

1956.37

50.73
- 1.18

49.55

46.23
- 3.31

42.92

50.129
+ 83.14

133.269

117
117

234

46.9

48.3

94.6

53.80
+ 10.11

63.91

41.7

60.55

100.25

15

48.561

1940.32

32.57
- 1.17

31.40

1196-1143

73

41815

8.545

1197-1144

53

4.5

4.5

47.91

47.91

11981-11409

572

50.360

12470

170

170

1901

43.56

43.56

472

472

118765

5 Nov

-2.179

~~1.1-2.6 -1.145 -21.8 +1049 +20.0~~

2.203 2.206 -4.6 +7.5 0.2

+6.4 +43.5 +9.9

43.5 -9.0 +8.1

10.1 55.5 +5.5 0.15

52.4 -16.0 -15.1

38.3 4.6

3.1 -19.5 7.4

-5.56 -7.1 4.6

1.0 49.8 2.6

4.8 -24.9 4.1

-8.7 -9.0 2.6

13



190248.000*

20.000*

3.800*

-66.000*

-19.000*

1.196*

-1.143*

-1.150*

5.888

-21.800

5.361

-0.730

47.475

191069
CC1193

W124924

74777

-1605501-

20 05.7

8.11 70.67 70.22 G5U R

0.58 W13

$\delta = -01$

812 972 212 304

815 417 221 345

418 214 349

Not used
pp

-3 -64 -55 .025

+166-4084 → 20

178-398 Cap

717 415 (cm)

+16844 -412

+17348 -32675

300
G03221 2466

6105-342

157 242

310 563

392

347 10.5

ABY(8)
5C(6)

12±8

-388



65

191408

7703

20 07.5 -36 14 -130

~~575 326 328~~
328 940 510

530

514

358

172

4

529

509

578

254

3

~~533~~

~~505~~

~~315~~

~~257~~

new

55200
4615
32

0 36 11 -1570

570
-1570
-118

460-1570

-131

66

DEC 1950
R.A. 1950
DEC 1950
STANCE 1950
MODULUS 1950

01 1950
02 1950
03 1950
04 1950
05 1950
06 1950
07 1950
08 1950
09 1950
10 1950

01 1950
02 1950
03 1950
04 1950
05 1950
06 1950
07 1950
08 1950
09 1950
10 1950

R.A. : 20.100
DEC. : -36.250
M. R.A. : 570.000
M. DEC. : % -1570.000
DISTANCE : -1.180
MODULUS : 6
D. VEL. : -130.000

q1 (U) : 0.513
q2 (U) : -0.029
q3 (U) : -0.858
dU : 1336.667
U : 119.278

q1 (V) : 0.185
q2 (V) : 0.980
q3 (V) : 0.077
dV : % -6888.4
V :

