

613

0 07.9 +32 51 grey -13.78W(3)

GC178

6.82 +1.44 +1.65 - R411R

485

6.88 +1.42 - +1.68 5A

(+0.3)

-65 -6 -23 .007

~~-042 -037 GC~~

-9-53-7
51
004

834559 512 840-042-637 43.7-020-7-447⁹

0020-042-020 ~~044~~-199-11.5-11 0 ⁰⁰⁹-213 ⁰⁰⁹-213 ⁰²⁵ +29-80-65 .0025
-9-43-7
-41.9-10.7-11.5

-0.2-29.5
-4.3-49.3-15.3
+7.6-70-73.3
GC -0033±7.5-037±7.3
-0036
A2007
[-97+1-42]

0 7 5-6.927 1903.4 +32.2 5-1 8.11 1903.9 005

1-41 3 153
-4-121 -5 57.080
1.71
9.82

+6-19 -3
39.449
49.10 1926.0
6m 2.5

6 17.445
1 56.080
7 57.016
-080
-64
42
49.10 1926.0
20.90
10.07 22.1

5-7.000
5-7.000
9.4
9.18
9.93
+1.5
10.08
4.16

661 00 08.2 -73 30 4+6 -137±0.7

73.3

182 ±0.19 232 193 637
+015 433
+014 PPM
+126 ±0.16
C.63 +38 ±1.62
C₃(4)

~~1317~~
114
1317
12.591 983
+0245 ±1.9
10.62 95.1
+019
+016 ±5.9
+016 ±5.9

12.714 (5.8) 9.23
0

132

13.355
12.161
11.879
+0882 ±0.20
12.54 ±0.15
12.54 ±0.15
10.93
10.93
11.02

(2886)

3.080

9.05
0.8.2
1.4

20

R.A. : 01.150
DEC. : 22.500
R.A. : 14.800
DEC. : 2.000
TANCE : 180
DULUS : 1.2.700
VEL. :

1.100 : 8.150
2.100 : 2.300
3.100 : 8.400
4.100 : 2.100
5.100 : 2.100
6.100 : 2.100
7.100 : 2.100
8.100 : 2.100
9.100 : 2.100
10.100 : 2.100

11.100 : 2.100
12.100 : 2.100
13.100 : 2.100
14.100 : 2.100
15.100 : 2.100
16.100 : 2.100
17.100 : 2.100
18.100 : 2.100
19.100 : 2.100
20.100 : 2.100

R.A. : 0.150
DEC. : -73.500
R.A. : 433.000
DEC. : 14.000
DISTANCE : 5.000
DULUS : 100
VEL. : -13.700

1 (U) : 0.869
2 (U) : 0.234
3 (U) : -0.435
dU : 522.376
U : 58.195

1 (U) : -0.469
2 (U) : 0.667
3 (U) : -0.579

14.4 350
+30;

