

HR 1535
4 47.4 +48 39 563g RD
+29.0

-035-012 GG
0 $\frac{1}{041}$! !

~~1~~

596M (554)
 30606 46.3 -16 25 6.0 dF6 +35.48
 +0003±2.8 +039±2.7
 +0004 +042
 +0008 +036
 +0014 +041
 +0020 +036

4.75

5864 17.426 1903.7 -16 25 0.30 1899.2 +16.4
 132 0.14 / 412
 9.924
 7.474
 17.394
 4006
 +20
 424

+0003 ±040
 +0008 +038
 +0014 +036
 +0020 +036
 +0026 +036
 +0032 +036
 +0038 +036
 +0044 +036
 +0050 +036

17425 5960 17.419 425
 414 5460
 424
 +0.12
 17425 59.71
 38
 46
 424

1938.64 +1.51
 1.15
 +30
 0.85
 0.42
 -16
 0.60
 1933.92
 35.2
 36.0

4.750
-16.400
4.000
36.000
3.500 3.20
50
3234 2.55 2.85 35.400 4.20

6.217
0.703
0.677
123.957
28.0 30.177 244

-0.611
0.639
-0.467
97.853
-9.9 11.641 -12.3

0.761
0.812
-0.569 2
67.145
-17.9 -16.763 4.3
-17.2

2

6.26 231 816 -570

30743

4 47.4 -13 51 F5B -3.0 65

FD1141

307 134414 2604

6.27 +0.46 (1.55) 325

-120 -120

-0089 -181 830

-0081 -165 64 →

-0085 -173

120.9 -120.7

850E
6089

121-
5976

5800

5976

5800

121-171

1296

114

-0029 # 7.1 -163 # 5.9

24.596 107 -0082 8.32 11.9

$\frac{310}{906}$ $\frac{6.21}{8.11}$ -170

24.404 12.40

$\frac{27}{131}$ $\frac{44}{36}$

-0085

24.359 6892 12.90

$\frac{25}{979}$ $\frac{46}{84}$

+17.5
+10

4 47.4 -13 51 ~~ESV~~

30743

HR1545
AC5882

5.26+45-0.11 4

1175 959
148 185
1127

244
1.27 820 118 424 2.626 (3) 1.524 187

255 142 414 - 255 441 -

175 +60 257
340 +58 9
11 54
175
418
2.

524 291 074 403 2.613 0 695 -

-1282
-12.5-176
13881
412
11

(9.25)