~~000721-016221~~

3 Cap
191862
28086
12557

20 09.6 -12 46 5.9 d/c 6 +22.68

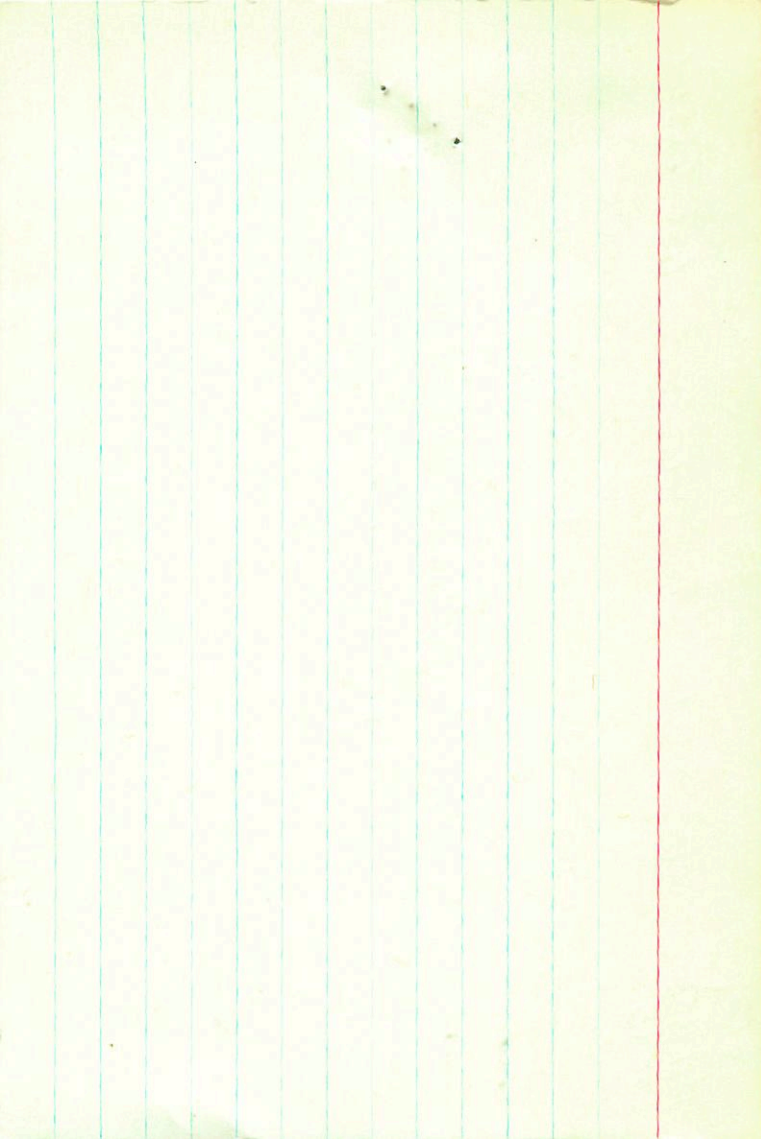
11.70/- 1894.4 -12 32 32.009 1891.9
639
744

Labdy
+135-115

+ 136 31 -200 32 M30 31.66
+0134±1.8 -193±1.966 → M30

195-195

200
~195
1.57
42.6



15182

20 9.6 -12 46 F8E

5142041

5208020

~~5900~~ 585 Lt 58.3

2(3) bp

1.82

3000

144.144

~~2.6~~ 2.6

2.6

[m] 150 to 5

5.87

137

-222 2396
20389

[c] 288

2.50 -11.6 -10.0 -45.3

Lt1- 809- 1147

29

131

14

14

17

1319

298

224
(97)

20 10.6 -15 35 268 +22.6 8W(13)

192031

CC1197

W12574

CC2637

Y4798

-15-05884

132M29"

8.66 +0.72 +0.16 6.5E R

$\Sigma = .13$

8.17 455 221 0.13 (4)

-35 -26 c

-480

0.187

+5.08

45.70

-350 ± 14 -272 ± 10 Y

-220 -272 (Carbide)

318 -272

-74 -55 +30 .022

-55 -38 +20 .030

-330

-272

2.97

TATS

264 (110)

110 (14)

396 (17)

26 ± 7

-842 539

-268 563 -350-272-122.6673-6-1241

-295061159039 -1552-606+215+12-15

-15-29-29 0535

-41-15+7

44795

192031 20 10.6 -15 35 8.6 d 48 +22.6 d

CC1197

8.64 +72 +16 655 R

12574

-1505584

4 (10)

192031
M2
a11

32
15 D (4)

