

QPA 207155  
30509

HRT326 13692

W13692

21 44.8 -31 0  
5.03 +0.06 A2 III

$-0022 \pm 2.7$   $-002 \pm 2.8$   
 $-0030$  000  
 $+0024$  000  
 $-0030$  000

+12 ± 20, 15  
+13.5  
+15.0

$\frac{0025}{+001}$  17 17 N30

-025 -0026  
-033 +001N  
-030 000

48.393 +907.5  
094  
487

-00285 0000  
-00253 +0028  
-0325

50.50 1906.7  
09  
50.71

48.402  
-14  
386

43.3

50.76 1941.99  
5  
50.71

10164  
50.8  
44.1

112  
356  
-131 -032.000

48.336  
-10  
526

48.310, 50.5) 50.35  
-12  
293  
-14  
50.67

50.73  
+2  
50.71

1956.67

2706 9600

-556 831 -518 856 -030 000 +13.0 0 -6.7 0

99

-017 0 -025 0 -081 -115<sup>1/3</sup> +11.1 +9.2 -6.2

-5.6 -26.7 -6.7

0055

+27.1 +4.3 +6.1

+0.2 -19.3 -6.7

009

-20.1 +3.7 -0.2

~~21.750~~

~~-31.100~~

~~-37.500~~

0.000

5.050

102

13.000

0.763

0.192

-0.617

<sup>m</sup> 116.113

-19.906

-0.101

0.978

0.180

15.326

3.914

-0.639

0.075

-0.766

97.203

-0.009

69

1525

22 12.8

+ 06 14

6.5-4.5

(15)

1006.5 + 011

2203

+ 0628

+ 40

+ 11

533 107 1059

1500000 0.44 -20 189 920 2.875  
ADCS 5.78 -0.35 -1.75 6.495

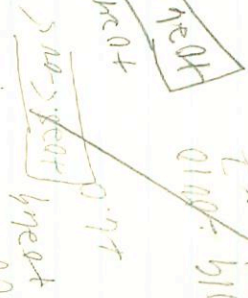
8533

212404

31307

ADS150 ✓

+0.111001



1500000

ADCS 5.78 -0.35 -1.75 6.495  
-0.11 139 918 2.861 5.6

136 873

9.78 +33 +0.2

22.33  
-5.1

187

224  
520

11  
194

128.5

-5

4.88

+0.200  
-4  
+6.495 ✓

+0.111001  
-7  
-800

200000  
-800

$m_1 = +0.65$

$BLV(2) = 0.22$

$m_2 = +0.65$   
 $V_0 = 5.7$   
 $m_1 = 0$   
 $m_2 = 0.65$

30626 909

$\frac{-92}{534}$

4001872.1  
40019  
40018

-001 + 15  
2615 913

-002

000  
4008

~~18~~

30661  
 $\frac{-30}{131}$

(6564)

2611  
 $\frac{-14}{2628}$

40015 - 003  
40016

30661  
 $\frac{11}{650}$

(6592)

2618  
 $\frac{2610}{2610}$

30661  
 $\frac{19}{610}$

(4100)

2616  
+21  
2617

8537

22 21.3 + 62 10 A0

ATV

212495

31303

OWN

FO1M19

6.37

July 22 67

FO124  
FO17  
FO18  
FO19

-18.91 net

③

22.32  
-12.2

FO18 1019  
FO17 1018

FO18 1019  
FO17 1018  
FO16 1016  
FO15 1016

627  
630  
629

136  
124  
130

1.175  
1.175  
1.175

2835  
2863  
2835

2835 26  
2863 et al.

80

135  
270

53 = a

11.04  
14.44  
14.92

22.5  
+14  
6.25  
18.9

0.7

139 1169

1169  
1449

28

-000512 + 043312 ✓

19.174 11.3

$\frac{35}{209}$

$\frac{5725}{171}$  0.2

+1011 1021  
+10115 1023  
5624

14276

+25  
 $\frac{34}{101}$

+1072

$\frac{1010+015}{5725}$

$\frac{5644}{3}$  4541



R.A. : 25.350  
DEC. : -2.180  
PM. R.A. : 26.000  
PM. DEC. : -4.000  
DISTANCE : 6.850  
MODULUS : 234  
RAD. VEL. : 6.000

p1 (U) : 0.851  
p2 (U) : 0.452  
p3 (U) : -0.346  
q1 : 25.117  
u : 12.216

p1 (V) : -0.203  
p2 (V) : 0.298  
p3 (V) : 0.297  
q1 : -40.014  
u : -2.226

p1 (M) : -0.284  
p2 (M) : 0.392  
p3 (M) : -0.247  
q1 : -23.083  
u : -51.912

8537.000\*

22.000\*

21.300\*

62.000\*

10.000\*

0.015\*

0.015\*

6.350\*

186.209

-19.000

0.094

0.286

11.980

-0.030

0.955

-23.685

0.022

0.076

2.656

01 (V) : -0.203  
02 (V) : 0.798  
03 (V) : 0.567  
dV : -40.014  
V : -5.976  
q1 (W) : -0.534  
q2 (W) : 0.395  
q3 (W) : -0.747  
MP : -73.083  
W : -21.615





