

511am

62064

7

41.9

+65

35

6.0

gM2 -28.56

5158

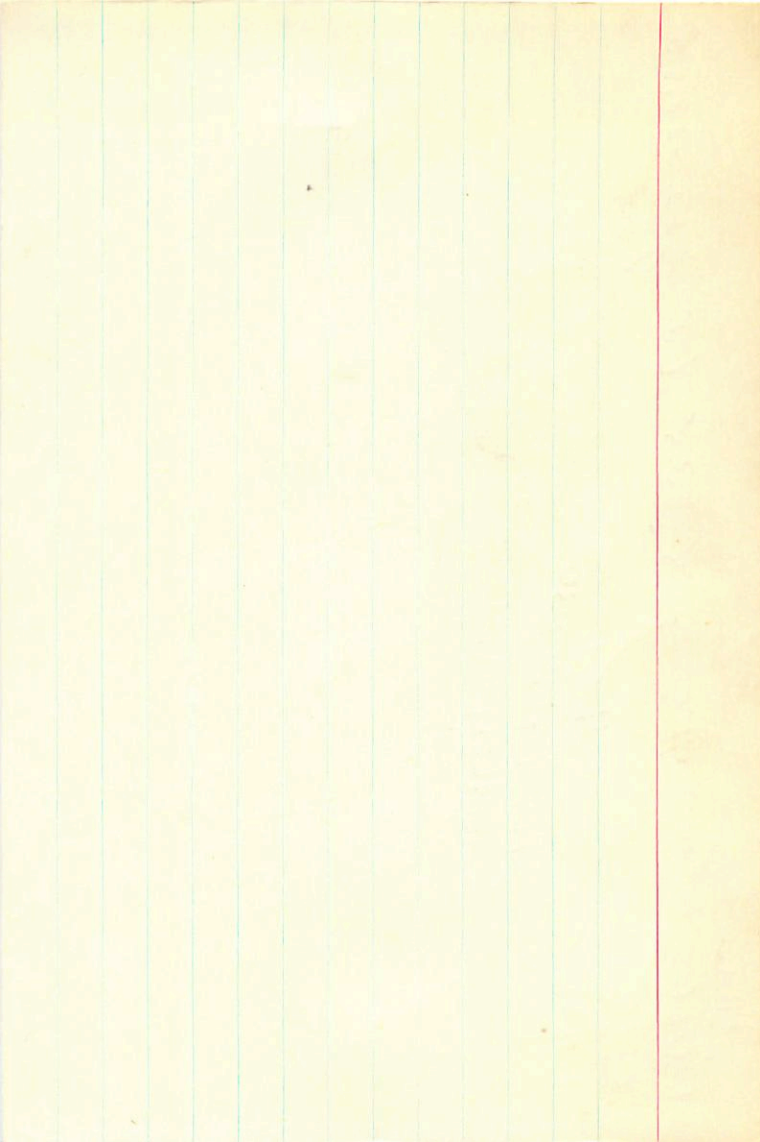
10420

~~34~~

34

+0049 +016 N30

+0056 E2.1 +014 ± 1.6 GC → N30



4960m

62140 7 41.9 +62 57 6.4 g FO +1.98

5160

10422

23

-0050 -064 N30

-0052 ± 1.7 -060 ± 1.4 ~~048~~ → N30

$\beta$  (m) (c) 8-y

~~285~~

2854 291

706

143

$\delta m$

0c

-195

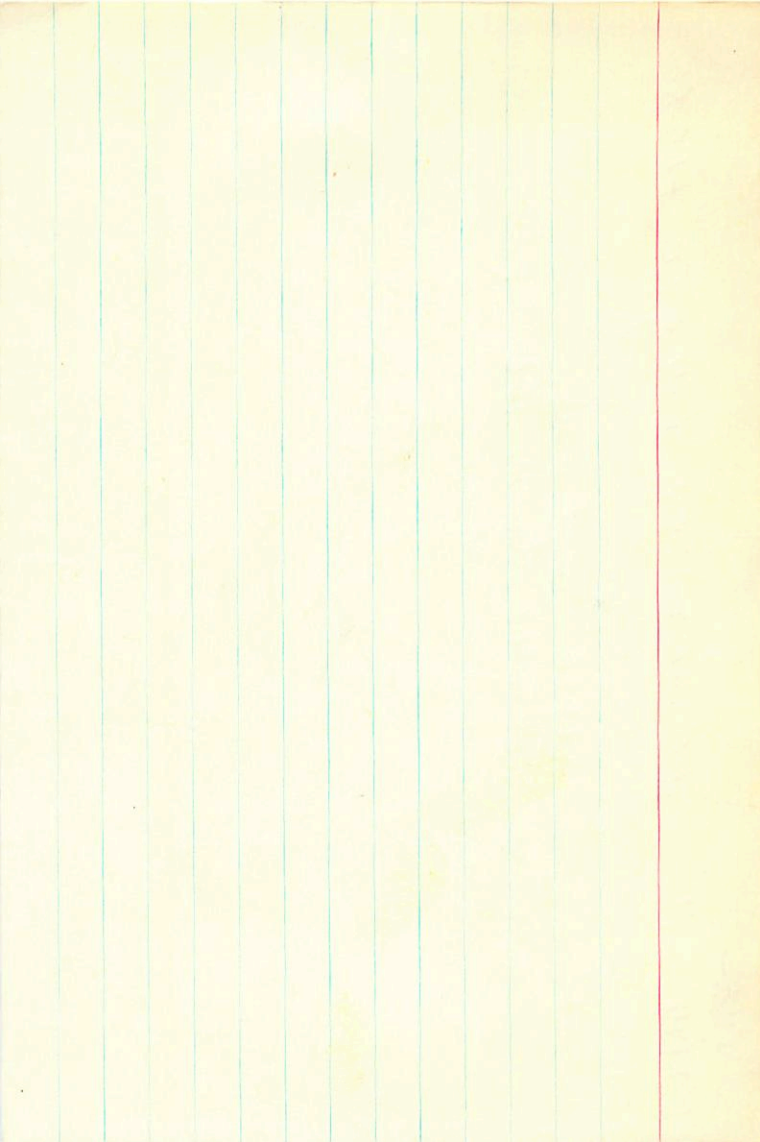
-72

$\tilde{m}$

+1.4

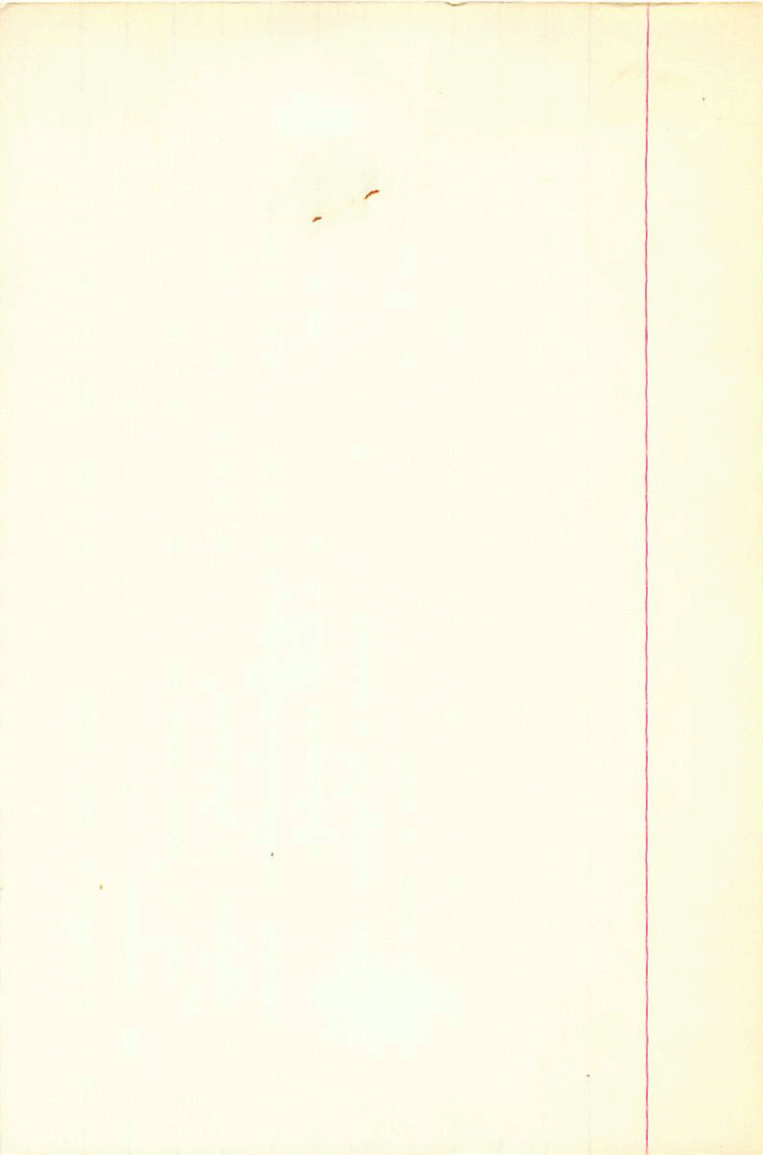
n v w

+4-13 -9



12514 1245

6283 7 420 -45 46 7.23 172 2.60





18-2.80  
38.20  
988.6  
2046.1

51415  
398  
793

6007  
-1080  
-10044  
-1061  
-10090 + 157

+164 ± 8.7  
+170 + 157  
48.57  
5205  
583  
61  
14.7  
52

22325

24.1

28.200  
51595  
-1567  
-1/2  
560

-100667  
-100408  
5340  
+ 1/3  
383  
-2612

6.52  
+ 1.5  
38.1

R.A. : 7.650  
DEC. : -52.000  
R.A. : 0.000  
DEC. : 0.000  
DISTANCE : 0.000  
MODULUS : 10  
VEL. : 0.000

(U) : -0.426  
(U) : 0.900  
(U) : 0.090  
MP : 0.000  
U : 0.000

(V) : -0.259  
(V) : -0.026  
(V) : -0.966  
