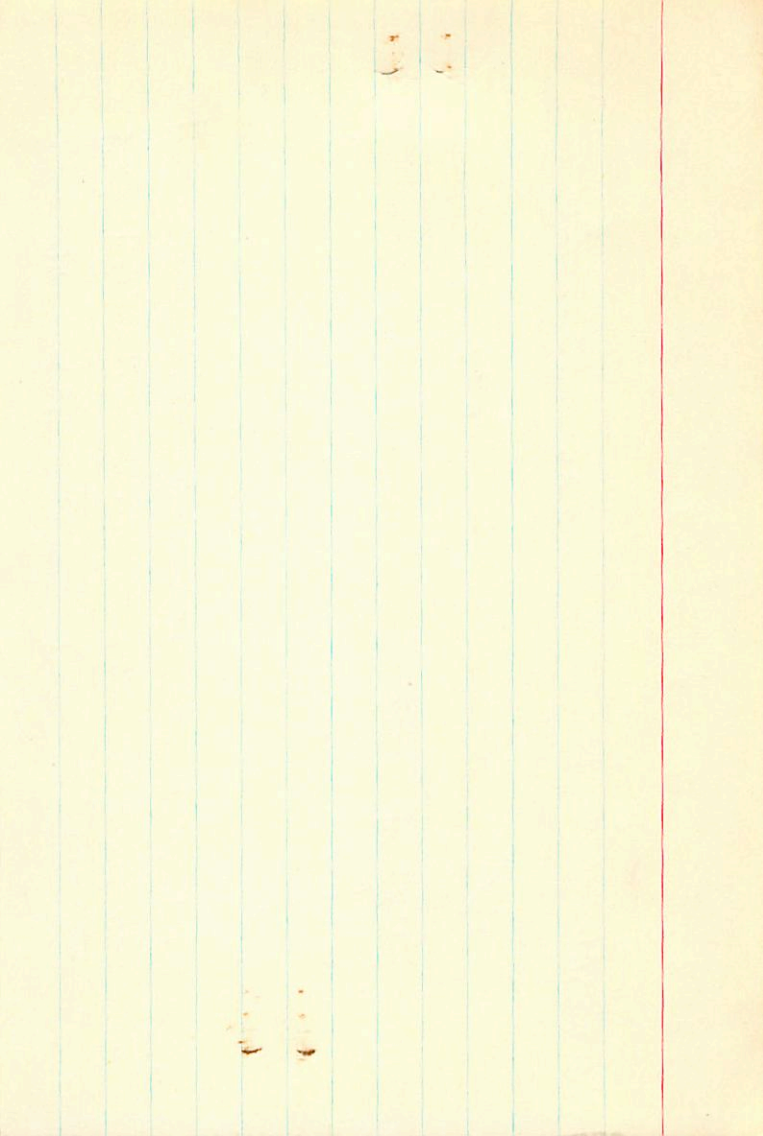
428 / 444  
2882 / 444  
1273

11.826

0056      -029 02 =

13.5      14.5

-748	-287	597	+0922	+0453	+1375 <sup>34</sup>	+17.2	-10.1
080	856	510	-0099	-1346	-1947 <sup>4</sup>	-18.1	-8.8
657	-430	617	-0810	+0678	-0132	-1.6	-10.6



