

1922phae.proj.2310M





This book checked for  
Nebulae Positions  
4/17







# INDEX

Page	Plate	N <sup>o</sup> Neb	Position of Plate			Catlg.	
	(Cont)						
2	7374	25	16	10	+17.5°	BD	
12	6978	27	<del>21</del> <del>2</del>	<del>10</del> <del>58</del>	<del>-17.5°</del> <del>-2.5°</del>	SBD	120 <sup>m</sup>
22	7675	78	12	38	0.0°	BD	120 <sup>m</sup>
✓ 56	9069	34	23	00	-72.5°	CPD	
68	7343	24	22	21	-11.8°	SD	120 <sup>m</sup>
78	7884	23	15	00	-15.°	SD	120 <sup>m</sup>
✓ 88	3164	34	13	50	-22.5°	SD	
102	3078	103	13	32	-30.4°	Cordi	120 <sup>m</sup>
142	8356	20	12	00	-45.0°	Cordi	120 <sup>m</sup>
150	6222	9	0	56	-15.0°	SD	120 <sup>m</sup>
154	7228	1	6	23	+22.4°	BD	120 <sup>m</sup>
154	6003	5	19	50	-22.5°	CPD	120 <sup>m</sup>
✓ 156	9026	22	19	10	-47.5°	CPD	
✓ 166	1836	6	13	25	+47.2	BD	
168	10054	1	10	59	-30.2	CPD	120 <sup>m</sup>
168	6303	1	9	00	-15.0°	SD	120 <sup>m</sup>
168	8962	22	20	36	+0.0 <sup>0</sup> <sub>(1855)</sub>	BD	120 <sup>m</sup>
✓ 178	6134	1	19	10	-27.5°	CPD	
178	7424	1	18	10	-47.5	CPD	
178	6252	2	6	40	-45.0°	CPD	120 <sup>m</sup>
✓ 178	2510	1	13	24	+46.4	BD	



## Plate 7374 (Continued)

<u>124</u>	11.9	-13.9	3156	16 12 3.7	1
	-6.2	5.3	3158	16 13 17.7	16
	47.6			50	
	-24.8			-26	
<u>125</u>	-5.5	-8.8	3158	16 13 17.7	16
	-12.2	15.9	3003	16 13 45.5	17
	-22.0			-23	
	-48.8			-51	
<u>127</u>	6.7	-8.0	2924	16 12 10.9	16
	-9.1	12.2	2927	16 13 16.6	16
	26.8			28	
	-36.4			-38	
<u>140</u>	12.6	-11.3	2924		
	-3.2	9.1	2927		
	50.4			52	
	-12.8			-13	
<u>141</u>	12.9	-12.1	2924		
	-3.0	8.2	2927		
	51.6			54	
	-12.0			-12	



From Book III)