41 C (7)

-350 ± 14 -272 ± 10 ✓

-7
-357

-271. → CC

-339 ± 11 -231 ± 5. CA

68

A. : 20.150
C. : -15.600
A. : -330.000
C. : -272.000
ICE : 2.970
US : 39
L. : 21.500

U) : 0.522
U) : 0.277
U) : -0.807
UP : %-1143.927
U : -62.256

V) : 0.176
V) : 0.890
V) : 0.420
VP : %-1413.605
V : -46.478

W) : -0.834
W) : 0.362
W) : -0.416
WP : 790.710
W : 22.098

68

192310

20 12.2 -27 11

AKS

-55c -574
-58.3 w(3)
-48.5 L(2)
-54.2 50.3 C(4)
-54.5 13.5
-52 2 Stc

AC 28104

83/444

532-44

WR 2602
44804
-270,4657
HR 7722

5.72 +0.91 - 1102
5.79 +0.89 - 299(9")
5.73 +0.88 +0.64 5+K

515 434
332-188
1.242
114 368 424 273.0
376 420 532

+68 -12 -9
+71 -12 -13
+72 -11 -15
568 571 428 295 (4)
570 570 440 289 (3)
573 573 516 349 0

110

572 571 428 295 (4)
573 570 440 289 (3)
573 573 516 349 0

1.249
1.249/1
1.249-184 -03
-53.0

41247
41247
41247
41247
41247

4254 570 295 3104

145m(7) +1234 -179 2
124(8) 11.238
97C(8)
114 57

575 434

+093042.6
+0937

-18272.9
-188
-27 11 1.51 15010

29

10.397 1906.1

4641

51756

37.074

31.312

6.386

1351

2513

3

9.346

3498

33.109

26.501

33.9

33.9

4.334

3.178

37.206

31.312

6.516

463

46370

33.109

26.501

192904

8.52

52.99

29.29

3038

59.32

57.90

37.42

0.13

24.44

24.95

59.51

58.14

1938.52

1940.61

1927.04

1940.61

1940.61

1940.61

1940.61

1940.61

1940.61

1940.61

1940.61

1940.61

1940.61

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

34.0

$$\begin{array}{r} -0232 \pm 4.4 \\ -235 \\ \hline \end{array}$$

$$\begin{array}{r} 193216 \\ 28207 \\ \hline 20 \\ 15.5 \\ 8.15 \\ 456 \\ 307 \\ 317 \end{array}$$

$$\begin{array}{r} 12668 \\ 28.384 \\ 1.214 \\ \hline 29.598 \end{array}$$

$$\begin{array}{r} 28.384 \\ 1897.7 \\ 60316 \\ 155 \\ \hline 29.598 \end{array}$$

$$\begin{array}{r} 28.420 \\ 415 \\ \hline 48.31 \\ 43.63 \end{array}$$

$$\begin{array}{r} 28.420 \\ 439 \\ \hline 28.959 \\ 442 \end{array}$$

$$\begin{array}{r} -207 \pm 3.5 \\ -212 \\ \hline \end{array}$$

$$\begin{array}{r} 8.2 \\ 317 \end{array}$$

$$\begin{array}{r} 33.57 \\ 11.76 \\ \hline 45.33 \end{array}$$

$$\begin{array}{r} 34.13 \\ -\frac{3}{8} \\ \hline 33.64 \end{array}$$

$$\begin{array}{r} 59.9 \\ 37.55 \\ \hline 37.64 \end{array}$$

$$\begin{array}{r} 59.9 \\ 38.59 \\ \hline 21.31 \end{array}$$

$$\begin{array}{r} 1944.96 \\ 735 \\ \hline 3680 \end{array}$$

$$\begin{array}{r} 1241 \\ 36.20 \\ \hline 9.13 \end{array}$$

$$\begin{array}{r} 38.59 \\ -240 \\ \hline -201.41 \end{array}$$

$$\begin{array}{r} -212 \\ +211 \\ \hline -01 \end{array}$$

70

025.00 : 74
 021.00 : 75
 000.000- : 76
 000.010- : 77
 000.0 : 78
 00 : 79
 000.00- : 80