-121
4173
-30

2002 -18.9 -3.3 -16.3

-670 -189 -716

-3.0
-18
05800-1740
N204+

1045.0000

4.000*

47.400*

-10.000*

-51.000*

-3.125*

-3.176*

2.550*

32.359

-3.000

-3.685

3.710

-24.209

-3.188

-3.445

-4.742

-3.737

$$\begin{array}{r} 1021 \\ 971 \\ \hline 1 \\ 2 \\ 1 \end{array}$$

$$\begin{array}{r} 1 \\ 3 \\ 4 \\ 6 \\ 2 \\ 9 \\ 8 \\ 1 \\ 2 \end{array}$$

3

3

9.17 10.02

40.22 40.50 SW

PX Eri 4 47.5 -15 49 43-Eri 470C

$\Delta S = 6(69)$

~~-051214 -026610 Y~~
~~-046~~
~~-47~~
~~-19 -23 C~~
~~-30 -24~~

-150672

2841

W₁ 14 -24

+6880

9.00

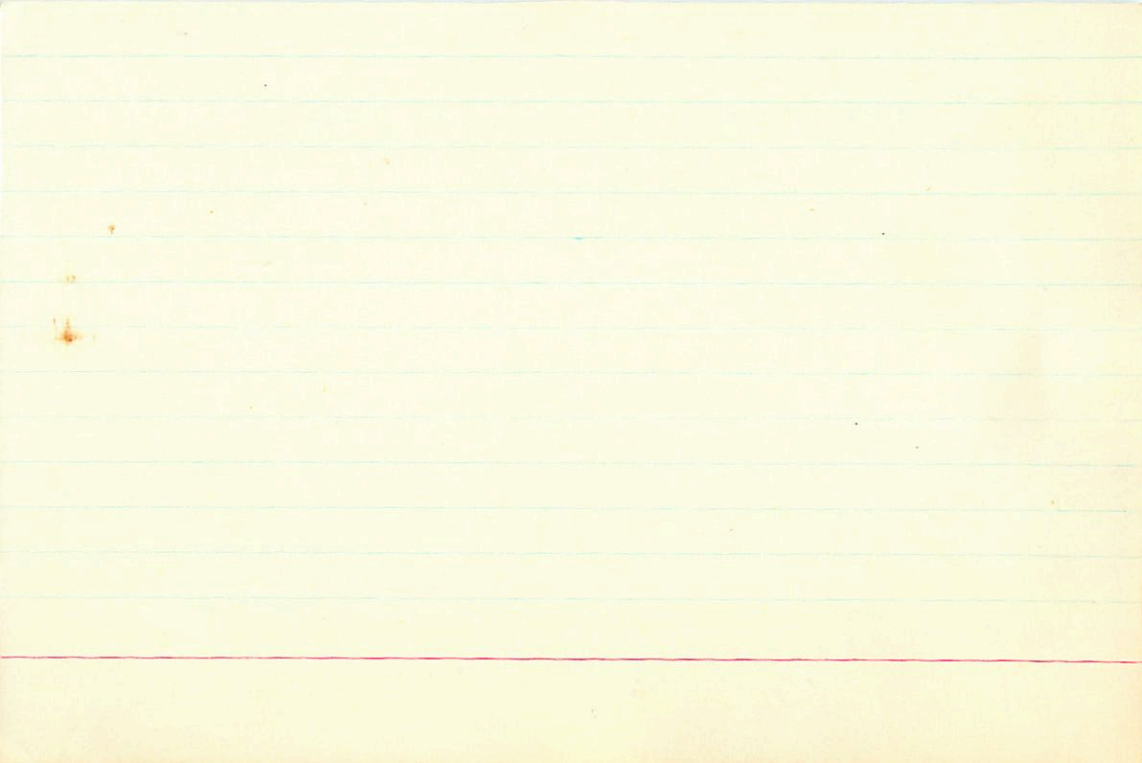
+1 +1

-1 -2

W₁ W₂ W₃

W₁ 2.5 W₂ 1.8 W₃ 2.2

-0197 -0743 -0990 -208 +697 +685
+0576 -0728 -0152 -9.6 209 -608 +640 -468
-0725 -0364 -1089 6.7 250 +765 +320 -557



1335 4 4622 -16 25

345 191 456 2433
500
516

155 90
990 490

31009 4 48.1 -56 45 6.625 +1.68 2.54 11414

+5.6

GL5902

-22
-0008
-0027 ±100
-0020

+28
+017
+016 ±8
+016 8.19
-79
8.98

① 6.55 +168 +200
② 5.35 -10.93

7.876 19045
120
7.996

-0012 ±100 +019

39.670
28.258
7.9632

-0016 +0185

-00131 -009 +017

8.0011
110
7.989

1948
1948
-026

43.46
35.55
7.51
-50

1927.25
38.94

457
328
7.75

5.2168
483

507 83

8.35
8.63

469 369
359 365

37 750
73

+0.63
1946.6

7.80

17 8.27

7.930
12
2152

31009.000*

4.000*

48.100*

-56.000*

-45.000*

-0.009*

0.017*

7.750*

314 288 354.813

5.600

0.070

0.062

422 420 25.159

0.040

-0.774

448 47 9.928

-0.043

-0.630

47 44 -18.611

-00785

30812

4

483

-00

11

9120 -8.86

7.26 + 1.10 + 0.905 (2)

6.43 + 0.385 (2)

644

0.5
0.5

+0011 -0.551 ± 12

+0165

+018 -0.57

5





0.000*

4.000*

48.300*

0.000*

30736

4

48.7

+45

51

F8

+23.66

6.7

Calculation

$$100 - (5 - 0.57)$$

$$\boxed{0.50 - 0.57}$$

$$+060 - 0586$$

$$\frac{+060}{+060} - 057 \text{ (in 12)}$$

$$-057$$

42

-52

9.0

+236

$$9004 \quad 5269 \quad 0713$$

$$6725 \quad 6010$$

$$-8169 \quad 07109$$

952 306 718 696 + 060 - 057 + 23.6 - 041 + 17 - 190
- 057 039 018 - 013 - 205 270 + 16.4 + 5 + 16
- 15 + 12 - 2