MP : 0.000  
V : 0.000

(M) : 0.867  
(M) : 0.435  
(M) : -0.244  
MP : 0.000  
M : 0.000

h2



1

① 358 644 585 014  
358 614

DE 0LF 228 6

358 014  
358 014

62893

7

42.8

$-0022 \pm 3.9$   
 $-0026$   
-37

$+002 \pm 3.5$   
 $+009$   
49

5.9

B8 +37.0

5171

10450

47.304

1903.0

-37

49

17.60

19000

103

407

-10

77.70

47.318

1  
317

584

292

47.253

14  
267

-115

45.0

17.52 1938.90

+22

17.30

17.14

1957.20

-11

17.25

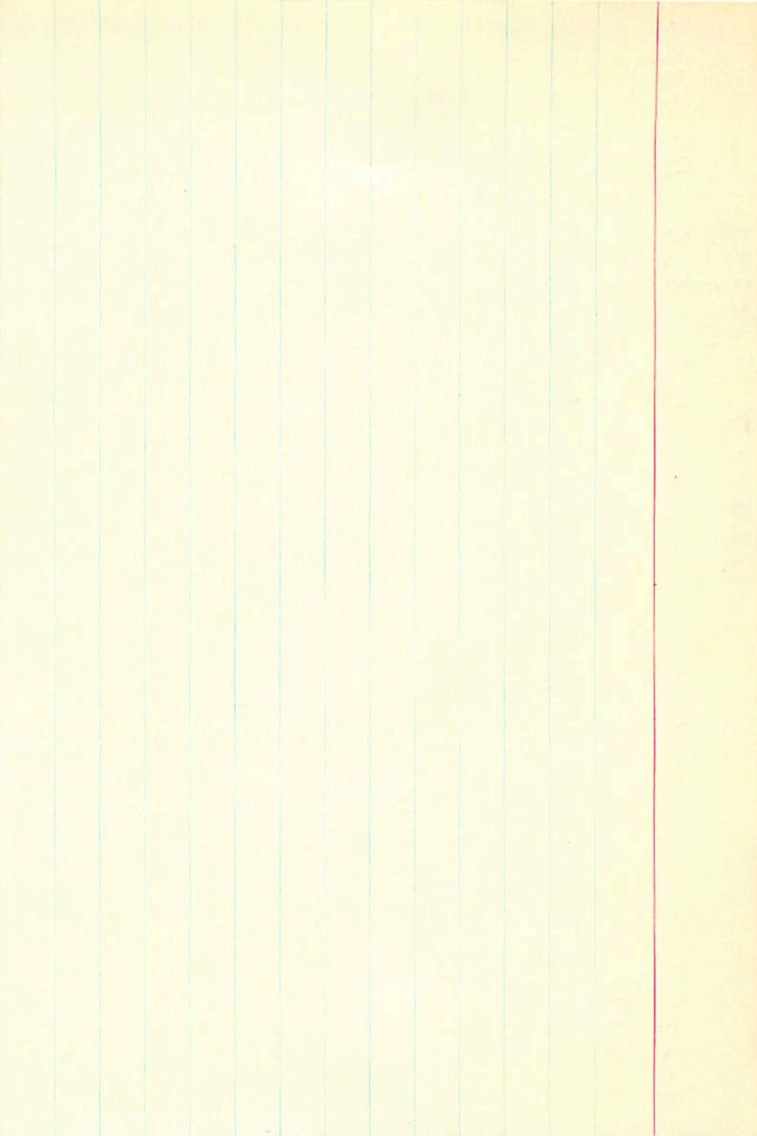
17.27

+43

96.10

48.0

48.0



62522

7 436 Fl 25 + 12.6.100

AD6635410

702-1057-100

AE USF

1057-018 PM

840-860

12.10  
12.10  
12.10



25



R.A. : 7.700  
DEC. : 60.400  
R.A. : -76.000  
DEC. : -78.000  
STANCE : 3.500  
MODULUS : 50  
VEL. : 12.600

q1 (U) : -0.436  
q2 (U) : -0.421  
q3 (U) : 0.795  
dU : 233.275  
U : 21.712

q1 (V) : -0.251  
q2 (V) : 0.906  
q3 (V) : 0.342

AD61354 7 43.7 +6.0 25

+60°10' ✓

-0456 8200 - 4177 0944

(-0458-082) 5664 - 5066 = 0093

-365

0120

4.61

6.15

R.V. (12.7)

Henry W.