1V8022 00 08.8 -11 45

WWed $\frac{d}{dt}$ 0117

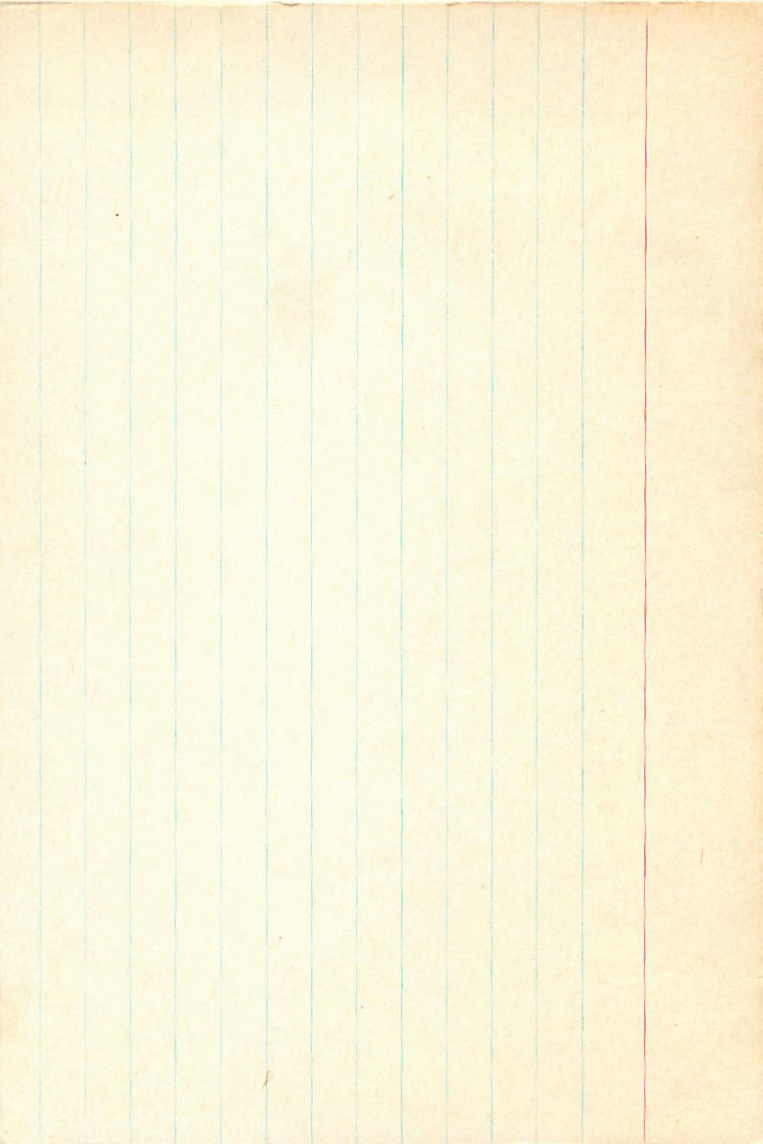
447 orbit

+010 +012

869 495 000	+0412	+0282	+0694	+7.9	100	+8	0
-47 827 308	-0223	+0471	+0248	+2.9		+12	+9.2
-150 268 452	-0071	+0152	+0081	+0.8		-28	-28.6

1000

+69
+34
-21



SX Cas 00 8.1 +54 37

-9.76

40011 +002 Y

-4 1

40015 +003

+0.013

-180

9 2 2

14 1 7

8 3 2

13

0 2 2 1

13 1 9 4

13 2 2 2
14 2 2 2
15 2 2 2
16 2 2 2
17 2 2 2
18 2 2 2
19 2 2 2
20 2 2 2
21 2 2 2
22 2 2 2
23 2 2 2
24 2 2 2
25 2 2 2
26 2 2 2
27 2 2 2
28 2 2 2
29 2 2 2
30 2 2 2
31 2 2 2
32 2 2 2
33 2 2 2
34 2 2 2
35 2 2 2
36 2 2 2
37 2 2 2
38 2 2 2
39 2 2 2
40 2 2 2
41 2 2 2
42 2 2 2
43 2 2 2
44 2 2 2
45 2 2 2
46 2 2 2
47 2 2 2
48 2 2 2
49 2 2 2
50 2 2 2
51 2 2 2
52 2 2 2
53 2 2 2
54 2 2 2
55 2 2 2
56 2 2 2
57 2 2 2
58 2 2 2
59 2 2 2
60 2 2 2
61 2 2 2
62 2 2 2
63 2 2 2
64 2 2 2
65 2 2 2
66 2 2 2
67 2 2 2
68 2 2 2
69 2 2 2
70 2 2 2
71 2 2 2
72 2 2 2
73 2 2 2
74 2 2 2
75 2 2 2
76 2 2 2
77 2 2 2
78 2 2 2
79 2 2 2
80 2 2 2
81 2 2 2
82 2 2 2
83 2 2 2
84 2 2 2
85 2 2 2
86 2 2 2
87 2 2 2
88 2 2 2
89 2 2 2
90 2 2 2
91 2 2 2
92 2 2 2
93 2 2 2
94 2 2 2
95 2 2 2
96 2 2 2
97 2 2 2
98 2 2 2
99 2 2 2
100 2 2 2