22.330  
52.200  
21.500  
19.000  
6.250

186.21

172.83

-18.900

0.819  
0.499  
0.284  
83.842  
9.548

110

-0.199  
-0.216  
0.956  
-28.952  
-23.212

-24

-0.538  
0.839  
0.078  
50.020  
7.426

16

7A

7 113

99  
798  
568  
.743  
0.859

-24

-0.538  
0.396  
-0.744  
-81.768  
-12.097

7D

8540

22 23.8 -65 B 13 B8E

212581

4.46 -02 -08

+12

31346

2585

-014 148 976 2585  
 144 979  
 208  
126

+077+001  
 22.4  
 -652  
 +183.5  
 +1  
 4.0  
 +12.0

+0.6

72

22.400  
-65.200  
183.500  
1.000  
4.000  
63  
12.000

0.825  
-0.064  
-0.562  
300.523  
12.216

-0.211  
0.887  
-0.410  
-72.773  
-9.515

-0.525  
-0.457  
-0.718  
-193.696  
-20.838

72

8550 22 23.3 + 78 00 B9

06-17 +02

6.76 -012 115 1017 2.810 B9

1019  
222  
1241

0008 +015  
0013 +015

-17.9

+1000  
+1000 +1000

~~1~~  
 ~~$m_V = -0.05$~~   
 $V_0 \frac{6.7}{6.75}$



~~4528~~   ~~22~~   ~~127~~   +2614   40   3

12.580 1905.0 + 1000  
- 0519.69 + 1053.100  
+ 211.16 1908.2

~~084~~  
~~596~~  
2020

17.516  
2094   1945.65

~~1077~~  
~~593~~  
6007

20.77  
677  
657



Handwritten notes in the upper right quadrant, including the number '202' and other illegible characters.

Handwritten notes in the middle right section, including the number '203' and other illegible characters.

Handwritten notes in the lower right section, including the number '204' and other illegible characters.

Handwritten notes at the bottom right, including the number '205' and other illegible characters.



705	8550.000*
257.04	22.000*
+6	23.300*
-26	78.000*
+6	0.000*
	0.006*
6.8	0.016*
	6.750*
22909	223.872
	-17.900
	0.053
	0.411
+5	4.508
	-0.041
	0.060
-25	-24.627
	0.045
	0.302
+5	4.733
73	

8554

22 25.1

+56

11

85111

438

2126212

6.57

-10 -48

(106)

-7.0

-842

110 454

2786

85111

102 502  
97 194

896

+0013 +00666+

+0012 +009 F114 -7.0

+0104

+013 +005

$m_v = -0.50$   
 $v_0 = \frac{6.45}{6.95}$

~~9.944~~ ~~18992~~

~~+0000587~~

007  
+007

+00062810  
+007FL.9

5

5.303. 1509.1

+0015  
0005

41.55 1508.2

~~106~~  
~~1197~~

~~.29~~  
~~41.26~~

5.217

+0013 +006

41.64 1945.29

+10

~~227~~

~~28~~  
~~41.41~~

5.234

~~481~~  
~~0005~~

41.97 1958.32

.276

~~29~~  
~~41.59~~

8554.000\*

22.000\*

25.100\*

56.000\*

11.000\*

0.013\*

0.005\*

6.900\*

239.883

-7.000

0.063

0.240

13.425

-0.016

0.971

-10.588

-0.012

-0.018

-2.737

79

~~σ Age 22 28.0 -10 56 +112~~

~~HR 573 484 -0.04 4115~~

W14144

-001 -028 CL

+001 -027 N

000 -027 F

000 -027

LOB 6, 140 +10.5, +13.4, +24.5, +24.8, +13.1

(16) +10.3, +13.2, +24.1, +22.4, +11.4, +20.0, +16.0, +16.9, +21.3, +11.4, +11.4, +11.5, +11.0,  
+10.7, +9.9, +2.8

DAO 7, 1 +10.8, -1.1, +11.8

Apr 5 6970 +28, +20-21, +27, +20, +6.8

m 1123, 28 +15, +17, +17, +19

-391 92.0 -189 582 000 -0.27 +11 005 -2.1 -125  
0 002 0 005 -0.24 0.59 +10.8 +10.0 -4.2

01  
1550  
+7.6 -3.3 -14.9  
-9.2 -6.0 -13.1  
+7.4 -3.6 -10.6  
-7.6 -2.8 -10.5