Apr. 5, Sunday 46, 247

1951



0060 -089

38.651 1.5 -0056 -081

$\frac{241}{592}$

$\frac{-0056}{-081}$

-00616 -0838

1598 984

$\frac{459}{2002}$

2002

1409 7325

$\frac{-8}{1401}$

1401

38.504  
 $\frac{+34}{535}$   
409

8 00.7 - 1.16 - 100003 N V M  
815.0 + 39.05 + 390083

62522

7.43.6

+60

25

202

F=900 + F=50

3003

07

44

50

+18

34

483 896700 519 3206 —

-0036 ± 73 + 002 ± 512 + 2796  
-0030 + 011

603215 7 44.4 -37 49 5.9 B5m

5184

10485 23,372 1996.5 -37 48 37.93 -1891.1

$$\begin{array}{r} 157 \\ \hline .529 \end{array}$$

$$\begin{array}{r} -11 \\ \hline 26.04 \end{array}$$

$$\begin{array}{r} 29.995 \\ \hline 53.548 \end{array}$$

$$\begin{array}{r} 58.15 \\ -38.70 \\ \hline 19.2844 \end{array}$$

45.8

$$\begin{array}{r} 23.542 \\ \hline 547 \\ 14 \\ \hline 566 \end{array}$$

$$\begin{array}{r} 36.85 \\ \hline 37.90 \\ +126 \\ \hline 37.99 \\ +0.55 \\ \hline 38.54 \end{array}$$

44.56  
42.3  
51.2

$$\begin{array}{r} 566 \\ \hline 1030 \end{array}$$

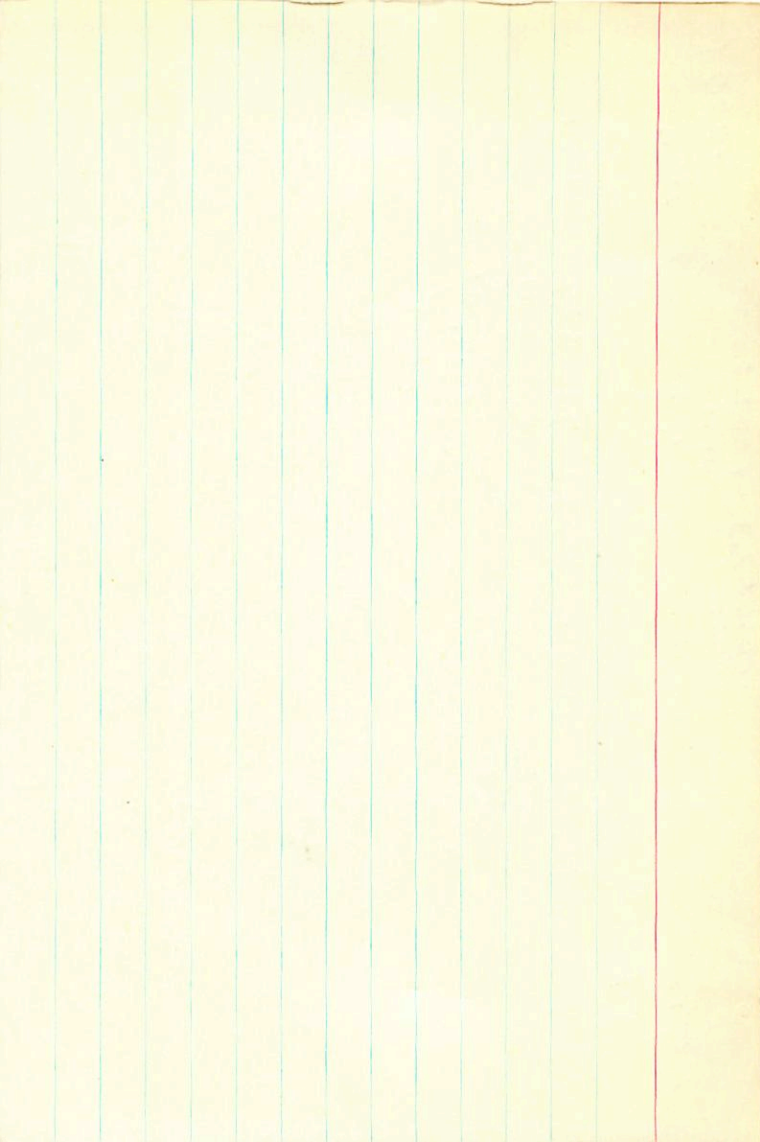
$$\begin{array}{r} 37. \\ \hline 37.42 \end{array}$$

$$\begin{array}{r} 515 \\ \hline -014 \end{array}$$

$$\begin{array}{r} 37.42 \\ \hline 1955.94 \end{array}$$

$$\begin{array}{r} 23.450 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 37.54 \\ \hline 12 \end{array}$$



NAC 2415

7 45 - 38

+ 30

GC - 0.0021 + 0.05

263M.

+ 2 6

- 0.0019 + 0.05

264

- 0.0225 + 0.005 894

342

864

- 446 + 845 + 296

- 243 + 204 - 948

+ 461 + 445 - 114

+ 0476	+ 0200	+ 0676	+ 17.8	884	+ 26.7
+ 0259	+ 0048	+ 0307	+ 8.1	- 28.4	- 20.3
- 0918	+ 0117	- 884	- 21.0	- 3.4	- 24.4

487

1215

6772

242

$+016 + 002$  ML  
 $+2$   
 $\frac{+016}{+002} \rightarrow$   
 $\frac{+018}{+000}$

W Pump  $\rightarrow$  44.3  $\cdot$  -42 07 120 d

$+120$   
 $10^2$   
 $+815$   
 $\delta = -8.7$

$636$   
 $598$   
 $498.5$   
 $30$   
 $6.16 + 60$   
 $598$

-0001 +002 Cap + Take

$94$   
 $6.1$  585

H  $572$   
 $81$   
 $79 = 255$

7.5 + 6.5

E m.M

H062804 8.88 +0.03 -0.145 89 ② +12 7.8  
 63384 6.95 -0.16 -0.935 82 ② +12± 8.5  
 63308 6.59 -0.09 -0.675 85 ② +13 7.7



+ 3  
+ 2  
+ 016 + 2

~~1001~~ + 002 MC

24

+ 2

F114

(+ 1)

+ 019 000 MC  
- 001 + 002 MC

+ 023 + 002 MC  
+ 003 + 004 Y, C

1 1/2  
1 1/2  
1 1/2

7 3/5

2

2 1/2  
2 1/2  
2 1/2

3032

63401

7 45.3

-39

13

6.81 Ap (Sun)

7221 (3)