9



R.A. :
 DEC :
 PM. R.A. :
 PM. DEC :
 DISTANCE :
 MODULE :
 RAD. VE. :
 48 :
 22.000

d1 (U) :
 d2 (U) :
 d3 (U) :
 d4 :
 U :
 12.408
 8.948
 8.214
 8.204

d1 (U) :
 d2 (U) :
 d3 (U) :
 d4 :
 U :
 8.608
 8.717
 8.542
 821.159
 4.513

d1 (U) :
 d2 (U) :
 d3 (U) :
 d4 :
 U :
 8.267
 8.241
 8.812
 4.288
 8.88

2

R.A.	:	4.800
DEC.	:	45.850
PM. R.A.	:	72.000
PM. DEC.	:	-52.000
DISTANCE	:	3.000
MODULUS	:	40
RAD. VEL.	:	23.600

q1 (U)	:	0.206
q2 (U)	:	-0.274
q3 (U)	:	0.940
du	:	116.408
U	:	26.807

q1 (V)	:	-0.608
q2 (V)	:	0.717
q3 (V)	:	0.342
dV	:	-321.129
V	:	-4.713

q1 (W)	:	0.767
q2 (W)	:	0.641
q3 (W)	:	0.019
dW	:	24.200
W	:	1.404

6

-0003 E4.7
-0014
-015

30752 4 49.2 +52 46 6.3 A2 -12.66

2868

5928 12.114 19016 +52 45 31.97 1898.7
015
~~1099~~
12.6

$\frac{1.13}{33.110}$

12020

13.46
~~58.5865~~
11.995

57.2
36.488

1528.1

12.064
+14
~~874~~ 223

34.18
-2.06

32.47
-1.63

38.5

079
-0.55

32.12
-32

1945.13

12.051
-178
0.00

32.28
-2.22

32.56

1946.97

12.064
+12
0.51

32.67
-2.5

40.1
~~41.4~~

+380955

4 49.3

+38

26 8.8

N

+322

34

+296

-1023-004

79 637

Rome

1551

-026-004

4 49.3

+26 37

113

5934

30834

4.77 +1.41 +1.58 5

406 +0.5855(3)

22075

28.97 ~3.98
5.51 0.62

407 +0.535 A(2)

406 +0.568

$m_v = -0.5$

368

$m_v = -0.5$

-00003 -00058 N30 -16.54

-0.029

-0.030 -0.06

645
7149

-94130285.37
-3376

0258
-0080
8.94
956

65
52

-0275

824

29.15
2.0

-029-007

1108 213

6014
6005

1551.000*

4.000*

49.300*

36.000*

37.000*

-0.000*

-0.000*

5.300*

114.815

-16.500

-0.025

0.972

-10.933

0.064

0.220

3.775

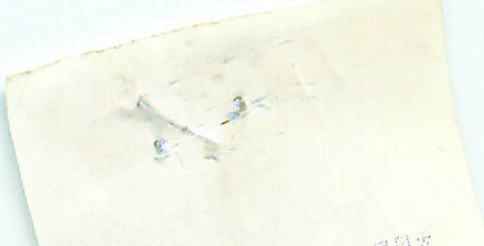
-0.127

-0.081

-10.295

7





10 51 37

3(203
LPC

4

49.8 -53 33
5.5 PVE

HR.563/4
W2876

15.500 Van
+10.830 Van 58(203)
+5 d
-3 Van 350
-098 +080

12" spm 6.4
FVIB

5.6 } 12" FV
6.4 } FV

-0089 +084 N30
-0009 +085 BL
-0094 +084

3.65

-084

5.20 +84(1.57) [unclear]

~~10~~ -504 535 -095 +080 +5 -064 -4.0 255
098 064 00 464 303 +3.0 0 +3.0

+31 +23.2

015

025

3003M

M

44.8

-53

33

56.64 12^r

AR1562M

41^r

4.0

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99
100

2

5.000
-53.550
-141.000
84.000
3.650
54
0.000

0.161
0.979
0.122
325.931
17.504

12/24

-0.592
0.195
-0.782
312.935
16.805

12/2

8

0.789
-0.054
-0.612
-334.735
-17.976

+43.8 (2)

31003 4 49.8 104 15 158 441.76

441.769

8.5

+081 -0250

+063 -053 Y

~~+045 -003 094~~

+072 -039

?

554301 674997 +081-025 +41.7-018 +3 -115

-077 017 024-005 -341 194 +41.6 +12 +40

-5-448-3

02

61626i

4 50.4 -0.5 32

-9 2

HR1560

4.39 +0.25 +0.18 A912

+13 var 35k

4.39 +0.25 *copy*

-018 +02466

954 259-096 555 -018 +024 -9 -002 -0.9 114
617 002-005 -001 085 -014 -9.0 -2.7 -8.6

+0.7 -9.1 +3.6 025

$\boxed{-6.2 + 7.1 + 2.6}$

-0.6 -8.9 +1.9 40

$\boxed{-7.0 + 5.1 + 2.9}$

+220769

4

50.6

+22

+45.77 (5)
+47.5 (6)

56

8.8 d.f.s

no. 125

93

+0.49

-0.04

4.01

5.25 = 110

m-m

+064

+1

+065

-019

-4

-023

-021 N20

+46.2 2W

+48.4 ± 0.4 M 374

+47.6 ± 0.5 M

+49.6 ± 0.8 M

+45.0 ± 1 G

+46.8 ± 1 G

+47.5 a

+238 +118 +964

-618 +784 +57

+749 +609 -260

+8733 -0127

-1904 -0780

+2308 -0606

+0616 +6.8 +45.8 +52.6

-2684 -29.5 +2.7 -26.8

+1702 -18.7 -12.4 -31.1

693

67

69

20

175

31274 4 50.6 -46 56 G4 177 +30.074

FD860

7.12 +0.96 (R.03)