58

 $\sigma$  Age22 28.0 -10 5<sup>-6</sup> +11A

HR9573

487 -0.04 A0IV

-001 -0286

W14146

+001 -027N

000 -027F

000 -027

-391 920 -189 552 - ~~000~~-027 +11 005 ~~02~~-125  
0 002 0 005 -024 005 +10.5 +5.9 -4.2 013  
-3.5

8573

22 280 ~~117~~ 27 <sup>-10 86</sup> A0 IV

213320

31470

4.82 -05 -10 C et al  
 -025 145 1006 / 2.862 (2)  
 4.84 -038 130 1.029 2.867 0.2565  
~~-023 137 1.017 2.862 0.25~~  
~~030 133 1023 2.864~~

+4 -14  
 +00106 -0272  
 +00023 -0266

+0004  
 +002 -0305

22.5  
 -10.9  
 +2  
 -30.5  
 4.55  
 +4

130  
 260  
 1012  
 1272 ✓

465

-17 140 1015 2.863  
 135 1018



10.000  
2.000  
20.000  
4.000  
10  
4.000

5.000  
2.000  
10.000  
20.000  
5.000

4.000  
8.000  
8.000  
124.000  
2.000

4.000  
2.000  
4.000  
20.000  
5.000

Handwritten mark

22.500  
-10.900  
2.000  
-30.500  
4.550  
81  
~~4.000~~

11

0.832  
0.423  
-0.359  
-53.461  
-5.780

8

-0.228  
0.850  
0.475  
-124.977  
-8.257

5

-0.506  
0.314  
-0.803  
-50.100  
-7.286

75

-13

+025072.2 -61172.1  
 +0046 -015  
 22 28.7 -32 36  
 22 28.7 -32 36  
 +6.35

+063 -018 A  
 +066 -006 P  
 +064 -012  
 +063 -011 C  
 +063 -011 C  
 +063 -011 C  
 +063 -011 C

28 30"

213398  
 3004 3145-9  
 8526 14152

40054 1408.6  
 -32 36 1100 14050

34.851  
 207  
 40.013

39.956  
 27  
 40.013

40.021  
 +170  
 5.989  
 34073  
 40.062  
 400

0064  
 37.2  
 40.021  
 +170

10.50  
 50  
 11.15  
 49  
 1106  
 1539.40

16.14  
 454  
 11.60

11.32  
 19  
 11.60

11.13  
 -0.63

13.7+3.5  
 149.8  
 40.5

194084

11.04  
 1957.11  
 11.02

40.085  
 -17  
 1.068



-398 522 - 535 842 + 064 - 012 + 6.3 006 - 3 - 047  
025 002-059 006 090 289 + 5.3 + 5 - 2. 622

$$+9 + 11 - 5$$

+9	-5	-12
----	----	-----

26



002.00  
002.01  
002.02  
002.03  
002.04  
002.05  
002.06  
002.07  
002.08  
002.09  
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002.95  
002.96  
002.97  
002.98  
002.99  
003.00