504

-350 31 00 09.1 -35 30

VP 16 9.91 +1.08 (2.19) 125#

" +720 -112 CR

-13.5 (5) 65

743 0 09.4 +47 52 6.3 gM4 +15.76

99

GC204

GC

+0053 ± 4.8

+018 ± 3.7

- 2

+ 2

0 9 21.551 1897.0 +47 52 27.45 1892.5

67

- 281

- 1.07

 .270

 26.41

2257

67 34
50 51

8

3.19

18.11

21.30

+ 12

21.42

- 08

21.34

.070

20 9

1

33 51

9

3 5

33 36 184
51

44

.57

1925.3

8

20.8

52

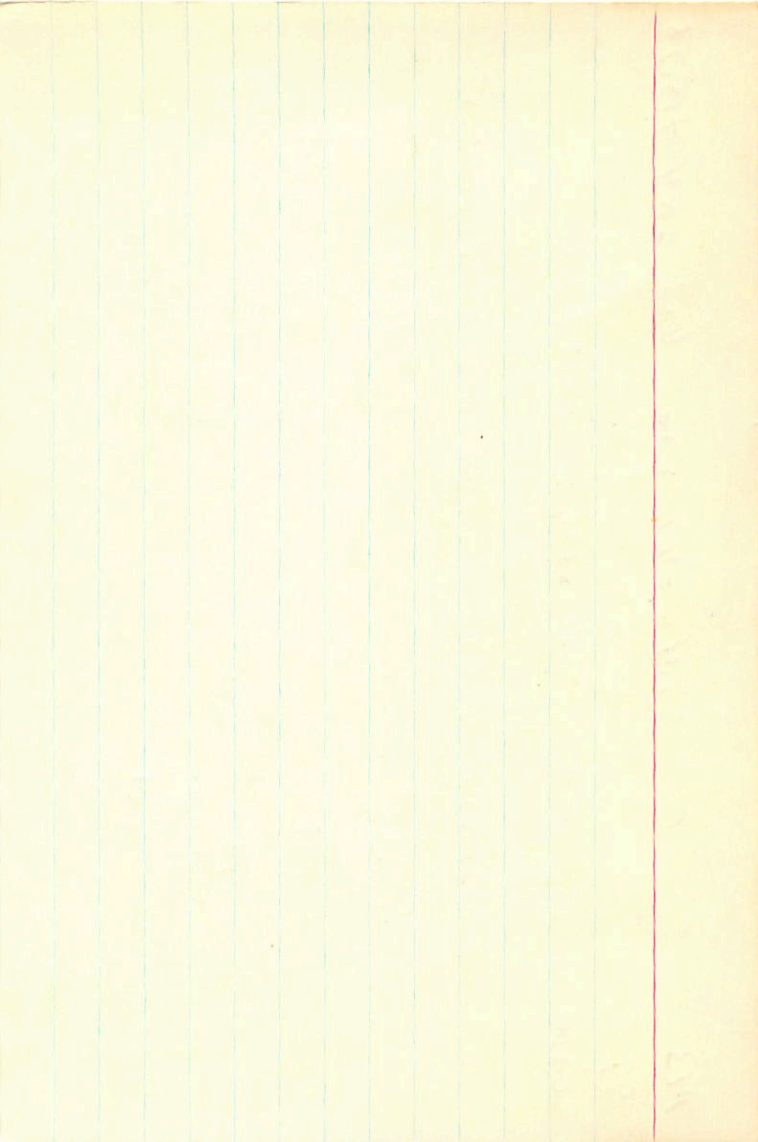
26.6

- 07

26.53

+ 22

26.75



834

0 10.1 -0708

+651 C, (4)

60223

7.98 +0.95 NO2 Corp

X30

-0787

+288 +1186C

+287 +211 Corp
Pumps

Working

0200 120

767 120

+26-3-9 0.054

+28-3-9 0.051

1450 C (4)

+021679.5
+0198
+11878.0
+120

5.934 18983

-27 7 58.43 18959

$$\begin{array}{r} -1.117 \\ \hline 4.817 \end{array}$$

$$\begin{array}{r} -6.38 \\ \hline 4.81 \end{array}$$

$$\begin{array}{r} 21.38 \\ \hline 1934.38 \end{array}$$

$$\begin{array}{r} 49.428 \\ \hline 16.158 \end{array}$$

$$\begin{array}{r} 20.75 \\ \hline 0.68 \end{array}$$

811

$$\begin{array}{r} 5583 \\ \hline 5440 \end{array}$$

$$\begin{array}{r} 0.71 \\ \hline +25 \\ \hline 0.46 \end{array}$$

$$\begin{array}{r} 34.1 \\ \hline \end{array}$$

$$\begin{array}{r} 543 \\ \hline 513 \\ \hline 530 \end{array}$$

$$\begin{array}{r} 520 \\ \hline +709 \end{array}$$

358

$$\begin{array}{r} 0.09 \\ \hline 11 \\ \hline 193373 \end{array}$$

38.2

$$\begin{array}{r} 5526 \\ \hline 522 \end{array}$$

$$\begin{array}{r} 520 \\ \hline +709 \end{array}$$

$$\begin{array}{r} 5998 \\ \hline \end{array}$$

$$\begin{array}{r} 0.22 \\ \hline \end{array}$$

$$\begin{array}{r} +4.59 \end{array}$$

15804

CV 10.4 TU1

#61 46

644 10.5

0102 021 H

140-021

WV3 1003 1328

1) 1150

017 157

p 11.2
-12.1

157
5.07
1.25

21

R.A. : 0.150
DEC. : 61.750
R.A. : 152.000
DEC. : -21.000
DISTANCE : 5.070
MODULUS : 103
VEL. : -12.500

q1 (U) : 0.869
q2 (U) : 0.140
q3 (U) : 0.474
dU : 282.592
U : 23.262

q1 (V) : -0.469
q2 (V) : -0.066
q3 (V) : 0.881
dV : -153.512
V : -26.861

q1 (W) : -0.154
q2 (W) : 0.988
q3 (W) : -0.008
dW : -150.922
W : -15.481

H0877

-23046

W103

GC232 ←

GC

0^h

10^m

31,567

1907.8

-22 44

54.95

1906.3

+0002 ±4.7

+0005

+018 ±4.7

+001

008

.79

31,559

54.16

III Cape

0 09

15,348

-22

53

16,06

1 16,250

-

8

20,70

10

31,598

-22

44

55.36

- .013

.00

10

31,585

55.36

- .014

+ 21

1950.0

10

31,571

-22

44

55.15

1930414

.012

.02

877 0 10.5 -22 45 Ag 6.5 -16 C (14)