18 27.5 16 12 54 18° 13.6 ✓ F. 2d 6M

18 7.6 16 12 52 18° 12.9

105 53 13.2

2 1 -6.3

16 14 54 +18° 6.9

18 7.6 16 12 55 17° 58.8 ✓ F. 2d 6M

17 44.4 12 55 18° 0.3

105 55 17° 59.5

2 1 -6.3

16 14 56 +17° 53.2

16 58.8 16 12 39 16° 50.8 F. 2d 6M

16 38.0 12 39 16° 50.2

104 39 50.5

2 2 -6.5

16 14 41 +16° 44.0

16 13 3 +16° 47.5 ✓ F. 2d 6M

13 4 47.1

104 4 47.3

2 2 -6.5

16 15 6 +16° 40.8

16 13 5 +16° 46.7 e F. 2d

13 5 46.2

104 5 46.4

2 2 -6.5

16 15 7 +16° 39.9



128

-2.7  
-3.3  
-10.8  
-13.2

14.2  
38

2974  
2975

16 11 18.9  
16 11 25.8  
-11  
-14

129

-3.9  
-4.9  
-15.6  
-19.6

13.7  
-4.4

2974  
2975

-16  
-20

130

-3.2  
-4.1  
-12.8  
-16.4

13.1  
-5.0

2974  
2975

-13  
-17

131

3.1  
-7.9  
12.4  
-31.6

17.0  
-14.8

2976  
2925

16 11 34.0  
16 12 37.5  
13  
-33

132

8.2  
-3.1  
32.8  
-12.4

13.2  
-18.3

2976  
2925

34  
-13



15 35.6 16 11 8 15° 49.8 @ F 12' 6 M

15 52.9 11 12 15° 49.1

1.04 10 49.4

2 3 -6.7

16 13 13 +15° 42.7

16 11 3 15° 49.3 v. F 12' 6 M

11 6 48.5

1.04 5 48.9

2 3 -6.7

16 13 8 +15° 42.2

16 11 6 15° 48.7 @ F 12' 6 M

11 9 47.9

1.04 8 48.3

2 3 -6.7

16 13 11 +15° 41.6

15 54.0 16 12 7 16° 11.0 F 14' 6 M

16 25.6 12 5 16° 10.8

1.04 6 11.0

2 2 -6.5

16 14 8 16° 4.5

16 12 28 16° 7.2 F 1.2' 64.1 at 20°

12 25 16° 7.3 b M spin.

1.04 27 7.2

2 2 -6.5

11 14 29 +16° 0.7



133

12.1

8.0

29 76

16 11 54.0

1.2

-23.7

29 25

16 12 3 7.5

48.4

50

4.8

5

134

11.7

9.1

29 76

0.7

-22.4

29 25

46.8

49

2.8

3

132

2.6

1.0

29 76

-8.3

30.8

29 25

10.4

11

-33.2

-35

135

12.9

-2.7

29 81

16 13 58.5

-10.3

-1.9

29 85

16 15 35.0

51.6

54

-41.2

-43

136

14.0

-13.2

29 84

16 15 13.3

-14.4

20.7

29 88

16 17 79

56.0

58

-57.6

-60



✓ 7

15 541.0 16 12 44 16° 2.0 F. 3d. 6M 1E at 150°  
 16 25.6 12 43 16° 1.9  
 1.04 44 2.0

2 2 -6.5  
 16 14 46 +15° 55.5

16 12 43 16° 3.1 F. 2d 6M  
 12 41 16° 3.2  
 1.04 42 3.2

2 2 -6.5  
 16 14 44 +15° 56.7

16 12 5 15° 55.0 B 12d 6M  
 12 3 15° 54.8  
 1.04 4 54.9 IC. 1209

2 3 -6.7  
 16 14 7 +15° 48.2

15 7.6 16 14 52 15° 4.9 F. 3.6d. 12' at 70°? 6M  
 15 7.6 14 52 15° 5.7 spin  
 1.04 52 5.3

2 3 -6.7  
 16 16 55 +14° 58.6

15 42.5 16 16 11 15° 29.3 v F. 12d 6M \*?  
 15 8.6 16 8 15° 29.3  
 1.04 10 29.3

2 3 -6.7  
 16 18 13 +14° 22.6



137

0.3	-11.2	2989	16	17	19.5
-7.4	15.2	2991	16	17	52.8
1.2					1
-29.6					-31

138

1.2	10.8	2929	16	14	41.4
-5.8	-5.2	3007	16	15	10.7
4.8					5
-23.2					-24

139

7.8	5.5	3002	16	13	32.7
-18.2	-9.4	3008	16	15	21.1
31.2					33
-72.8					-76

142

16.0	1.1	3002			
-10.1	-13.8	3008			
64.0					67
-40.4					-43

143

7.2	-17.7	3006	16	14	58.7
1.9	3.1	3008	16	15	21.1
28.8					30
7.6					8



15 52.5 16 17 21 15° 41.3 F. 30/6M

15 24.9 17 22 15° 40.1

1.04

22 40.7

2 3 -6.7

16 19 25 +15° 34.0

4 16 46.6 16 14 46 16° 57.4 F. 20/6M

7 17 2.6 14 47 16° 57.4

1.05

47 57.4

2 3 -6.7

16 16 49 +16° 50.9

7 17 17.9 16 14 6 17° 23.4 F. 36y.1'0 + 45° 6M

1 17 31.8 14 5 17° 22.4 spin

1.05

6 22.9

2 2 -6.7

16 16 8 +17° 16.2

16 14 40 +17° 19.9 F. 9'6y.1'0 + 30° spin.