-13C

3850

9 28.6

+31 31

5519106

① 18.2

+021-007 G-L

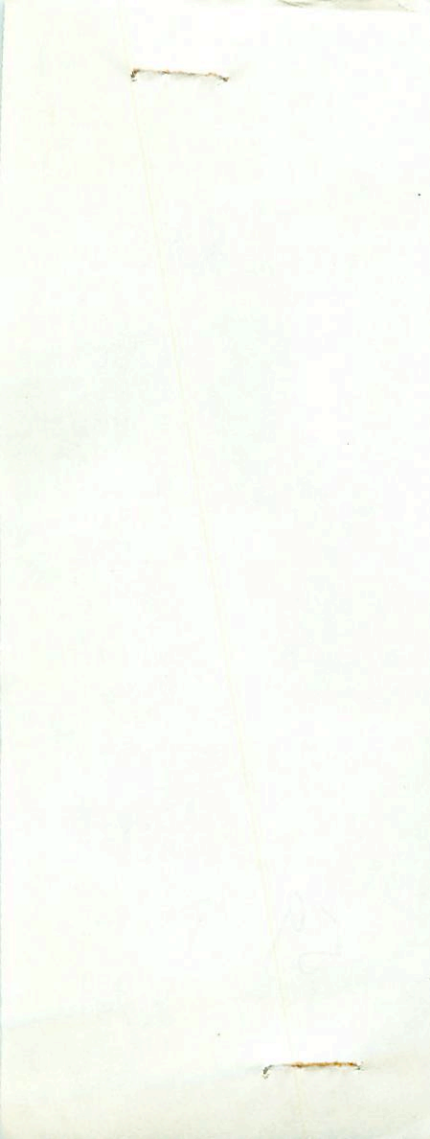
$$\frac{-1}{+034} \frac{+1}{-006}$$

1

1

59





3050.000\*

9.000\*

30.600\*

31.000\*

31.000\*

0.030\*

-0.006\*

6.500\*

199.526

-13.000

-0.112

0.637

-30.577

-0.016

-0.175

-0.952

0.091

0.751

8.389

59

9 39.2 -57 45

11th  $\text{d} \begin{matrix} 5L \\ +35 \end{matrix}$  ~~70~~

-0.0043 -0.007 N30

-0.0038 +0.007 GC

-0.0040 -0.003

-0.032

-753	+634	-174	+1143	-0090	+1053	+10.5
+084	-167	-982	-0130	+0024	-0106	-1.0
+652	+753	-071	-0989	-0107	-1096	-11.0

2862

9 400 -23 72

84117

RS = 0.175

+3416(1)

23.8646

4.94 +0.53 00

465

0586

4.93 0.234 0.166 0.316 2122

116

5m  
101 u

24  
92

-0293 +253

-4024

-897 +257

A u = +25.7

268  
365

443

$m_v = +365$  photo

+3.80 impurities

200  
100  
100

0000

150  
100  
100

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82455

9

28.8

-47

23

G-13141

342

20x

14.88

8.65

+0.65

6.57

Copy

X2270

1/2

8.65

916

178

267

①

412

180

180

180

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412

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180

180

+64 -40 -32 .016

+

-246 +056 6.6

-244 +060 6.6

-214 +057

+36.65 1.002 (8)

var?

24713 C(6)

-0242#150      +056#150 .

44.936 1904.6

$\frac{1.099}{46.095}$

-47 23 .558 1904.6

$\frac{-2.54}{8.52}$

BR3773

240

13143

92308

13143

6164

9

28.9

+23 11

+26.7 8

4.18

-0017±1.5

-0018

1891.8

+23 11

22.11

52.274  
094  
1,373

2.75  
24.86

1877.6

52.279

13  
292

22.11

22.43  
12.6

1434.1

43.0

52.264  
+ 31  
294  
294  
-079

22.76

+ 9  
32.85

1439.56

36.8  
49.2

22.64

-2.22

-023 -04460

-029 -040F13

-024 -042

737





R.A. :	9.600
DEC. :	-24.500
PM. R.A. :	0.000
PM. DEC. :	0.000
DISTANCE :	10
MODULUS :	0.000
AD. VEL. :	

q1 (U) :	-0.745
q2 (U) :	0.630
q3 (U) :	0.217

1350  
1450  
1470  
1480  
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1500  
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1550

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1590  
1600  
1610  
1620  
1630  
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1660

1670  
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2110  
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2990  
3000  
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3180  
3190  
3200

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3300  
3310

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3420

Q. 32.0 - 21 15.