GL232

w103

6.7

w(+2.2)

23° 46

877

103

232

+003±5

+019±5

+011±2

+019±12

0 1 -388 922 +05 +018 -16.0 -007 +6 081 ✓

0 0 005 -007 033 024 -14.8 -15 0

-12 +2 +12 013

+7 +3 +16

$$6.55 + 10.5 + 0.97 = 22.02$$

$$HO874 \quad 0 \quad 10.6 + 16 \quad 39 \quad 65 \quad + 9.68$$

104

6.6

66234

$$66 - 0025 \pm 8.3 - 083 \pm 9.0$$

$$NW - 0026 - 088$$

$$\begin{array}{r} -0025 \\ -036 - 083 \quad 66 \\ \hline -052 - 095 \quad 4 \\ \hline -034 - 088 \end{array}$$

$$\begin{array}{r} 0 \quad 10 \quad 34.732 \quad 1902.1 \quad +16 \quad 38 \quad 40.30 \quad 1903.7 \\ \quad \quad \quad 120 \\ \quad \quad \quad \hline \quad \quad \quad 852 \end{array}$$

$$\begin{array}{r} 384 \\ \hline 44.14 \\ 40 \end{array}$$

34.783

$$\begin{array}{r} + \\ \hline 1.784 \end{array}$$

34.733

$$\begin{array}{r} \sqrt{41} \\ \hline \end{array}$$

349

41.18

$$\begin{array}{r} +10 \\ \hline 41.28 \end{array}$$

41.20

$$\begin{array}{r} \hline 41.0 \end{array}$$

1934.10

$$\begin{array}{r} \hline 37.0 \end{array}$$

1939.9

$$\begin{array}{r} \hline 33.3 \end{array}$$

-2.94

0Y6 939 286 958 -034 -055 +9.6 -025 +3 -395

002 001 -034 -025 128 -156 +9.2 +9 0

+22 -16 -37

01

-29 -10 -33

+15 -8 -17

02

-14 +2 -20

895
AND
82113

0 10.5 +26 43

6.3 F5 -13.08

B V2 III -15.64 ± 0.9 D

-6.4 Dan

107

GC

-0009 ± 5.7

6.6 } 0.6
8.0 }

-0019
-042

H05141

GC 9.5 18" 6pm?

0 10 48.438 1892.2 +26 42 35.26 1891.8

052
490

2.56
37.82

36.0

420
-070

464

48.435
10000

42

36.50
-03
36.47

42 36.50 1927.89

176
28.6

(36.6)

48.416
-006
407

36000
-14

1929.7

(57.0)

36.06 36.27
-1.55

$\mu = -0.0014$
 -0.0411
 $\rho = -13.0$

2/1/14
1000

-223
-171
-120
-146
-58
-157

+869 +353 +314
-473 +453 +755
-147 +805 -575

No 923

0 11.0 -29 51 8.58 +17 +1.58

~~30.18~~

Ann

+2.6 ± 1.5

~~40~~

-0028 -0037 -007 GC

+ 4 + 5 0

-0024 -032 -007 N30

6.85 = 234.5 po

+468	+473	-148		-1317	-0156	-1473	-34.5	-0.4	= -34.9
-473	+880	+035		+0718	-0291	+0427	+10.0	+0.1	+10.1
-144	-039	-985		+0221	+0013	+234	+5.5	-256	+2.9

+75°4

0

11.2

+75-45

7.6

gM4

-0.78

W5

HP919

W110

11

+032

-015

GA

936 0 11.3 +59 42 67.5 8

+5415

-76 ①

+0080
+0035

-009
-011

60254

TV53212.2

-002 ±10.0

16.134 9.7

$\frac{17.87}{15.79} \cdot 2.6$

$\frac{216}{15.915}$
16.061

75.20

17.72

$\frac{172}{1049}$

~~24~~
~~1049~~

~~24~~
~~1748~~

16.087

(71.7)