14 38 +17° 18.0 6M

1.05

39 18.5

2 2 -6.7

16 16 41 +17° 11.8

7 17 52.6 16 15 29 +17° 34.9 e F. 10/6M

1 17 31.8 15 29 +17° 34.9

1.05

29 34.9

2 2 -6.7

16 17 31 +17° 28.2



145

-1.7  
-20.8  
-6.8  
-83.2

13.2  
-5.7

3084  
3090

16 15 25.9  
16<sup>n</sup> 16 46.6  
-7  
-88

146

18.3  
-0.8  
73.2  
-32

16.8  
-2.1

3084  
3090

78  
-3

147

9.0  
-14.5  
36.0  
-58.0

24.0  
8.2

2940  
2946

16 18 39.1  
16 20 17.6  
38  
-61

148

15.3  
-8.1  
61.2  
-32.4

8.7  
-7.3

2940  
2946

65  
-34

150 \*

149

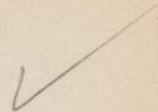
3.0  
-12.3  
12.0  
-49.2

-3.7  
11.5

2946  
2948

16 20 17.6  
16 21 20.5  
12  
-51





19 3.8 16 15 19 +19° 17.0 vF 1.2' 6M  
 19 23.4 15 21 +19° 17.7  
 1.06 20 17.3  
 1 59 -5.8  
 16 17 19 +19° 11.5

16 16 44 +19° 20.6 pF 1.3' 6M  
 16 46 +19° 21.3  
 1.06 46 20.8  
 1 59 -5.8  
 16 18 45 +19° 15.0

16 31.4 16 19 17 16° 55.4 pF 1.6 by 2' at 115°  
 16 46.3 19 17 16° 54.5 6M spin  
 1.05 17 54.9  
 2 2 -6.7  
 16 21 19 +16° 48.2

16 19 44 +16° 40' 1 vF .5 by 1' at 120° spin  
 19 44 +16° 39' 0  
 1.04 44 39.6  
 2 2 -6.7  
 16 21 46 +16° 32.9

16 46.3 16 20 3.0 16° 42.6 pB 1.3' by 2' at 135°  
 16 31.1 20 29 16° 42.6 p 6M spin  
 1.04 30 42.6  
 2 2 -6.7  
 16 22 32 +16° 35.9



13

Plate 6978

~~28~~

14.3

2.0

5912

21 13 138

-10.2

12.7

5922?

21 15 176

57.2

61

40.8

-43

~~29~~

22.3

-42

5912

-7.2

1.6

5922

89.2

95

-28.8

-31

~~1~~

10.8

-48

5835

20 53 29.9

-40

0.6

5841

20 54 30.0

43.2

45

-16.0

-17

~~2~~

4.8

2.1

6158

20 54 131

-16.1

-5.9

6165

20 55 41.3

19.2

20

-64.4

-68

~~3~~

9.7

8.1

6158

-11.2

0.2

6165

38.8

41

-44.8

-47



8 18 44.4 21 14 15<sup>v</sup> -18° 42.4 ✓ F.2d BM  
 18 54.0 14 35 -18° 41.3  
 1.06 25 41.8

2 14 +11.2  
 21 16 39 -18° ~~53.0~~  
 30.6

21 14 49 -18° 48.6 e F.2d BM  
 14 47 -18° 47.4  
 1.06 48 48.0

2 14 +11.2  
 21 17 2 -18° ~~59.2~~  
 36.8

9 16 30.1 20 54 15 -18° 34.9 F.2d BM  
 0 16 35.2 54 13 -18° 35.2  
 1.05 14 35.1