 140.0 : 81
 000.0 : 82
 070.0- : 83
 001.001-N : 84
 000.00- : 85

 001.0 : 86
 100.0- : 87
 000.0 : 88
 001.0 : 89
 000.0 : 90

 000.0- : 91
 000.0 : 92
 001.0 : 93
 000.000 : 94

70

A. : 20.250
C. : 50.150
A. : -350.000
EC. : -210.000
NCE : 2.600
LUS : 33
EL. : -33.000

(U) : 0.541
(U) : 0.838
(U) : -0.070
dU : % -1409.196
U : -44.355

(V) : 0.159
(V) : -0.021
(V) : 0.987
dV : -149.133
V : -37.509

(W) : -0.826
(W) : 0.545
(W) : 0.145
dW : 335.943
W : 6.345

70

75.7 4C
20 15.7 -47 44 F6E -30.8

192586

FD1049 0.22
6.12 0.300 6.12 +46 (1.62)

GC28213

+0221 -222

+0194 ± 8.7 -186 ± 6.1

+01835 -189

+1237 -188

+188 -188

6.73 ± 5.18
+0180 -188

+4 ± 4

+0184 -184

188

+184 -186

+2.609 1844.4

6.01 1892.5

+186

10.70

55.21 -200

+184187

+0206

+0217 -195

140.40 1430.70

54797

47.562

42.359

355

304

31

36.422

4.04

3.948

1.78

3.

283

10050

71

107
Ky
20 15.7 -47 WY
FLB
DFB

79286

HP7749

GC28213

6.12 + 46 -1 C 305 160

50 419
00 351
+3710
351

294 159

.308 .150 .430 2.680 7.370, 2

[New] 213 417

07315

7790 6270
0129 0819
-6780 9378

2537 / 29 2/6

+0189 = 1191
-185 -30.8

2.27
28.3 m.

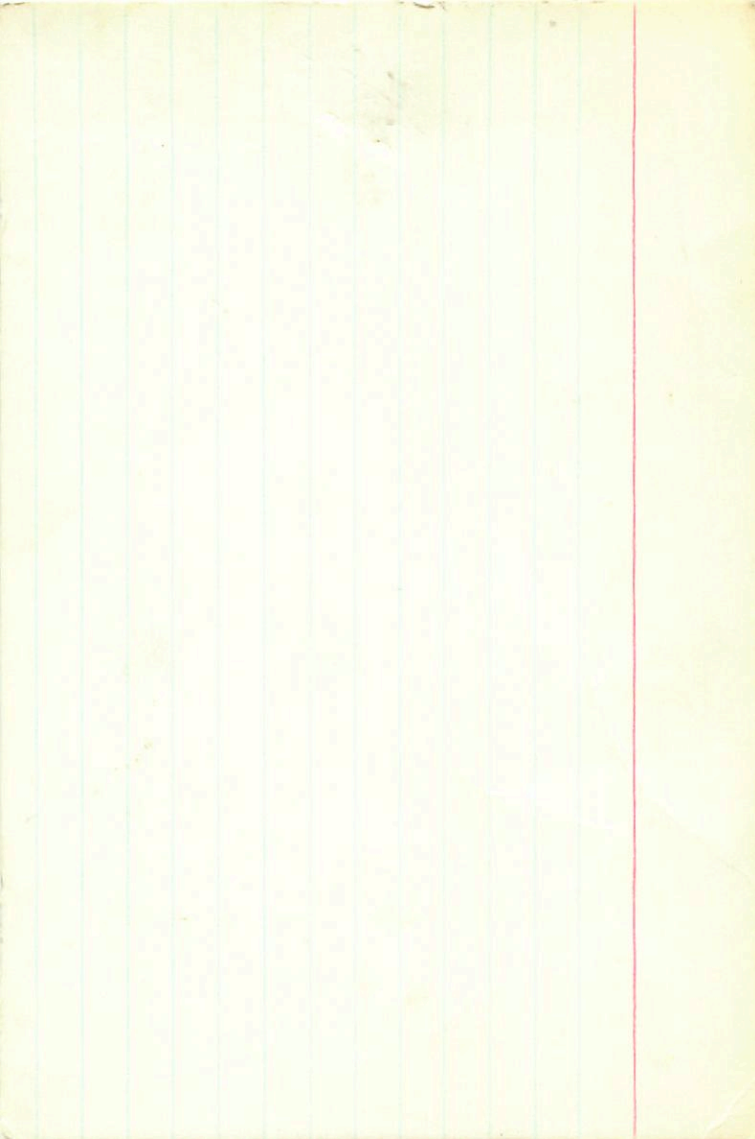
+543 = 183 -820
+158 +981 -115
825 +067 -561