GL5958

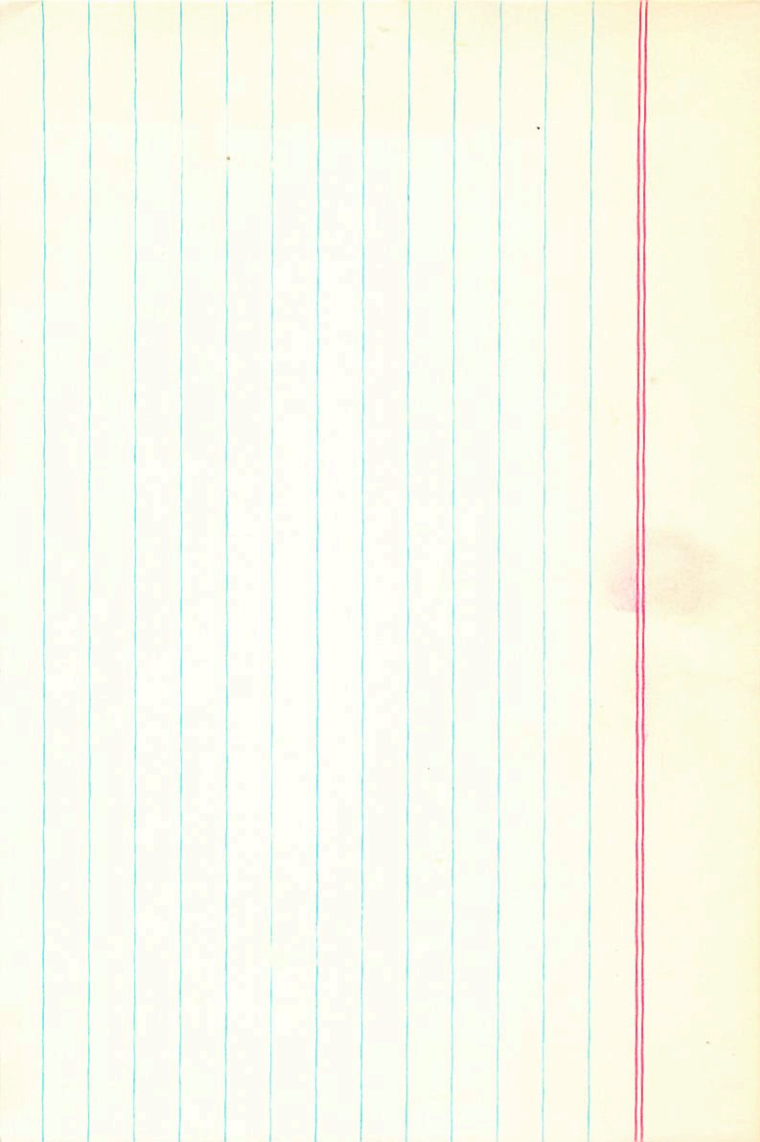
-0025 ± 100
 $+001 \pm 6.9$
 $+012$
 36.420
 $1900.8 - 0030$
 3.36
 1896.6
 -0028
 $+006$
 -05
 -0024
 $+008$
 3.41