17.42

$\frac{415}{16.102}$

TV034 -007

~~18~~
~~1734~~ 1234

16.102

-0053

+0257

① 1026 -010

24
7.5 966 -230

11.5 -4 11

966

-4012

+053 -020 Y

W116

+0292 -0010 ZC

-12 +5
7041 2015

-080 +8
8000

+3 -2
41407

+0800 +8000
8800

51+

+0500+

700+335
666
47
422

422
0
38

+0114 -
+012

+0506 -006

966.000*

1.000*

11.500*

-4.000*

-11.000*

0.056*

-0.006*

4.700*

87.096

-23.000

0.201

0.295

10.677

-0.176

0.276

-21.641

0.012

-0.915

22.074

22

22

976 00 11.4 +25 59 7.0 F7 -25³⁵

259

W117

$$+0044 \pm 17 -038 = +13.0$$

33.153 1408.2

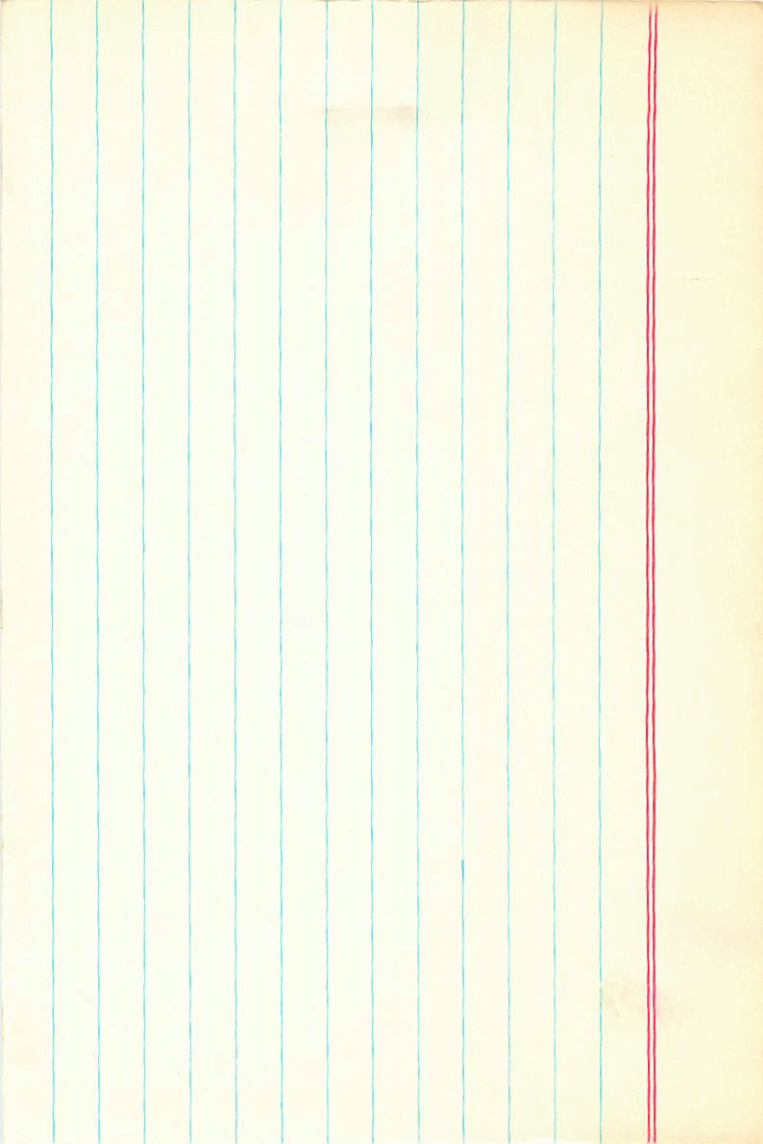
+065 -026 Purly

$$\begin{array}{r} +4 \\ \hline +4 \end{array}$$

$$\begin{array}{r} +069 -022 \rightarrow 00 \\ \hline +2 \rightarrow \\ \hline +2 \rightarrow \end{array}$$

+060 -033 Y

$$\begin{array}{r} -14 \\ \hline +076 -025 \end{array}$$



1015

0

~~0055 125~~ ~~080 125~~ ~~0055 125~~ ~~080 125~~ ~~0055 125~~ ~~080 125~~

11.9

-14

42

7.0 dff

-0.58

121

GL

-0053 ± 9.5

-118 ± 8.3

G-6268

-0067

-900

-0060

-105

+2

-3

0

11

55.540

1899.3

-14

42

29.28

1896.3

269

+6.34

809

22.94

967
58

10

39.163

16.109

55.571

-016

55.555

-002

55.553

55.619

-21

598

~~25.5~~

151

576

576

-233

50

47.68

1934.85

9

20.55

42

27.10

-09

27.19

+44

26.75

38.5

34.3

38.0

(35.0)