50914 +1605
2098 -8602
-7464 -0588

46597
-7172
-8057

+13.6
-14.8
-5.5

+25.2
+3.5
+17.3



77 83
193664 20 +0786±3.0 +298±3.0
+0796 +296
17.0 +66 42 6.1 d61 -4.76

29252
12695 2.124 1886.4 +66 41 33.69 1885.5
-3.1 (19)

66±5
-4.999
57.125
1.736
43
1.779
4 654
60327 114
+474
16

Alum
2.543
5.92 386 8435
371

-19.22
14.47
32.13 1944.87
-11
32.02
1755
322

0793 296
470796
1188
296
102
35

5.92 286 187 315 2593 (4)
593 279 176 330 (5)
591 371 177

28

W630

193307 20 18.0 -50.08 C210-E

HP7766

6.28 +55 -2 2892

6028291

128
 128 233 +32
 -26
 173
 2225 251
 6.24

108
 365 167 .324 2.619 2 112,23,5
 303 148 349 264 4
 364 145 356
 333 133 364
 366 118 348
 19

$+3.84$
 -254
 2
 $1.366 = -3$
 $+18$
 -239

-652

-213 -808
 $+974$ -155
 $+151$
 -822 +036 -569
 -9177 +2413
 -2519 -11057
 $+13715$ -0408
 -6764 -33.8
 -13576 -43.5
 $+13307$ +24.7
 -14.5
 -2.8
 -10.2

193307
 20 18.0
 -50.08
 C210-E
 HP7766
 6.28 +55 -2 2892
 6028291
 128
 128 233 +32
 -26
 173
 2225 251
 6.24
 108
 365 167 .324 2.619 2 112,23,5
 303 148 349 264 4
 364 145 356
 333 133 364
 366 118 348
 19
 +3.84
 -254
 2
 1.366 = -3
 +18
 -239
 -652
 -213 -808
 +974 -155
 +151
 -822 +036 -569
 -9177 +2413
 -2519 -11057
 +13715 -0408
 -6764 -33.8
 -13576 -43.5
 +13307 +24.7
 -14.5
 -2.8
 -10.2