Handwritten mark

Handwritten mark

Handwritten mark

Handwritten mark

Handwritten mark

22.500

-32.600

80.500

-15.500

3.200

4464

4364

6.300

0.832

0.261

-0.490

248.280

75

7.752

-0.228

0.965

0.128

-144.058

6

-5.485

-0.506

-0.005

-0.862

-162.283

20

-12.518

76

2.614  
793 861 1493.4 28.8 -32 51

OBlasts  
Mixed  
inf

8576

22 28.6 -32 37 AOT

213398

428 +01 +02 C

12

31459

-605 128 1048 2.9093 Crs

+0053 0115  
178  
344  
1044

+0674

+068-0155

22.5

-32.6

+40.5

-15.5

3.2

4.3

Bunk 51

+066-013

+6.3

393

+1.0

10.15 200

10.15 810

001 = a

025 = a

1.1.1

41.0

3.3

28

8576.000\*

22.000\*

28.000\*

-32.000\*

-37.000\*

0.066\*

-0.013\*

3.300\*

45.709

6.300

0.244

-0.494

24

0.034

-0.130

0.128

6

-5.111

-0.159

-0.060

77

-12.706

8595

22 31.9 +70 07

634 AVE

524

+0215

+0096+28

+024+21

916

5505

22.5

+0093

1.40

+70.1

500

5005

+135.5

+0089

+1225

51.850

54.86

47.34

+20.5

+0083

+80

-02

+0401

5784

903

5784  
5784  
1.19

1.19

78

22.500  
70.100  
139.500  
20.500  
5.000  
100  
-19.000

0.832  
0.420  
0.362  
228.103  
15.931

-0.228  
-0.337  
0.914  
-83.915  
-25.753

-0.506  
0.843  
0.184  
-32.027  
-6.707

78



8602  
76

22 820 41 21  
0 029 42 10

211157

100M-060

1045-060

5541

214150 22 34.1 40 5.8 A2 +15.08

31563 +0029 5.1 -0.73 540  
+0037 -0.66  
+0034 -0.64

14200 4.098 1408.9 -40 50 59.70 1904.0

8602  
-119  
3.979  
022187 598 2570 3.36  
194 991  
56.34

39.1

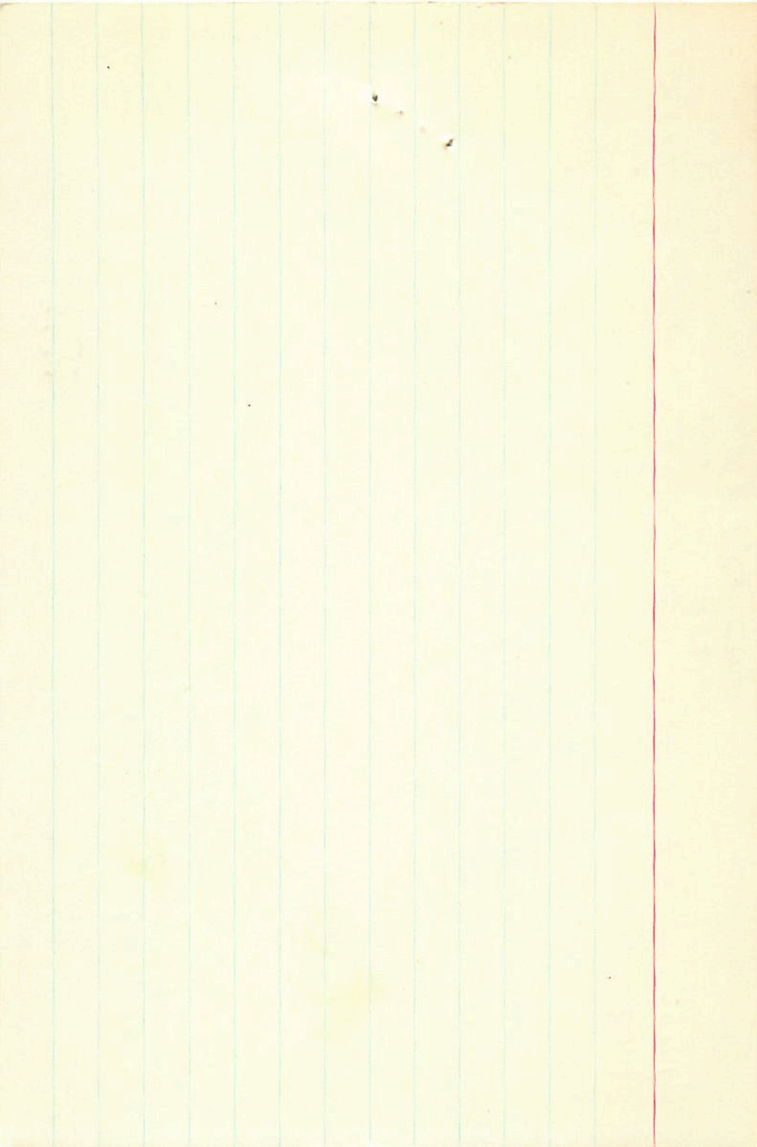
4.146 58.68 1408.23

-37  
109  
46.0  
96.07

41.4  
0.95  
125  
46  
+0035 -0.64  
+00304 -0.662

4160  
-20  
140  
59.68 1957.29  
-11  
59.79  
+0379  
+038-0705

22.1  
-40.5  
+50  
-20.5  
42  
+151



214085

27 33.6

-40 50

+5.2 ± 1.75C

FD1288

6.26

+12 1.58

A3Em

(4.5)