6.37-074 123 7532074

-1026 +006 stay

769

158

659

-1024

-0279

-024

-172

208' 28

101' 10

27

7.750  
-39.200  
-31.000  
8.500  
7.200  
275  
22.000

-0.446  
0.851  
0.278  
85.072  
29.547

-0.243  
0.184  
-0.952  
35.054  
-11.300

0.861  
0.492  
-0.124  
70.255

28

63954  
HARV

7 45.5 -20 05

✓ 90091

358 / 58 451 2609

$$\begin{array}{r} -011 \pm 6.9 \\ -0096 \\ +271 \pm 5.8 \\ +271 \end{array}$$

$$63685 \quad \triangleright \quad 45.7 \quad -61 \quad 19 \quad 65 \quad +27.9 \pm 0.7 \quad (5)$$

$$10524 \quad 2.42 \quad +74$$

$$\begin{array}{r} 39.449 \quad 1906.0 \quad -61 \quad 18 \quad 85.80 \quad 1856.0 \\ 544 \\ \hline 39,993 \end{array}$$

$$\begin{array}{r} -14.63 \\ \hline 50.43 \end{array}$$

$$\begin{array}{r} 17.525 \\ 22240 \\ \hline 39,965 \end{array}$$

1348  
679  
+134 -319

37.2

$$58.60 \quad 1930.18$$

$$\begin{array}{r} -42.20 \\ \hline 40.80 \\ -40.35 \end{array}$$

$$-638$$

$$\begin{array}{r} 38.2 \\ \hline 42.2 \end{array}$$

$$\begin{array}{r} -794 \\ \hline 41.15 \\ -41.36 \\ \hline 21.16 \\ +1146 \end{array}$$

$$\begin{array}{r} 39.63 \\ -1.14 \\ \hline 36.76 \end{array}$$

1940.2  
-95.6  
36.76

28





7.750  
-61.300  
-148.000  
271.000  
2.000  
25  
27.900

-0.446  
0.893  
-0.062  
1297.131  
30.840

-0.243  
-0.180  
-0.952  
-159.540  
-80.561

0.861  
0.409  
-0.301



+21

Adm

+0.0003

0.000

→

+0.0001

0.000

23440 -446 151 882  
628 -243 928 -281  
861 340 378

63410

+2601654

7 44.7

+26

23

68.14

+8.4 ± 1.4 DM

6.78 + 0.95 + 0.59 68.14 R

1654

24

$\delta = .14$

N30

-6026 -020

-0028 ± 7.1 -015 ± 6.6

60 → 1000

6.82 + 0.95 + 0.62 34

6.41 + 0.34 34

607

56

~~+27 717 40 1040~~

+89 -14 +22 .010

+25 -23 +4 .005

+81.4

-8026

+0

-635 -010

5.6

+81.4

-021 ± 5 -0.2 ± 5 7

~~-034 ± 5 -0.1 ± 5 2~~

-034 ± 5 -0.20 ± 30

-034 ± 5 -0.19

63637 7 46.8 -30 08 G-5 +45.4 254

$50^{276} - 16^v$   $S = +107$

$50^{276} + 0.65 + 0.12$  2BS

$-0.246 + 0.214$  CP

$-0.210 + 0.188$  CR

$-230 + 200 \rightarrow$

$\frac{133}{276}$

$\frac{47}{6}$

7.52 414 175 345 ②

$\frac{404}{187}$

②

29



G-C 10629

6420

omit

49.5

-13 46

Paul 51

47.1

-18 38

-0.042 -1342

Eggs in A.S. Supp. 8, 125, 1963 (no. 76)

p = -12.80

4  
23.18  
0.550

Woolly and Symms

M.N. 97, 445, 1937

$$p^2 = 5.737 \times 10^2$$

$$q^3 = 166.375 \times 10^{-3}$$

$$a^3/p^2 = 290.00 \times 10^{-6}$$

$$\pi^3 = 250.00 \times 10^{-6}$$

$$m_1 + m_2 = 1.16$$

$$m_1 = m_2 = 0.58$$

$$\Delta m = 0.45$$

6

32 m (8)

84 W (12)

59 Yh (15)

67 S (16)

72 G (17)

60 V (16)

43 (67)