R.A. : 20.300
DEC. : 66.700
R.A. : 1185.000
DEC. : 296.000
TANCE : 1.020
DULUS : 16
VEL. : -3.500

1 (U) : 0.550
2 (U) : 0.817
3 (U) : 0.175
dU : 2367.255
U : 37.254

1 (V) : 0.151
2 (V) : -0.303
3 (V) : 0.941
dV : -89.189
V : -4.720

(W) : -0.822
(W) : 0.491
(W) : 0.290
dW : % -1127

Handwritten mark

R.A. : 20.300
DEC. : -50.150
R.A. : -568.000
DEC. : -252.000

143307

MS

7766

20 180

303 263

-50 09

+18

-359

240

289

470 680

250
C₀ 207

570
200
2.110
1190

10374
252

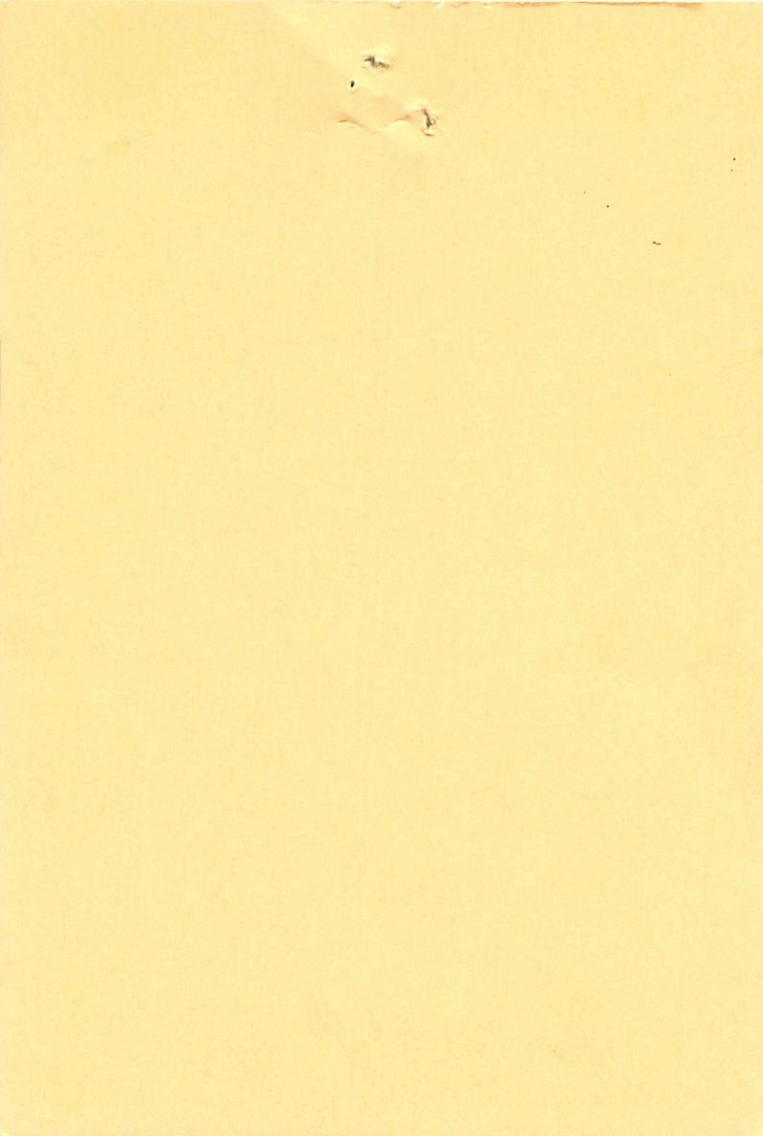
2450
26
getty

10374
252

3164 - 252

818
2.02
+18
363 / 52

-568
-252



-0374±6.1 -254±4.7 C₃(4)

193307 20 18-1 -50 09 6270-12 +16.4±0.4

19328291 6.26 +55 1.63 +19.455A

3.633 19110 -50 9 20.37 1508.1
8.10
12.27

+18.0

SLONG 1968

ULL

-0376 -245.1

+10
-0366 -239

~~1352~~

3.633 19110
1.459
5.092

495 " -241 " M30

-0357 " -248 ± 4.766 M30
-0364±6.1

-0376 -245 stuy

-0371⁵ -2405

-357 +17.9

-359-248 2.15

193307 -359

+0195-243

120 +17.9

11

11

1958

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193307.000*

-35.4
out
44.7
find
g
3
23.00
4.00

20.000*
18.100*
-50.000*
-9.000*
-0.359*
-0.243*
2.150*
26.915
17.900

0504 -0.690
104 -0.000

-43

-33.036 -28.2

-1.381
-0.155

-60

-39.945 -30.2

74

1.356

10555-0516 Carly

154012 90-6 20 20.5 +14 23 FS

HC27723

1087-007

10552 -008
10545 -0045

26224

10

616 326 158 261
1388 162 .342 250C 2.626

92

6.15x
20.35x
144
195
-7

223 +23

274 -23

226 +442
5374
76

362

1.7 737

558 637 -534

145 558 817

-84 532 -217

+2026 -0211

+0580 -0185

-2989 -0176

41815

+0345

3165

25M

+3.4

+2.4

-6.3

-1.1

+1.6

-0.4

1009 + 222

1005 | 10049552 - 1003546

22.341 - 281 = 23.53 1889.7

10056 | 10053 - 010 = 23.71 18

22.241 + 7 = 22.93 1923.4

968 + 107 = 22.95 + 02

22.287 + 227 = 22.95 - 76

82.395 - 890 = 81.505

82.241 - 24 = 82.217

28

193501 20 20.6 -21 3, -1718 (11)