+0035 ± 4.7

+2

-068 ± 3.4

+1

GL

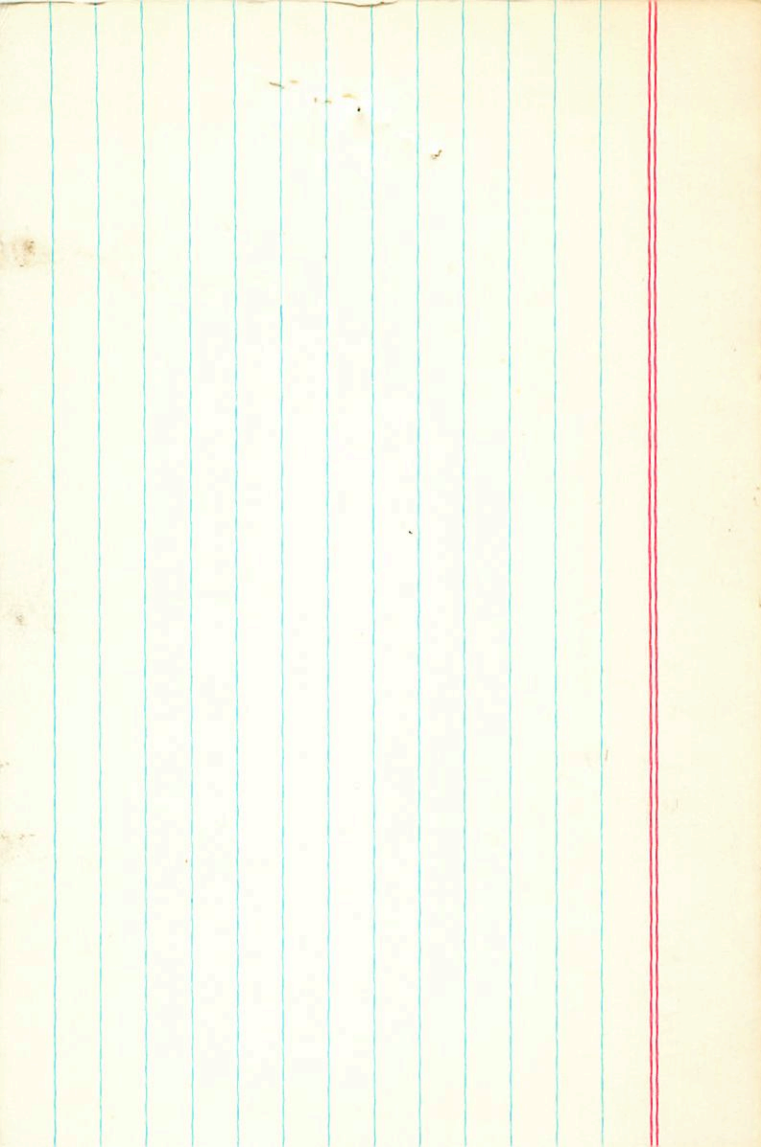
(+0045

-067

→

+051

<sup>A4E</sup>  
74 1856 van



~~809~~ 961  
 195 - 972 2892 2.2  
 215 935  
 056  
 22 330 058  
 40 50 A4E  
 073

8600  
 214085  
 31547

6.26 + 12 (+13) 6  
 (15) (2)

6.28 061 177 973 2.900 1.18, 18, 76

+517  
 +4.6a

188  
 376  
 961  
 1337  
 1449  
 196  
 077 = 2 ✓  
 01 = 2

+6040  
 +6007  
 6007  
 -066 809 1570  
 +  
 -065

+1.91  
 4.3

+650

058 706 964

79



10/17



8600.000\*

22.000\*

33.600\*

-40.000\*

-50.000\*

0.053\*

-0.065\*

4.300\*

72.444

4.600

0.150

-0.512

8.475

-0.359

-0.015

-26.067

-0.083

-0.659

-9.962

Fey

000.04

000.05

000.06

000.07

000.08

79

22,600

-40,800

50,000

-70,500

4,200

69

15,000

23 059 +44 17 +20

2806  
248026

116 133 1219 2880

6.57-1003 1601

10.76

~~10025+1004~~

100221000 (working)

48

10034000

6.75

8

220

80



R.A. : 23.100  
DEC. : 44.300  
R.A. : 48.000  
DEC. : 0.000  
DISTANCE : 6.750  
MODULUS : 224  
VEL. : 2.000

q1 (U) : 0.864  
q2 (U) : 0.443  
q3 (U) : 0.239  
dU : 140.735  
U : 31.984

q1 (V) : -0.323  
q2 (V) : 0.125  
q3 (V) : 0.938  
dV : -52.575  
V : -9.894

q1 (W) : -0.386  
q2 (W) : 0.888  
q3 (W) : -0.251  
dW : -62.807  
W : -14.563

80

214203 (40)