33.94 1927.01

53.795
 42.685
 36.480
 405
 098
 078

30.90
 3.04
 -03
 $+35$

3.07
 $+01$
 3.06

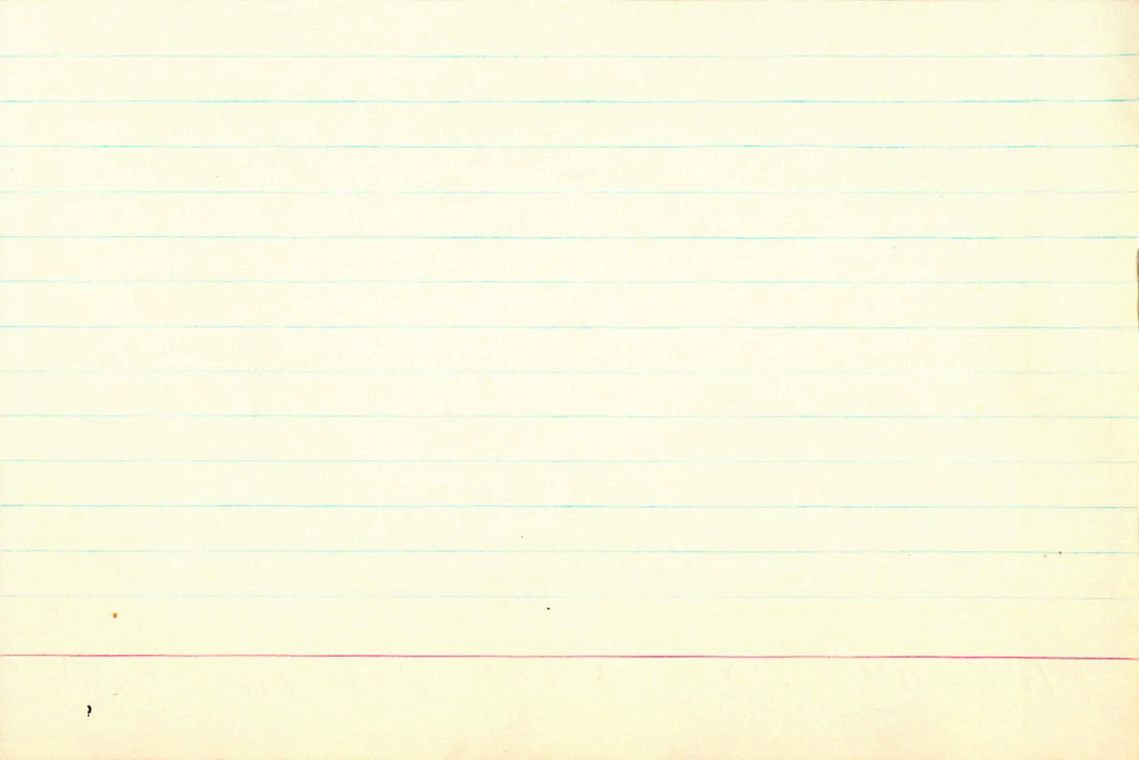


-79③

30338 4 50.9 +81 07 513 9124 -8.4

2883 $\frac{424}{29} \frac{59}{6}$
 5962 +0021 59 +029130
 $\frac{424}{14} \frac{28}{4} \frac{94}{6}$ +0006 1.3 +029
 13 +0014
 +003

199	-766	611	+0028	-1653	+1027	-10.3	-5.1	-15.4
-605	394	691	-0086	+0542	+0456	+4.6	-5.8	-1.2
071	507	386	-0109	+0697	+0588	+5.4	-3.2	+2.7



3/225
210003

4 51.0 -20 51 7.02 A3

-0025
-0011 ± 9.5
-016
-025 ± 9.0

ADD 3511

2.767 98.2 1000

13.10 96.4

62566

57
824

1.34

11.76

36.924 41.53 4124

11.48

25.868

59.76

2.79
002

11.72

794

11.90

593

11.74

581086
4430
2.743

784
114/ 7.73

3428

42.09

3075

11.24
11.13

12.47

12.06

410° 668 4 51.1 +10 15

89 g 110 - 25.86 ³⁴

4033±6 -033±5

-1 -3

032

60

036

ms

+0042

-022

3ged

62

31084

4 513 +43 18

-454 F(5)