26.34

-33

26.01

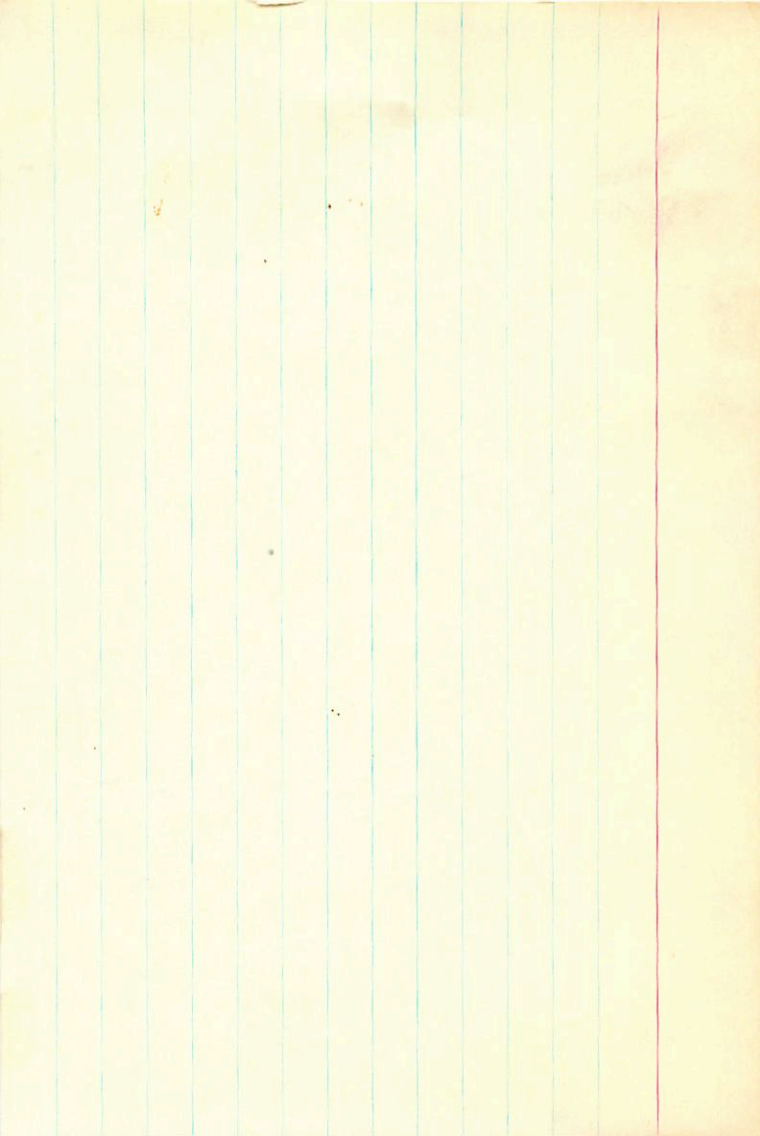
1933.66

26.38

-3.44

22.94

9736
3586
56086
56086



1075 0 12.5 +31 15 6.6 N4 +2.38

130 +30.2p

GC 290

GC +0024 ± 4.9

-004 ± 4.9

-75 (2)