$$A \quad 5.72 \quad +0.57 \quad +0.05$$

$$B \quad 6.17 \quad +0.65 \quad +0.14$$

$$AB \quad 5.17 \quad +0.60 \quad +0.08$$

---

36

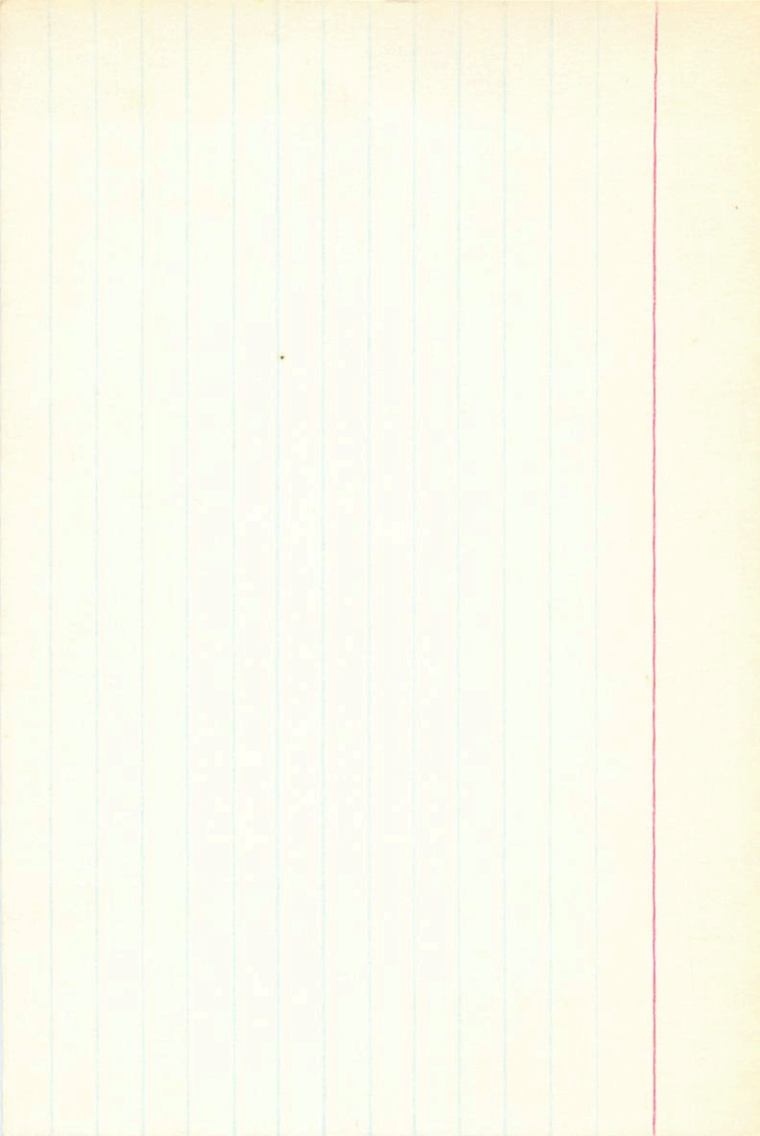
5.73

22  
5.95

$$\pi 063 \rightarrow +4.95$$

21	✓	W
-25	0	-19





-0043 ± 2.9 +046 ± 2.4  
-0042 +049

63332 7 47.2 +54 15 6.0 dF6 -2.46

5208

10561 9.931 1895.2 +54 15 2.1.61 1890.8

$$\frac{236}{10.167}$$

$$\frac{11.64}{59.528}$$

$$\frac{10.133}{.039} \quad \frac{.983}{.054}$$

$$\frac{9.933}{+10} \quad \frac{99.84}{949}$$

$$\frac{9.944}{950}$$

$$\frac{-2.72}{18.89}$$

$$\frac{64.4}{42.02}$$

$$\frac{23.38}{21.90}$$

$$\frac{20.48}{20.20} \quad \frac{372}{20.66}$$

$$\frac{21.84}{-27}$$

$$\frac{21.57}{21.57}$$

$$\frac{21.67}{21.67}$$

$$\frac{-20}{21.47}$$

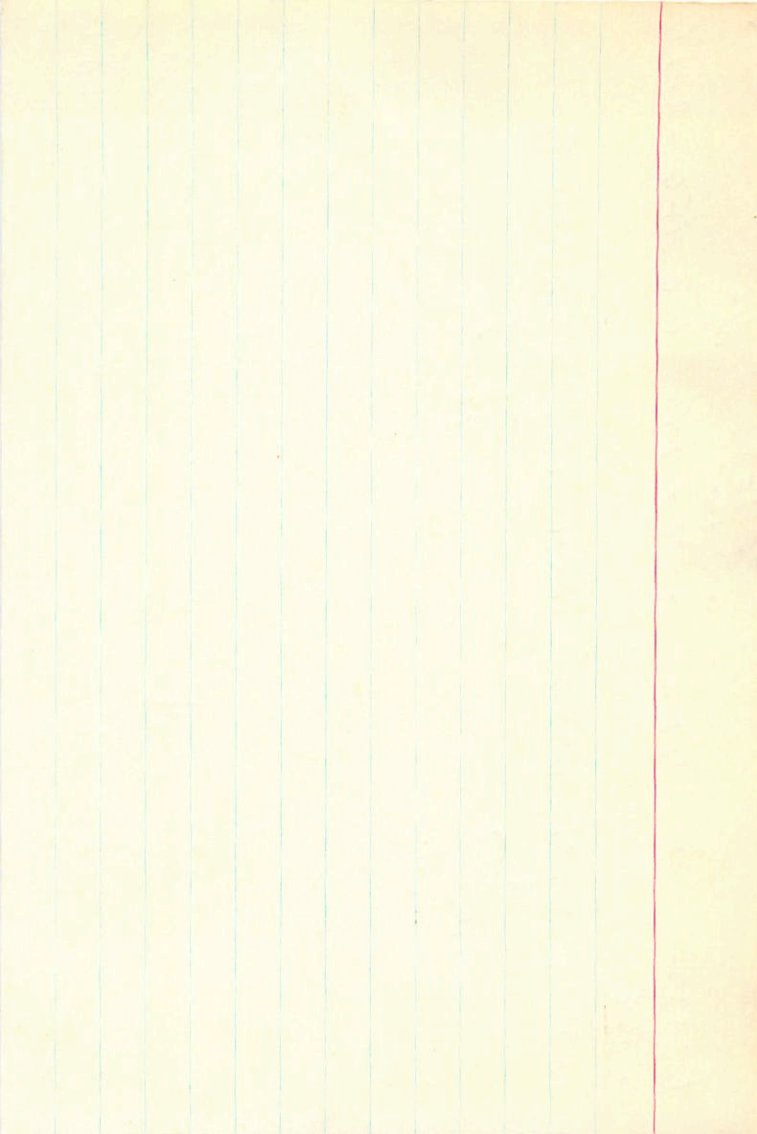
$$\frac{21.27}{35}$$

$$\frac{1944.70}{11956}$$

$$\frac{39.2}{48.4}$$

$$\frac{1947.06}{21.47}$$

44.0



63832

7 47.2 +54 15

df6

HR3028

GL10561

6.04 +46 -02 @549

.317 .156 .414 @SP4 2.640 @3 4  
325

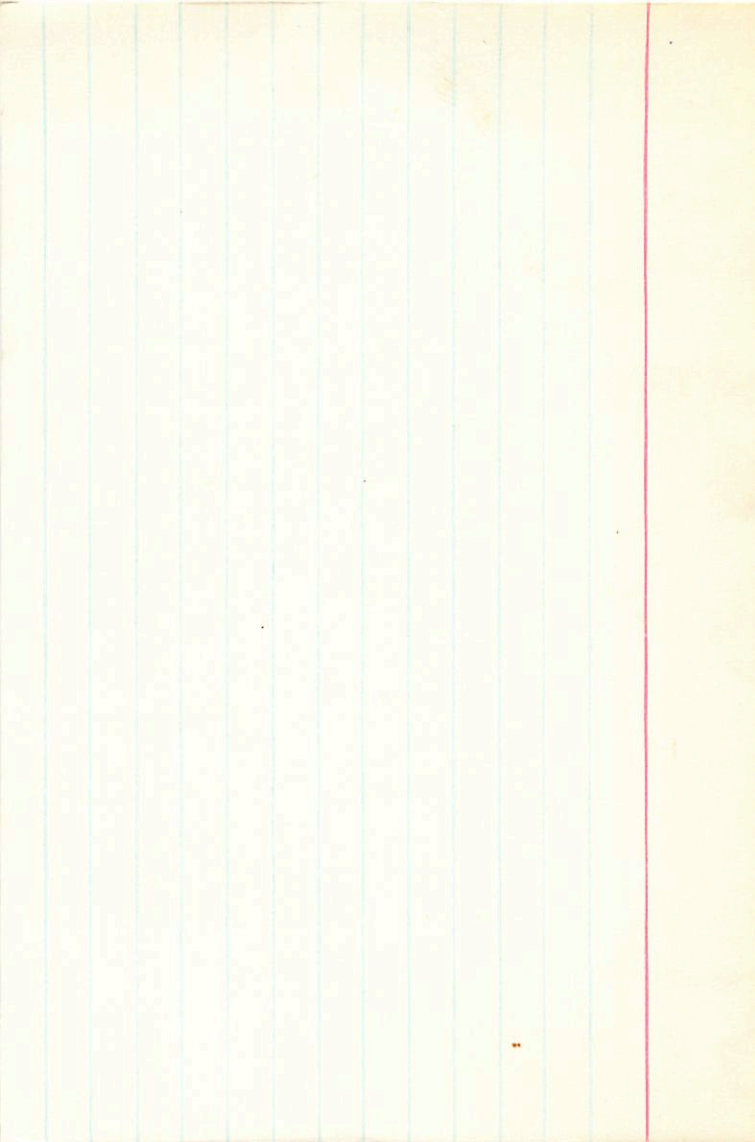
[m] 213 +21 -

[c] 353 +23 -  
+44 -

+350

2.50 -1.9 +7.7 -53

+4 +262 -131



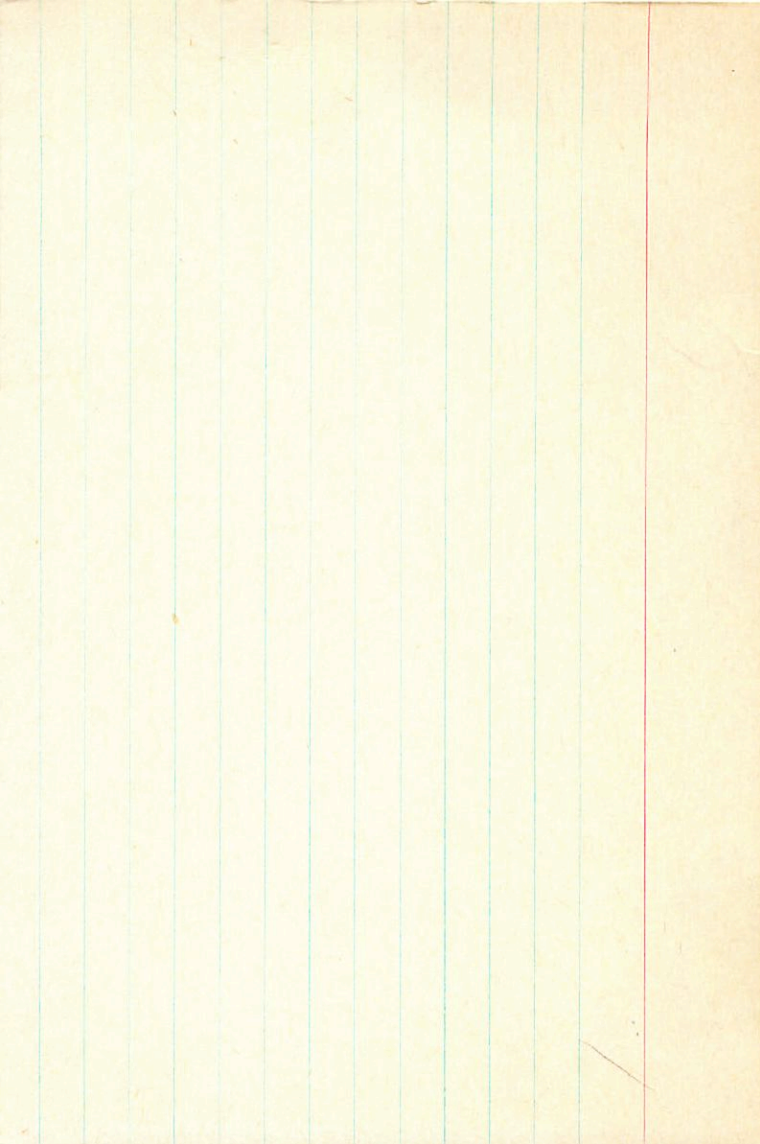
HP3040 7 · 47.8 +33 22 = 102 2v

-1 0

0.015 -004

-454	-010	890	-0323	-0323