31565 22 34.1 +11 26 6.4 40 -8.28

-0009+93 +021#7.1  
-0006 -003

A2E

14203 7.550 1907.8 +11 26 13.58 1904.1

038  
588  
-1007 +009  
+21  
7071

7.552  
14  
566  
12.47 1934.4  
12.62

7.552  
21  
573  
570  
-018

12.40 1934.86

6  
426  
37.1  
33.0

12.46  
12.54  
-08



87

~~22.600~~

11.400

-5.500

-7.500

5.550

129

-8.200

0.839

0.523

-0.150

-40.045

-3.931

-0.244

0.607

0.756

-15.350

-8.179

-0.487

0.598

-0.637

-8.814

4.087

61

8605

22 34.1 +11 26 A2D

214203

6.4  
006 179 1677 2.892 ~~atad~~  
2.2

31565

86  
026=a ✓  
049=r ✓  
166

184  
368  
1076  
1438  
1451

9025, 9025, 9025  
9025, 9025, 9025  
9025, 9025, 9025  
9025, 9025, 9025

226  
-114  
-5.5  
-7.5  
~~8.2~~  
5.55  
-9.2

+0.85 ✓  
5.55

-8.2  
-8.2

82

8685.04 1\*

22.00 1\*

34.11 1\*

11.00 1\*

26.00 0\*

-0.00 0\*

0.00 5\*

5.50 0\*

128.8 5

-8.2 0

-0.0 2

-0.1 5

0.9 0

0.8 4

0.7 9

0.7 0

0.0 6

-0.6 3

13.1 9

82

8616

22 36.0 -33 21 Am

21484

5.66 +03 (+095) ✓

3158

5.66 0.03 153 1.112 2.878 92,3

37

x4d sb  
x12  
x8

2

-007 1591108 155 108

310 028=6

1109 075=2

167

x1000  
x1000  
x1000

MN123,213

20.25

-4- 40, -4, +8+4

-4- 49, +87, -81, +30, +12

+0.4  
5.25

15844  
3122

83

861.8 000\*

2.3 000\*

3.6 000\*

-2.1 000\*

-2.1 000\*

0 009\*

0 319\*

3 256\*

112 202

3 300

0 060

-0 475

2 908

0 176

0 10

9 48

-0 23

-0 73

-9 56

83



0047

HR8641

WR1256

22

89.4

+29 03

+8.38

45

AIU

-008 -0266C

-345 939 486 874 -008 -026 14.3 -613 +4.5 -105.  
-003 -004 -008 -012 043 -057 +9.1 +7.6 -2.8 007

+13.7 -11.0 -11.1

$-14.7 + 3.2 = 15.9$

+

01

+11.9 -8.5 -6.4

455

$-9.5 + 4.8 - 12.0$

015

+11.0 -6.6 -3.2

-6.3 +9.9 -10.0

3

22.860  
29.050  
1.000  
-26.000  
4.900  
95  
9.300  
  
0.843  
0.538  
0.028  
-62.787  
-5.740  
  
-0.254  
0.357  
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4.150  
  
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0.763  
-0.432  
-96.431  
-13.239

84

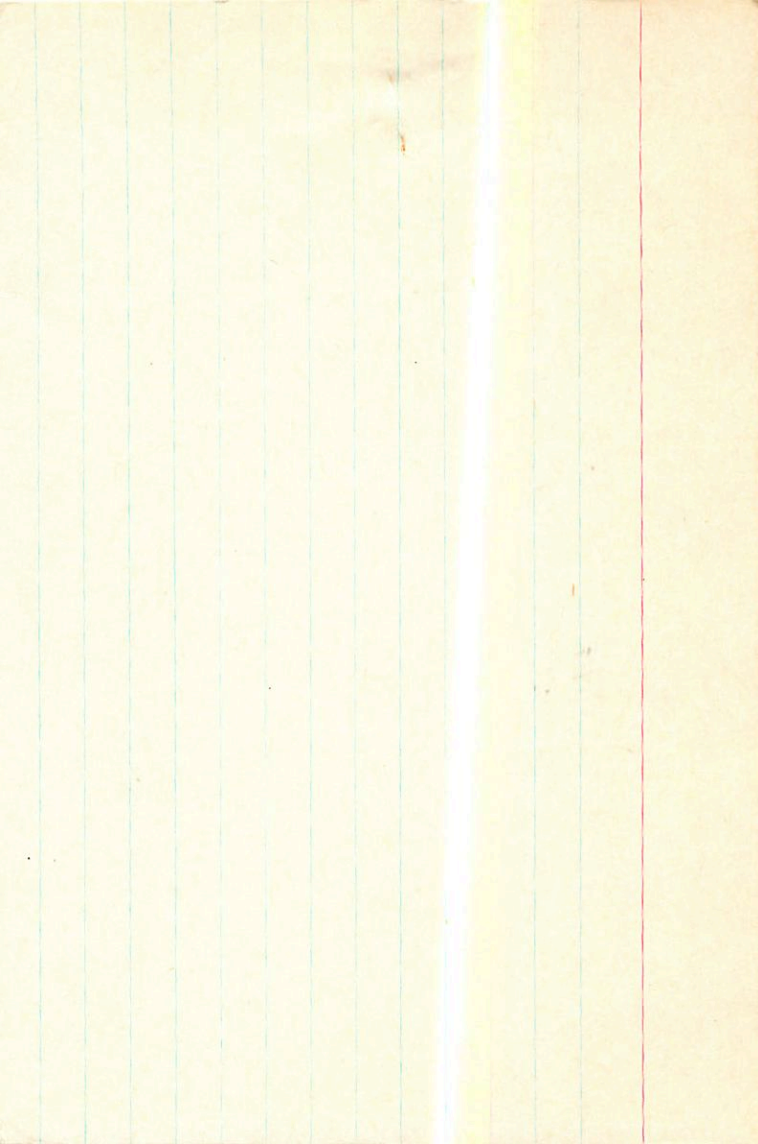
6684598 22 36.0 -3) 2(

+40

+13656400

+0.00044 +0.02000  
 +0.00007 +0.01800  
 -----  
 +0.019

837	262	-478	+0444	+0236	+0680	9.1	+1.9
-241	964	108	-0128	+0868	-0740		+0.4
-490	-025	-871	-0260	-0022	-0282		-3.5