~~1075~~

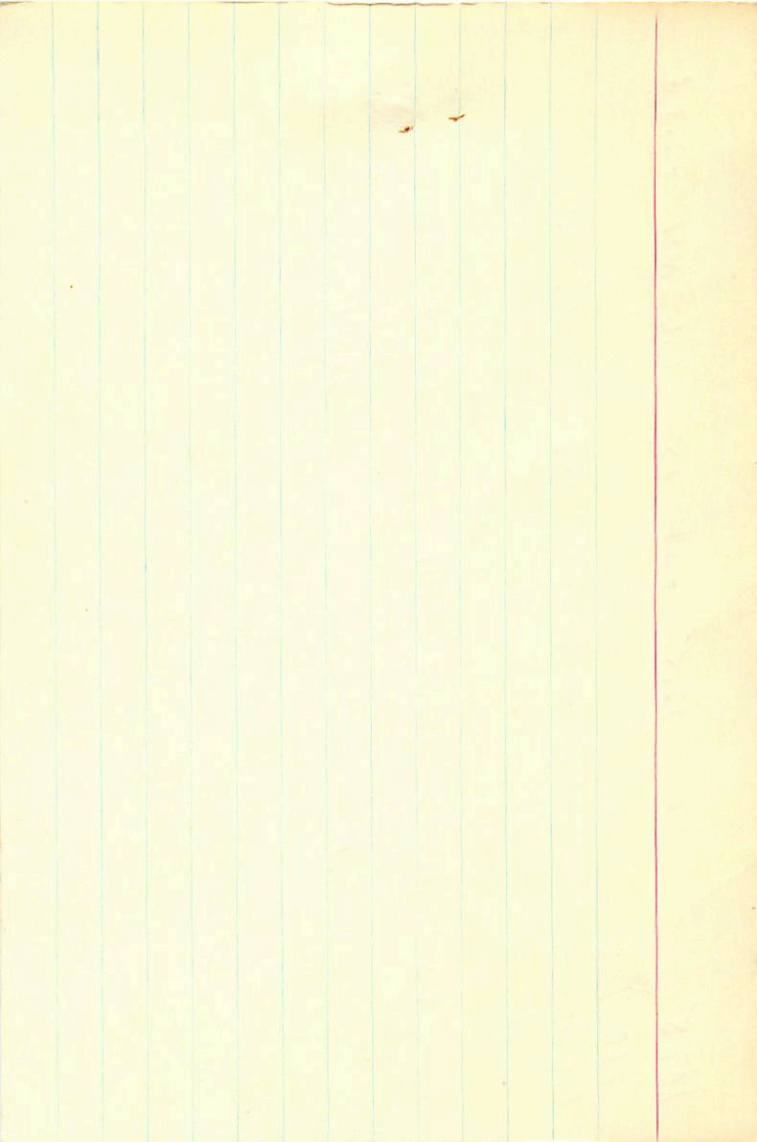
0 2 30.596 1901.8 +31 15 28.44 1900.6

-116

480

.20

28.64



1013 1.354 1.381 B2-014 1400 MF
X Pay 0 12.0 +19 56

48.88
942 -45.58

0122 4.50 +1.58 +1.92 M2 II

-45.34(5)
-50.10(2)

GC 270 1335 1369.126

(K) +00644 +0080
+00643 +0070

+089 +003 GC
+089 +008 A130

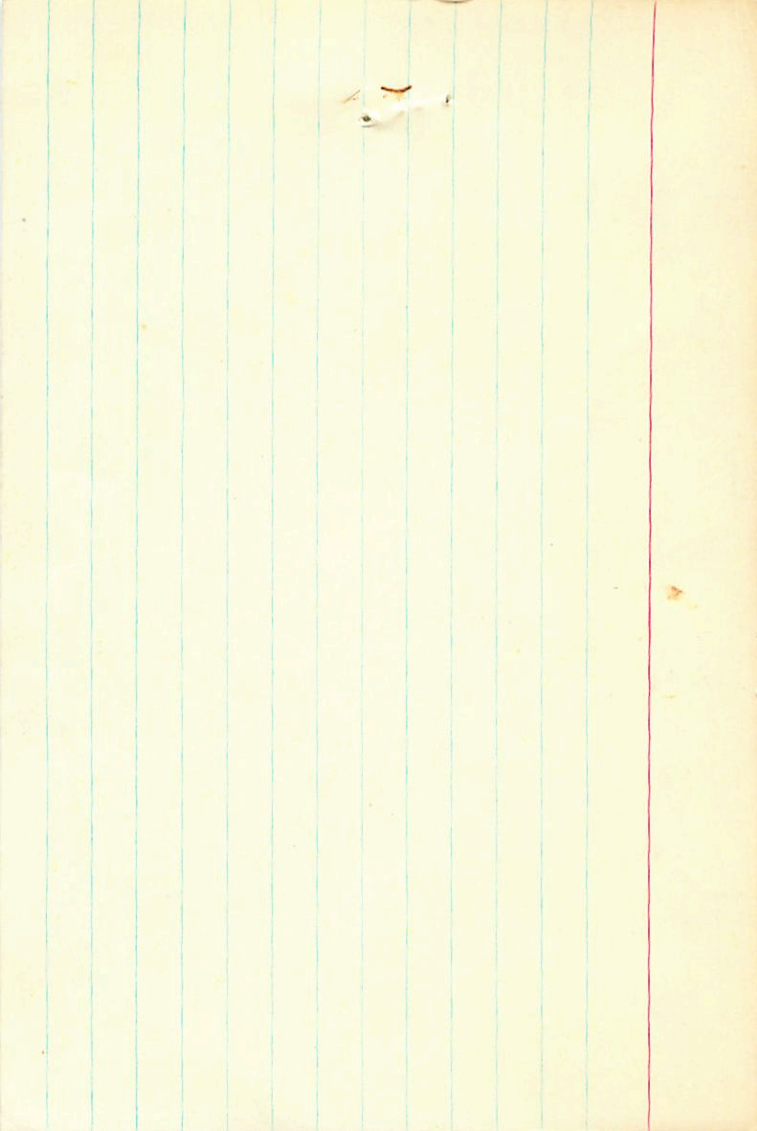
+22 -48 +28 .011
+43 -58 +26 .007

ND

0907

98
35
48.8

[092 +003]