-236	964	-110	-0168	-0183
458	265	440	+0610	-0050
				+0560

-2.9  
-8.9  
+1.1  
-4.4



3 Cmi

3059

7

49.1

+ 1

54

BS II

- 63975

5.13 - 12 - 48 C

-0.42 0.90 572 2.684

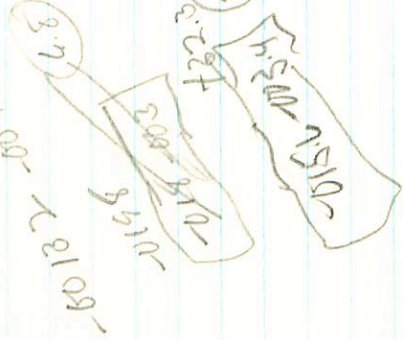
0.82 590

$\frac{164}{754}$

$m_v = -1.8$

3488 - 9743

9308 2254





20

3059.000\*

7.000\*

49.100\*

1.000\*

54.000\*

-0.018\*

-0.003\*

6.000\*

229.087

32.300

0.033

0.761

32.056

0.009

-0.601

30

-17.379

-0.080

0.245

-10.311

2486m

42201807

7 46.2

+ 22216

742

52.1

+ 22208

-0017 -0.029

-0009 ± 12.3 -046 ± 10.9

52 7.859 1170.9

3.64 1573.7

700 = 5.25 [442-80 -50]

12.6

+ 74

1010

692

400

-462 170 870

+0241 -0392

-0.0 +30

+36.5

-229 925 -302

+0119 -1799

-67.4-80

-12.7

857 339 389

-0444 -0739

-447.4-31

+16.3

+0460 -0314

+0369 6

+54

592 112 -021 -039

-1482 -5

-59.3

-72

5928

-1480

-59.2



0.0051  
0.0051

4.5

N New  
+22 1807  
7 49 10 +22 15.9 1802  
51 18 +22 8.3 1550

$$\begin{aligned} M_x &= +.041 \\ M_y &= +10.7 \\ P &= +42 \end{aligned}$$

$$P = +42 \text{ free}$$

$$0.115^B \quad 650$$

$$\Delta \mu$$

$\pi = 0.030$

60550	+0827	-0071	+36.5	-462	+163	+872
-0445	+4706	+4261	+1.9	-229	+428	-295
+1665	+1704	+3369	+27.7	+857	+336	+392