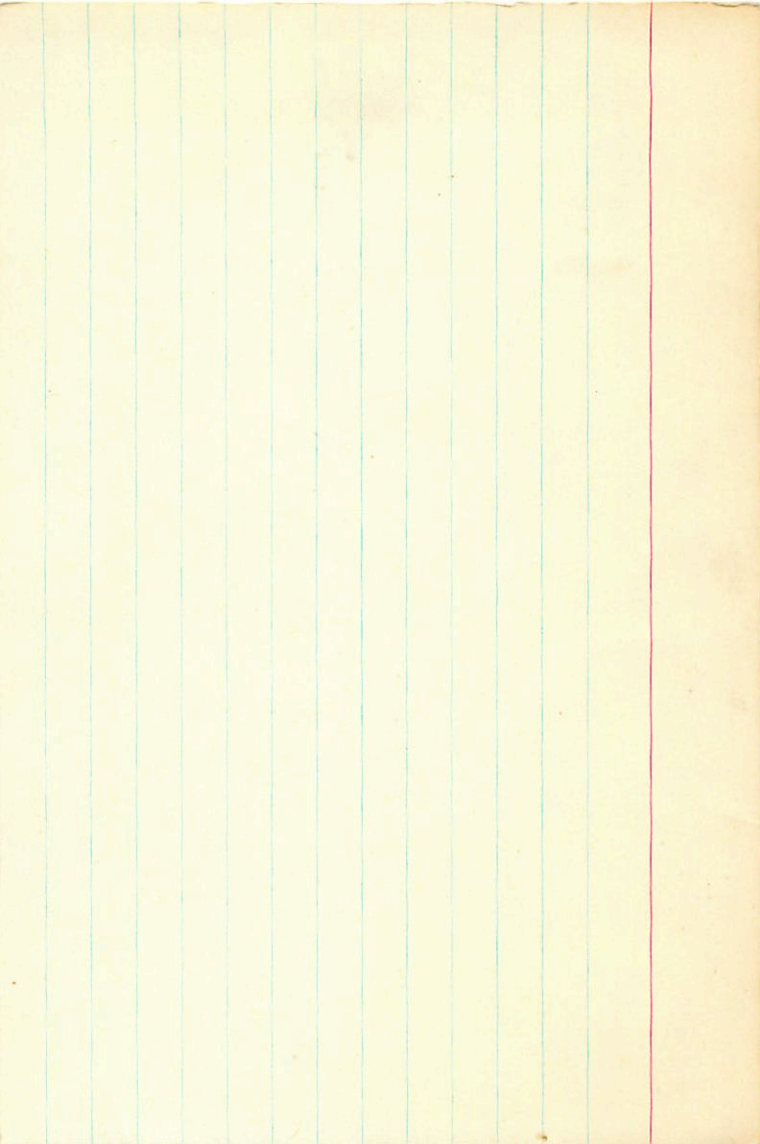
+430524

8.0 F95

-534044(1)
-48

-36 -42 +17 .010

+068 -025 +el



SA96-165

3W

-10747 4 51.3 -01 16 9.3 910 +6.88

36/11/11 2011 N-5 11.1 -10.0 0.105

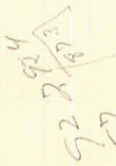
9.91 + 1.05 + 0.775 (2)

9.60 + 0.36 (2)

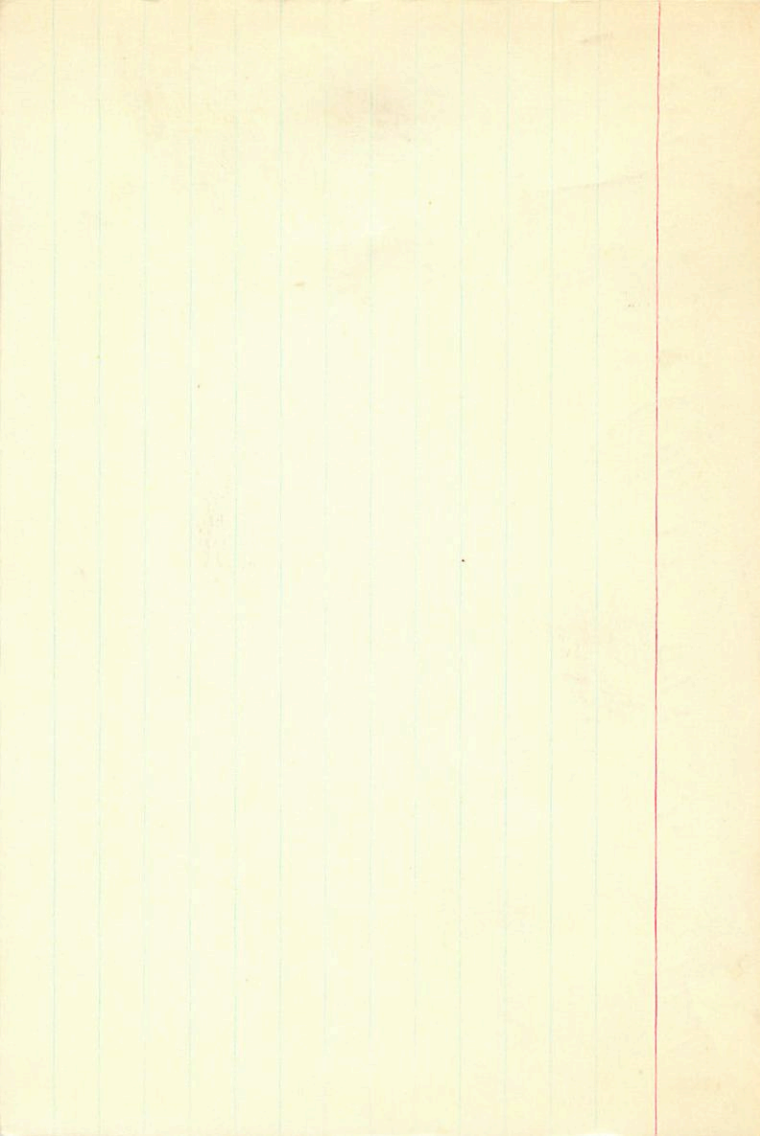
P - 014 - 018 AG-103

4 51.03 -1 15.7 11.0
4 51.09 -1 15.3 10.65

S - 018 - 018 AG-103



(8.9)



31460

47 158.8 10-31 131

205

~ 21.2055

+ 5.6

2056

8.05 376 156 354 2.566 (3)

8.07 376 105 352 (2)