826 283 099 224 (3)

8.62 + 0.545 = 0.13 (2)

826 381 104 217 (4)

8.48 + 0.20 (3)

Comptrol

820 380 118 -17506

0352 - 1055

60 20 2

41 191

542 - 1055

2445
879
8.2

+563 -1020 Hyd

+552 -1045 Cap. Mel.

+564 -1066 Yale

+562 -1.065 minim. 6 + new

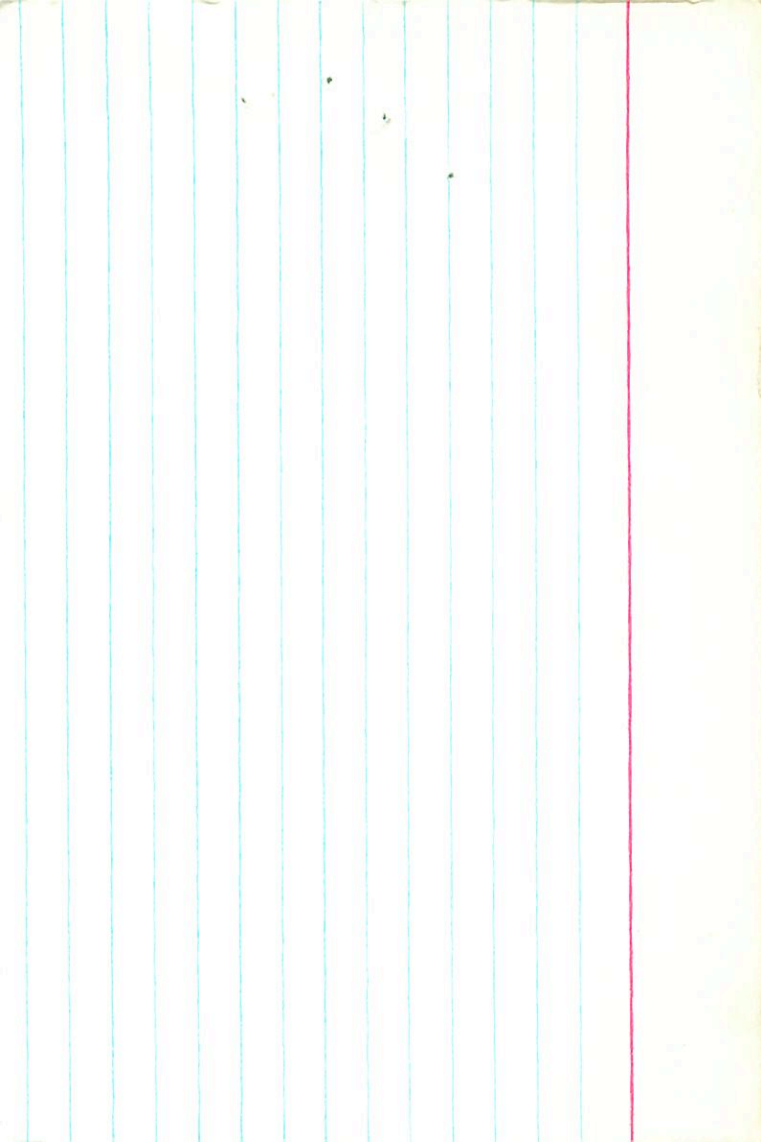
6000 588
1055

7560 -1050

3.37

3

1718



W 12730

GC
H028350

H0 193901

-210 5703

HV

20 20.6 -21 31 ad60

8.2 8.64 +55 1.5B 2mchin

id B

-176G
-174.6^{±0.316}
-171.0415

-125Ad(1)
-125B

+563 -1.020 H4

+552^{±10} -1.044^{±5} CR

+550^{±12} -1.073^{±12} GC

+564^{±10} -1.066^{±10} X

~~+525 -1.050~~

+555 -1.057

42M(8)