26

1750

625

17/1

3059 7 491 +1 54 5.13

015

+3238 5.13 -0.48 0.54 5.76 2.68

00 585

142  
 $\frac{142}{74}$

78

+1.9

-1.6

-5

5.11

+220

1350

1054  
1000  
1000  
1000

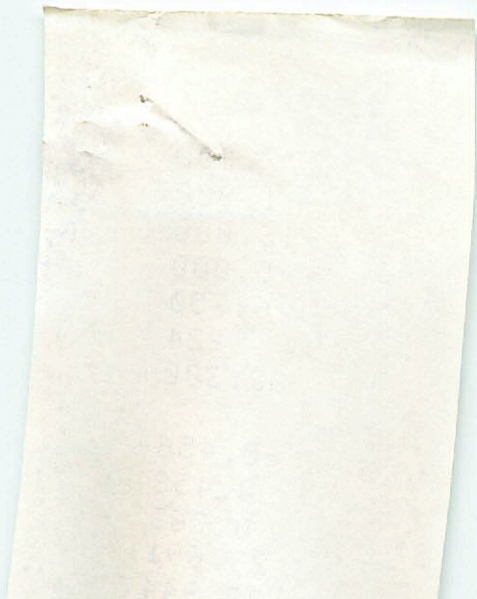
505

1.7  
6.78

0183

1016-005

27





7.800

1.900

-16.000

-5.000

6.750

224

32.300

-0.456

0.458

0.763

23.691

29.944

9rup 5.830.6  
6.43

53

64096 7 49.5 -13 46 dg2 -12.5a

5230

3064

10629

-0044 5-7 -343 N30

-0041 ± 1.4 -341 ± 1.3 GC → N30

A056470

plus

3471  
0003

-00425 -342 N30+

-00460 -342.5

3526  
0001

2477 -1426 } 3471  
-6000 -5113 } 10032  
4.13

-067

-070 -340

-174

12.3

1146

41005 34ms  
40005 / plus

3526  
0001

-0.30

32

RAD. VEL. : -31.700  
 MODULUS : 18  
 DISTANCE : 1.250  
 PM. DEC. : -349.000  
 PM. R.A. : -70.000  
 DEC. : -13.750  
 R.A. : 7.000

U : -29.251  
 UB : -914.939  
 p3 (U) : 0.211  
 p2 (U) : 0.247  
 p1 (U) : -0.429

V : 1.297  
 VB : -899.245  
 p3 (V) : -0.784  
 p2 (V) : 0.275  
 p1 (V) : -0.235

W : -21.212  
 WB : N-1027.9  
 p3 (W) : 0.110  
 p2 (W) : 0.201  
 p1 (W) : 0.259

R.A. : 7.800  
DEC. : -13.750  
PM. R.A. : -70.000  
PM. DEC. : -346.000  
DISTANCE : 1.250  
MODULUS : 18  
RAD. VEL. : -21.700

q1 (U) : -0.456  
q2 (U) : 0.647  
q3 (U) : 0.611  
dU : -914.639  
U : -29.521

q1 (V) : -0.235  
q2 (V) : 0.575  
q3 (V) : -0.784  
dV : -866.945  
V : 1.597

q1 (W) : 0.859  
q2 (W) : 0.501  
q3 (W) : 0.110  
dW : %-1097.9  
W : -21.915

AOS 6420 <sup>MP 291</sup> 7 49.5 -13 46

(-21.7) 21.7 inch  
~~-12.8 a~~

06524 (60)  
w

.0564  
5.23 +0.59  
1272  
409  
420

22216 G205 (MARK) G25  
-060 -340 Gc  
-063 -343 N20  
-063 -344 F  
-062 -342

5.16 +0.60 +0.06 G15

10476 -3499  
10457 -3453  
-0910  
[068-346]  
+9.15 1865

-70  
-346  
1.25  
-21.7

464  
43  
605  
10.03  
10.2 3446

738 -674 -239 971 -062 -342 -12.8 082+4.3 -1.573

046 -061+042 -055 479 -090 -17.3 611.7 -12.8 055

+20.3 -14.4 -24.3

-22.2 -1.9 -26.7

+21.3 -14.6 -22.2 05

-23.6 -3.6 -26.8

+18.7 -14.1 -15.8

068

-19.4 +1.3 -22.7

069

0

06

+19.7 -14.3 -21.9

-21.1 -0.4 -25.0

05



1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882



64096.000\*

7.000\*  
49.500\*  
-13.000\*  
-46.000\*  
-0.070\*  
-0.340\*  
0.950\*  
15.488  
-17.800

1.05  
16.12

-0.889  
0.608

-25

-24.594

-0.849  
-0.786



0

0.839

-1.094  
0.115

-20

-18.993

64316 7 49.9 -39 56 F5E 418.8 4C

FD1152

8.27 +0.49 (1.61)