20291

4369
06

08-16

1526 4 53.0 $+14$ 58 188 $\frac{111}{111}$ $+244.9$ ①
 $+08$

581 -046 119 517 2.234 1095
 105 526
 210
 $\sqrt{136}$

$a_1 = -0.55$

$r_0 = \frac{5.98}{6.25}$

$10009-02162 +9.5$

$100075-0192 F.104$

$+0108$
 $+011-020$

59.813 1911.4

+6013.55.6 -022.75.0
+6000.6 -035
-606

42.24 1908.2

$\frac{-50}{2.63}$

$\frac{.52}{43.16}$

59.284

42.13 1934.1

$\frac{+11.6}{5799}$

$\frac{12}{4225}$

3673 94

59.233

268

+609-021

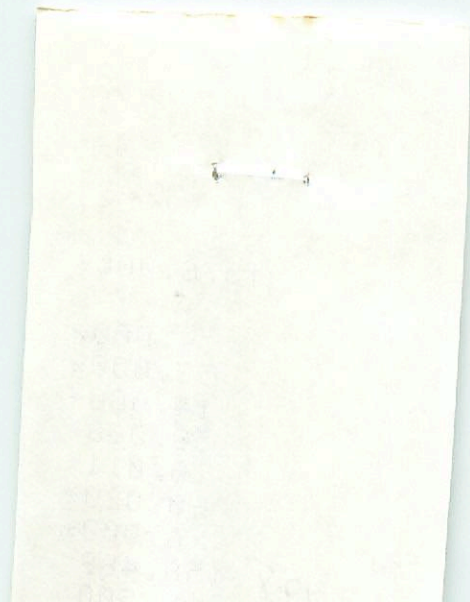
42.56 1939.54

24

25

$\frac{42.96}{2}$

8



1576.000*

4.000*

53.000*

14.000*

58.000*

0.011*

-0.020*

6.000*

158.489

0.500

108

31862

4 53.2

+24 31

F0

HR1575

G66015 ^{10/15} W

6.27

1.99

1.233

2.233

92

192-123

[m]

(515)

(220)

1.51

2.15

$m_1 = 1.25 \frac{B10}{204}$

+7 (4902-2.25) 2.706 (4) 6+

781 8148
1642-5021

1020
[1020-015]

8200
6200
7114
8800
8200

[514 114]

37 129

325

-0116F28 -0118F24

12.644 005 $\frac{-0005}{-00125}$ $\frac{-015}{5087928}$

$\frac{723}{74}$ $\frac{-00147}{-0137}$ $\frac{57.91}{94}$

12.641 58.5 $\frac{51.20}{51.20}$

$\frac{725}{.669}$ $\frac{51.20}{51.20}$

31912

4 833 44 36

4457 AA

202 755 706

40290-88

138-88

135-
-88
250

658 699 288

9549 - 7222 7325

250

457

31423

4.53 ✓ +7 44 +250M

GMV PS

0059-050 *Handing*

88-88

88

88

2.5

15ft

10



1880
1881
1882
1883
1884

1885
1886
1887
1888
1889
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1892
1893
1894
1895
1896
1897
1898
1899
1900