0249  
0100

-0006 ± 2.3 - 026 ± 1.76  
-0002 - 026  
39.4 + 29 0.3 4.8 A2 + 5.30

2844  
-9068  
4215

31674 20 35.1  
14256 24.324 1897.2 + 29 2 45.91 1895.9587  
+ 1.00 0.32  
356  
1.41  
4732

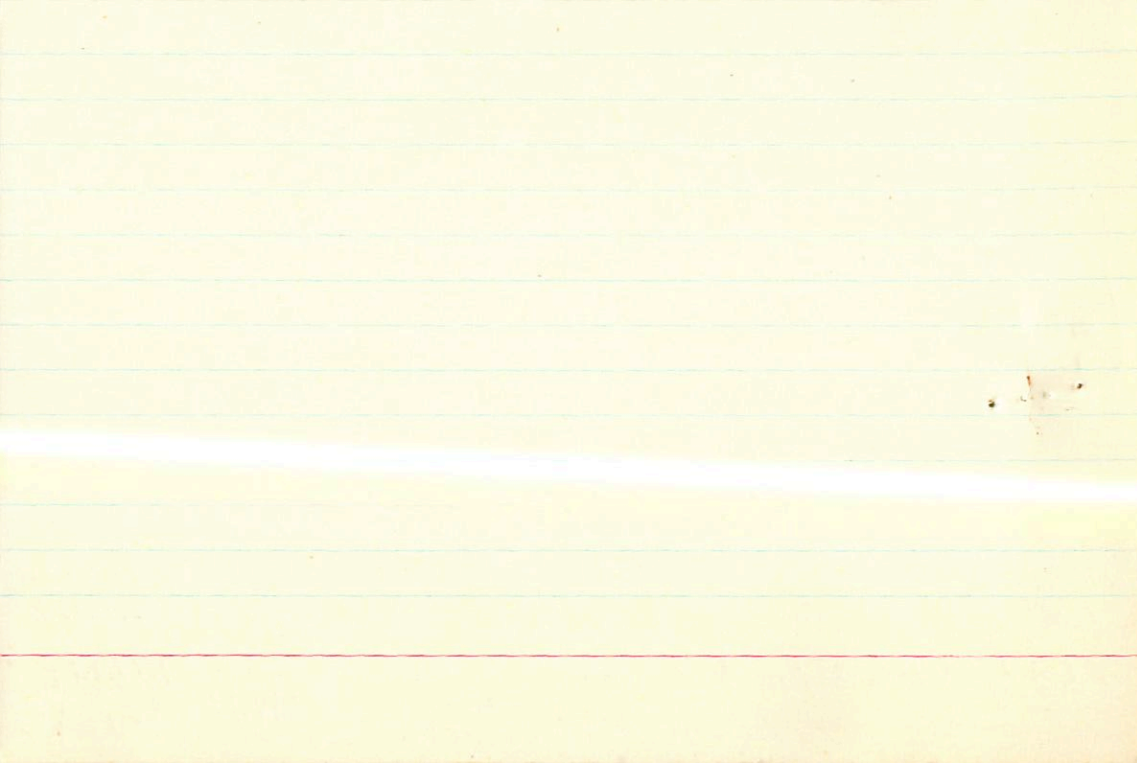
~~0005 - 022~~

47.98 24.361  
-13  
348  
-0013  
44.19 1899.95  
440  
4.17  
-1.15

2266  
+ 24.05  
4.9  
- 24  
+ 4.9  
- 24.3

~~0001 - 026~~

+ 843 + 537 + 028  
- 255 + 352 + 901  
- 474 + 766 - 434  
- 0821 - 3.9 + 1.2  
- 0288 - 1.4 + 8.4 + 7.4  
- 0652 - 3.1 - 4.0 - 7.1





8641 22 39.4 +29 02 ATE AIE

24554

31674

479-01 00 J

146 1407  
248  
1109

445

10079  
10079  
10079

+9.3

1014

1003

1007  
1007

1009 150 1.117 2.852 JG  
1009 151 1108 2.852 JG  
1006 151 1.108 2.852 (23)

+1 = 2

-0.18

148  
148  
1109  
1109  
1109  
1109



85

1870

Faint, illegible text, possibly bleed-through from the reverse side of the page.