45-48
1.380
48-48
1.360
0.02cm = 200

103
824

45
0
12.0
±19
55
M2 III

H0113

G0270

4.80 +1.57 +1.93 J 9
4.81 +1.58 +1.92 J E

99
3.84 70.775 9 J

3E
3.46
1.05
2.41
3.5
59

+00668 -0161 FN4 -4556
334
1000 -113

+3
+17

+0940
20

4056 -020

0076

560

33.1

57.9

26.3

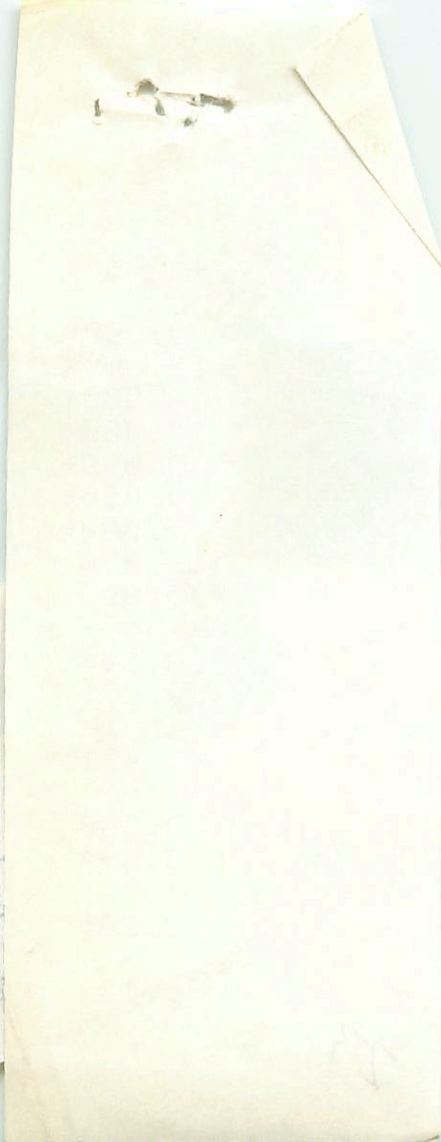
23

09.949
09.050

856.515
-51.667
-0.732
-0.143

DEC. 11
PM. 10.00
DISTANCE
MODULUS
DEC. 11
PM. 10.00
DISTANCE
MODULUS

000.000
-84.251
000.000
000.000
000.000
000.000
000.000
000.000



45.000*

3.000*

12.000*

19.000*

53.000*

3.096*

-3.020*

5.900*

151.356

-43.00

0.0

3.

4

23

-10.

-3.667

10.232

R.A. : : : : :
DEC. : : : : :
R.A. : : : : :
DEC. : : : : :
DISTANCE : : : : :
MODULUS : : : : :
RAD. VEL. : : : : :
91 (U) : : : : :
92 (U) : : : : :
93 (U) : : : : :
DU : : : : :
U : : : : :
0.200
19.950
98.000
3.000
5.500
126
-48.800
0.868
0.416
0.271
384.95
35
91 (U)
92 (U)

62 1279 00 14.5 447 40 -8.5

1279 5.84-09-44

020 092 588 2.675 B7II

688 592

176

768

1009-1008

$M_V = -1.95$

7.65

30.209
 -043
 $\hline 1896.1$
 $+0008$
 $+0003$
 $+0008$ 542
 $+0017$ 55.0
 $+00$
 12.00 1894.7
 $.94$
 $\hline 11.06$

Σ

1008 plus
 10005 + 009
 10009 + 0127

30.170
 $+7$
 $\hline 1.177$

$+0070$
 $+009$ 1008

11.62
 -33
 $\hline 11.29$
 1958.04
 11.07
 1955.23

2016

30.141

+24

1.197
 $\hline 1.182$

11.52

-12

11.40
 $\hline 11.35$

1952.43

11.35
 $+24$

+016

1

1/2

62.000*

0.000*

14.500*

47.000*

40.000*

0.009*

0.008*

7.650*

338.844

-8.500

0.046

0.440

11.817

-0.014

0.862

-12.235

0.031

-0.251

12.528

24

B7 III

0 14.5 47 40

62

1274

5.7

$$\begin{array}{r} 2675 \\ 2806 \\ \hline 131 \end{array}$$

$E(6.7) = 1040$

+1006 +1012

90

+1000 +1015 +1011

+100016 +10072 +1000015

$V_0 = 855$ MARKS -2.0

+10079 +1011

+100019 +1007 +10154

7.55

+10019

+1003 +1003 +600

+6008 F.V. 2
+0004
+0006
~~+0009~~ 28:0

80.209 1896.1

$\frac{043}{166}$

12.00 1894.7

$\frac{294}{11.06}$

+6006 +012

11.52

1985.243

30.161

²⁷

$\frac{188}{022}$

$\frac{-12}{1140}$

+6008 6005

022

$\frac{290}{+34}$



12

45.000*

9.000*

12.000*

19.000*

55.000*

0.096*

-3.020*

5.900*

151.356

-45.800

0.356

0.271

41.421

-0.268

0.694

-72.295

-0.134

-3.667

13.232

23