38Y(12)

23 (7)

35±6

-819 574 -347 930 +555 -1.057 -172 386 63 -4.64
454 316 319 222 1.100 3.000 -166 -92 +130 03

-5 203 -43
~~-77~~ 103 -44
48 -38 -43

-6 190 -25
-32 -92 -40
57. -33 -25

-55 +230 -92
+155 -200 -33
-65 +205 -53
+151 -164 0

04

28

28,350 : R.A.
 21,500 : DEC.
 28,000 : R.A.
 105,000 : DEC.
 2,370 : STANCE
 27 :
 171,800 : PRODUCT
 : VEL.

0.250 : P1 (U)
 0.200 : P2 (U)
 0.800 : P3 (U)
 433.700 : P4 (U)
 178.800 : U

0.140 : P1 (U)
 0.930 : P2 (U)
 0.800 : P3 (U)
 241,000 : P4 (U)
 190,200 : U

518.0 : P1 (U)
 0.800 : P2 (U)
 0.400 : P3 (U)
 876,400 : P4 (U)
 286,800 : U

J

R.A. : 20.350
DEC. : -21.500
R.A. : 588.000
DEC. : % -1055.000
STANCE : 3.370
MODULUS : 47
O. VEL. : -171.800

q1 (U) : 0.558
q2 (U) : 0.203
q3 (U) : -0.804
dU : 433.700
U : 158.667

q1 (V) : 0.142
q2 (V) : 0.932
q3 (V) : 0.334
dV : % -4290.149
V : -259.881

q1 (W) : -0.817
q2 (W) : 0.301
q3 (W) : -0.491
dW : % -3624.678
W : -86.682

Ho

194565

20

238

709 18

-247719

→ 20

20264

+429
~~81~~
+502

8.35 344 91 205 (6)

8.31 399 89

4685-554 (Country)

176-554

178

-554

328

-247.7

R.A. : 20.400
DEC. : 9.300
R.A. : 128.000
DEC. : -554.000
TANCE : 3.280
DULUS : 45
VEL. : -247.700

1 (U) : 0.567
2 (U) : 0.585
3 (U) : -0.580
dU : % -1196.389
U : 89.432

q1 (V) : 0.134
q2 (V) : 0.629
 : 0.766

154440

20 24.6 -31 01

60306

6.63 436 236 860

662 440 +74 301 ①
428 252

60306

1544

201

-1005 571 landing

125-210

-74

-521

123

-12

78

R.A. :
DEC. :
-01.878
R.A. :
DEC. :
-21.888
-21.888
1.588
18
-1.588

P1 (U) :
P2 (U) :
P3 (U) :
-0.851
-507.841
U :
-5.877

P1 (U) :
P2 (U) :
P3 (U) :
-0.134
-0.134
-0.134
U :
-42.554

P1 (U) :
P2 (U) :
P3 (U) :
-0.819
-0.819
-0.819
U :
-42.554

R.A. :
DEC. : 20.400
R.A. : -31.000
DEC. : -14.000
STANCE : -521.000
DULUS : 1.230
VEL. : 18
-1.200

q1 (U) :
q2 (U) : 0.567
q3 (U) : 0.071
dU : -0.821
U : -207.841
-2.677

q1 (V) :
q2 (V) : 0.134
q3 (V) : 0.975
dV : 0.177
V : % -2415.539
-42.774

q1 (W) :
q2 (W) : -0.813
q3 (W) : 0.210
dW : -0.544
W : -473.150

28