9

R.A. : 4.900
DEC. : 7.800
R.A. : -88.000
DEC. : -50.000
DISTANCE : 2.500
MODULUS : 32
VEL. : 25.000

q1 (U) : 0.184
q2 (U) : 0.363
q3 (U) : 0.914
dU : -161.904
U : 17.719

q1 (V) : -0.600
q2 (V) : 0.777
q3 (V) : -0.188
dV : 63.876
V : -2.683

q1 (W) : 0.778
q2 (W) : 0.514
q3 (W) : -0.361
dW : -443.463
W : -23.039

10

9 mi
90² Ev

-0050 ± 2.2
-0052
-045 ± 1.7
-053

4 53.6 +13 26 +0.80

HR15FO

4.06^m +1.15^G 12 III

3142
2922
6075

33.451 1892.1
290
1741

33.492
32
524

33.460
+25
485

1009
504
237

45.4

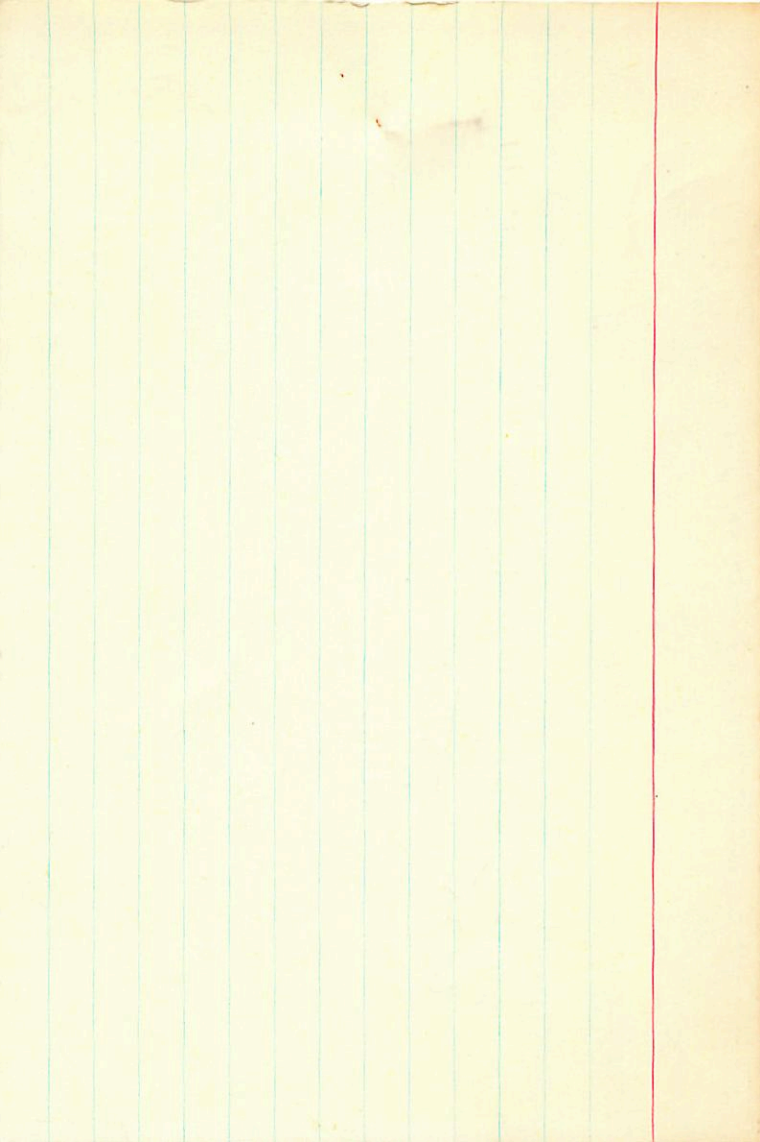
-073 -045 GC
13.52 1891.1
2.83
16.35

13.70 1934.5
12
13.82
4 96

13.89 1940.46
+6
13.95

13.99
-2.47

37.5
46.4



31975

4 540 -72 30 FEB

+5.5
+40

HP1606

AC6031

+70
-61300 +2715 #5 Oct
-81230 +9
1845 146 3724

2.8

-0554

2.619

-055 +271

68

[24] 232 +17

.344 .170 .406 ② 1/33/2 +24.9

[67] 337 +44
+61

.351

-055

+3.5

285

5

72 0 51

-0122 124.9

+271

150 962 -204
-599 -057 -798
580 -264 -564

-0464 +12357 +1888
+1542 -0732 +0830
-2033 -3417 -8450

3230. 2010.

+393 +24
-168 -20
-344 -27

-5.0
-19.9
-14.1

11



1605.000*

4.000*

54.000*

-72.000*

-38.000*

-3.051*

8.271*

2.000*

35.308

24.900

1.191

-3.204

33.163

~~1074 1073~~

1304 1074 324
1305 1073 322

1585 4 54.5 +17 04 9101 +2486

31539 -007#2.4 -009 #2.2

28.849 00.4 - 7 36.85 00.4
 $\frac{3}{9} \frac{19}{6}$

28.849 36.84
 $\frac{29}{97} \frac{23}{8676}$

28849 36.87
 $\frac{29}{97} \frac{23}{8676}$

28849 36.84
 $\frac{29}{97} \frac{23}{8676}$

28.849 36.84
 $\frac{29}{97} \frac{23}{8676}$

36.85 00.4
 $\frac{45}{37.30}$

-00065 -0085
-00081 -0067

-0116,
-011-005

844 22.5
-0010 -0075
-0143
-014-005

$\Delta m > 0$?

4.9
+17.1
-12
5.0
+24.8

(2)



4.900
17.100
-12.000
-8.000
5.000
100
24.200

0.184
0.211
0.960
-17.967
22.016

-0.600
0.797
-0.060
2.397

31875

4 54.6 -62 52 ABE +27.7 3SA

b-y (m) (k) 2+3
064 230 962 2.860

8.04 +0.11 +0.09 4BS

Om -33 d

$m_v = +1.25$

$a = .075$

PPM

$n = .042$

400 26 +072

018 072

+009 +096 CP

- 1 - 7

+008 +089 → 0L

+ 7 + 2

+015 +091 →

39

72

70

+27.7

5

	PL	CP	AL	VE	MOD	DIST	PM	DEC	R.A.
1	358	038							
2	358	038							
3	358	038							
4	358	038							
5	358	038							
6	358	038							
7	358	038							
8	358	038							
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94	358	038							
95	358	038							
96	358	038							
97	358	038							
98	358	038							
99	358	038							
100	358	038							

R.A. :	4.900
DEC. :	-62.850
PM. R.A. :	39.000
PM. DEC. :	72.000
DISTANCE :	7.000
MODULUS :	251
AD. VEL. :	27.700
91 (U) :	0.184
2 (U) :	0.982
	-0.040
	350.695
	990

1762

HR1591

✗

54.8

-1

10 620 52

4130 +9

666043

666043

W2929

1027=51 -036±56 +9.0①

989-1028 -026

1027 -021

37.78 99.8

$\frac{1.87}{35.97}$

44835
 $\frac{135}{973}$

10275-10285

10306 10245

44767
 $\frac{17}{984}$

(6727)

3766
 $\frac{6}{3772}$

10410

1044-1026

844
442

1045-1040
10476-10460

44759
 $\frac{27}{946}$

(6882)

3749
3745

10