-062 -166 CP

$\frac{-2}{-064} \frac{+4}{-162}$

$\frac{-2}{-064} \frac{+4}{-162}$

+ 3 0 ↓

-061 -162

7.800  
-39.550  
-79.000  
-162.000  
4.000  
63  
18.800

-0.456  
0.849  
0.268  
-520.014  
-27.767

-0.235  
0.176  
-0.956  
-67.564  
-22.236

0.859  
0.499  
-0.119  
-630.894  
-42.039

34

3073

7 50.0

-14

42

2.8

✓ 14.7

✓ 17.5

✓ 7

7

✓ 417.2

$$\begin{array}{r} 0.768 \\ 0.14 \\ \hline 813 \end{array}$$

1401.2

~~0009~~ 527  
-0010

-0014 524  
+0010

$$\begin{array}{r} 5825 \\ +21 \\ \hline 5804 \end{array}$$

0.773

~~00010~~

5913 3995

$$\begin{array}{r} +604 \\ 779 \\ \hline 36 \end{array}$$

-0018 / 0000  
-0013

$$\begin{array}{r} 5913 \\ +24 \\ \hline 5937 \end{array}$$

-0196

$$\boxed{\begin{array}{r} -017 \\ +002 \\ \hline \end{array}}$$





7.800

-14.700

-17.500

2.000

7.000

251

17.200

-0.456

0.657

0.600

42.812

21.075

-0.235

0.562

-0.793

24.145

-7.582

0.051

856  
2000  
9.04

414

8000  
4000

400-200-  
3600

1000-15000

0500-62000

2435  
1455

6535  
8235

2967

01000

506  
604  
1500  
010  
52000

375

1335  
22  
8913

2035  
10 5000 12000

12000

111  
11  
5000

813  
11  
6760

414  
006

272 575 4000 5000  
400 6000

414  
5000  
147  
28.6

2 2000 - 14 43

2073  
10000



84 Min

64092

>

50.0

+22

28

2.1

966-878

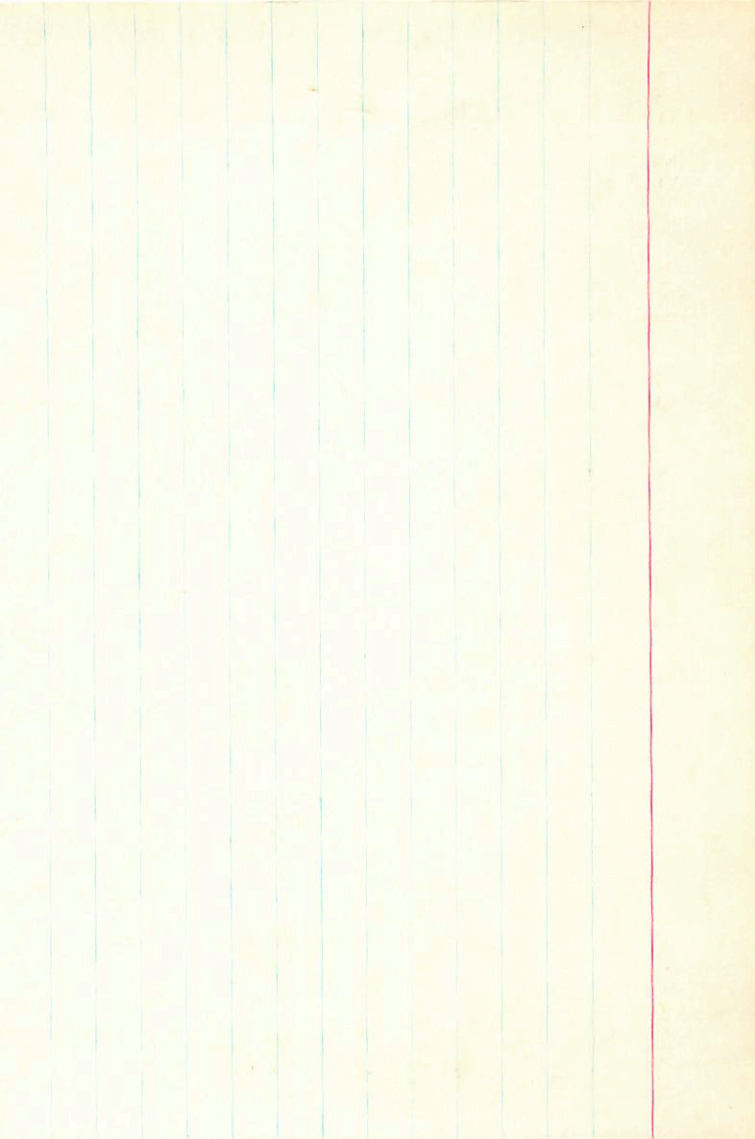
5236

10642

243

-0005 -016 N30

-0005 ± 2.8 -010 ± 2.4



19

129.1 (7)

64259 2 50.1 -12 44 9R1 -25.17W(3)

G-10645 6.61 +1.10 +1.00 R2111 R

W5237 11027 W(10.4)

71860 6.61 +1.11 +0.985 (2)

~~130~~ 2270 6.14 +0.415 (2)

A056426 10230 576 519 (1.3)

-74 -20 -12 .006  
-51 -4 -8 .010

7035<sup>14</sup> -080 60  
+065.41 -085±124  
040 -080

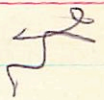
-15M(7)  
2C(6)  
-789

+0024 ± 4.6 -080 ± 4.1  
+0027 -090

8.939 1893.7

-13 43

53.68 1892.6



-135  
804

~~59.258~~  
~~9.548~~  
~~8.886~~  
~~8.882~~  
854

33  
917

8.888  
20  
908

912  
+108

40.2

+4.59  
49.09

2.78  
49.42

1934.66

52.20  
-1.12  
53.32  
+26  
53.06

7.72

52.26  
-23  
52.59

1933.07

52.82  
-3.73

33.9  
41.3



64259.000\*

7.000\*  
50.100\*  
-13.000\*  
14.000\*

64235 7 50.3 -5 18 5.8 gFS -1.86

5238

10649 19.730 1908.0 -5 17 51.46 1906.5  
 $\frac{63}{793}$   
1.26  
50.20

19.726  
 $\frac{+16}{742}$

51.60 1939.09  
 $\frac{+82}{51.28}$

5.664  
 $\frac{14.100}{19.764}$   
 $\frac{-957}{773}$   
 $\frac{+16}{773}$

38.4  
31.9

30.4

0.19 1934.68  
49.88  
49.82  
1.20

1911.4

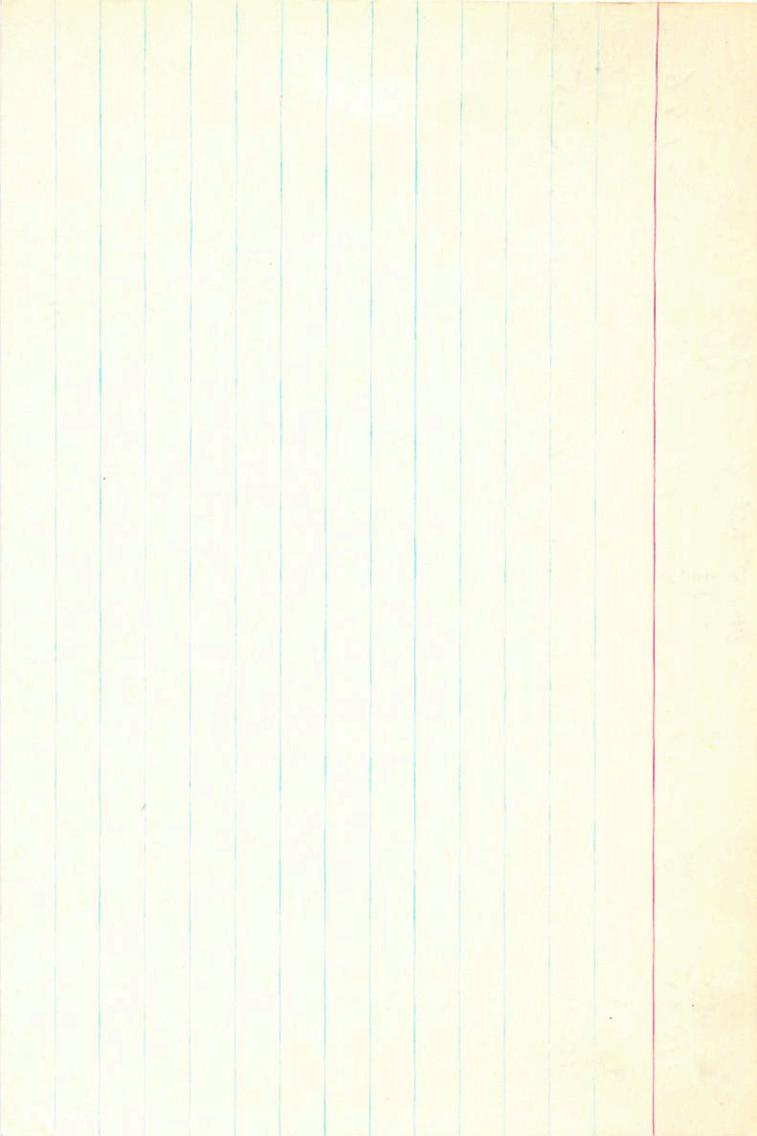
51.02  
-82

18.57  
32.42  
51.07  
430

50.11  
9.4  
51.11  
51.07

50.126  
84.43  
51.11  
19.06

$\frac{156}{1034}$   
 $\frac{156}{1034}$





3032 7 45.3 -39 13 6.31 Ap (Si)  
63401 +221 (3)

6.37-074 123 4532.719  
(99) 464  
158  
659

~~1026 + 1006 string~~  
~~1024 + 1006~~

6279  
-024 + 1008.5

-001

7.5  
-39

SECTION C.84 9100

21.045 00.2

25.21 569

7592 6529  
6508 8415

82.307

-0.151  
0.068

-36.687

-0.015  
-0.960

-21.376

0.236  
-0.019

17.000

1318.257

10.000\*

0.003\*

0.015\*

-4.000\*

-42.000\*

44.300\*

7.000\*

0.000\*

26

27