8641.000 \*

22.000 \*

39.400 \*

29.000 \*

2.000 \*

-0.002 \*

-0.026 \*

4.950 \*

97.724

9.300

-0.074

0.027

-7.013

-0.041

0.901

4.388

85

-0.090

-0.432

-12.805

86.47

22 40.6 - 7 14 641 ADD

-22 146 942 2870

(136) 946

(+2-1)

+00146 -0125 76  
+00136 -0136 New

+00142 -0132  
+00154 0  
+0229

22.66  
-7.55

37.611 022

-11

37.622  
071 551

37.656

-012

644

893

+024.5 -017.5  
31.21 95.3

+16

31.05  
+20  
30.35

31.23 70.5

31.14  
31.37

-1.02

+24.5  
-17.5  
8.65  
+2.1

86

22.660  
- 7.250  
24.500  
- 17.500  
5.650  
135  
2.100  
  
0.843  
0.450  
- 0.296  
59.764  
7.440  
  
- 0.254  
0.817  
0.519  
- 96.947  
- 11.089  
  
- 0.475  
0.362  
- 0.802  
- 84.745  
- 13.116

86

8673

22

461

14

19

89

5.70-05

5.71-040 163

591

898

2834

181

829

300

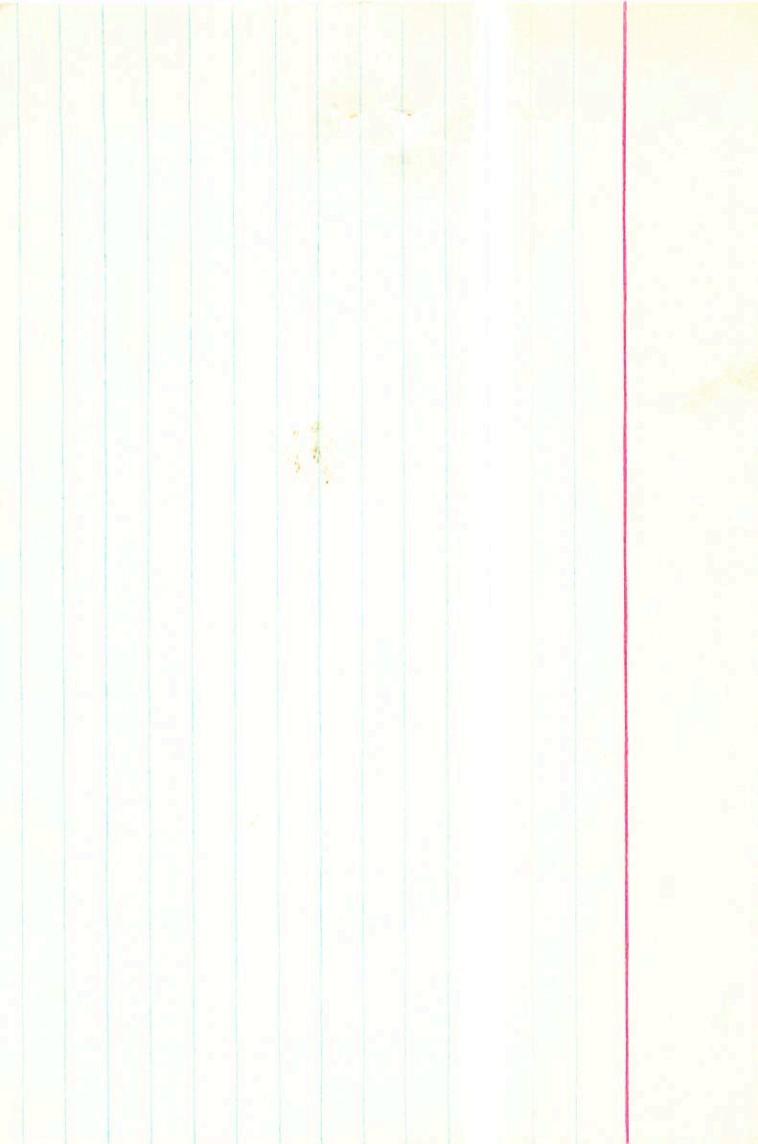
~~1080~~

1129

1080+

1014  
1124  
1224  
1324  
1424

~~1080~~





8697

215907

31812

22 45.4 + 58 13 40 05 TV

6.25

038 123 1.113 2767 JC  
080 112 1.110 2803 at end  
 024 117 1.111 2780

10040  
 +10040  
 +10040  
 = 30080

-0.2 m...  
 (7.1)

(4)

+8005 18094  
 +10040  
 +10040  
 +10040

123  
 246  
 1104  
 1350  
 1412

043 = 2

-1.0

-010 124 1102

215  
 246  
 1104 246