2 13 +10.8  
 20 56 27 -18° ~~45.9~~  
 24.3

17 52.4 20 54 33 -17° 50.3 e F.3d  
 17 44.6 54 33 -17° 50.3  
 1.05 33 50.4

2 14 +10.3  
 20 56 47 -18° ~~50.7~~  
 -17 40.1

20 54 54 -17° 44.3 r F.3d BM  
 54 54 -17° 44.5  
 1.05 54 44.4

2 14 +10.3  
 20 57 8 -17° ~~54.7~~ 34.1



4/

13.7 3.0  
 -7.3 -5.0  
 54.8  
 -29.2

6158  
 6165

20 54 131  
 20 55 413  
 58  
 -31

5X

6/

10.9 5.5  
 -29.3 -73.3  
 43.6  
 -117.2

5856  
 5868

20 58 01  
 21 0 45.1  
 46  
 -123

7/

24.6 143  
 -15.8 -47  
 98.4  
 -63.2

5856  
 5868

103  
 -66

8/

3.8 -51  
 +0.9 2.1  
 15.2  
 +36

6030  
 6031

21 0 52.2  
 21 1 15.6  
 16  
 +4

9/

16.2 0.7  
 -23.2 0.12  
 64.8  
 -92.8

6041  
 6053

21 2 48.1  
 21 5 32.8  
 69  
 -98





17 52.4 20 55 11 -17° 49.4 v F .3d BM

17 44.6 55 10 -17° 49.6

1.05 11 49.5

2 14 +10.3

20 57 25 -17° ~~59.8~~  
39.2

18 30.2 20 58 46 -18° 24.7 F .2d BM st. sp. 3' BM

18 11.7 58 42 -18° 25.0

1.05 44 24.9

2 13 +10.8

21 0 57 -18° ~~35.7~~  
14.1

20 59 43 -18° 15.9 v F .6 by 1' at 75° BM

59 39 -18° 16.4 spin.

1.05 42 16.2

2 13 +10.8

21 1 55 -18° ~~27.0~~  
5.4

19 17.7 21 1 8 -19° 52.8 v F 1 by 1.5' at 35° BM

19 55.2 1 10 -19° 53.1 spin

1.06 9 53.0

2 14 +10.3

21 3 23 -20° ~~3.3~~  
-19 42.7

19 25.4 21 3 57 -19° 34.7 e F .3 by .05' at 160°

19 35.6 3 55 -19° 35.4 spin

1.06 56 35.0

2 14 +10.3

21 6 10 -19° ~~45.3~~ 24.7



10

1.7  
-3.2  
6.8  
-15.2

11.2  
-6.1

6197  
6199

21 2 21.5 17  
21 2 41.2 17  
7  
-16

12

2.1  
-3.3  
8.4  
-13.2

13.1  
-4.2

6197  
6199

9  
-14

14

10.2  
-34.7  
40.8  
-138.8

-0.8  
-10.3

6200  
6212

21 5 50.0 1  
21 5 56.2 1  
43  
-146

16

23.2  
-21.7  
92.8  
-86.8

6.8  
-3.0

6200  
6212

97  
-92

15\*

13

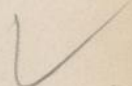
9.0  
-20.8  
36.0  
-83.2

-1.2  
13.1

5804  
5815

21 1 5.8 16  
21 3 9.2 16  
37  
-87





5 17 29.7 21 2 29 -17° 18.5 F. 3d BM

17 12.3 2 28 -17° 18.4

1.05 29 18.4

2 14 +10.3

21 4 43 -17° ~~28.7~~  
8.1

21 2 31 -17° 16.6 v.F. 8 by 1 at 80° BM

2 30 -17° 16.5 spin

1.05 31 16.6

2 14 +10.3

21 4 45 -17° ~~26.9~~  
6.3

17 26.3 21 3 33 -17° 27.1 eF 5 by 1 at 135°

17 17.5 3 30 -17° 27.8

1.05 32 27.4

2 14 +10.3

21 5 46 -17° ~~37.7~~  
17.1

21 4 27 -17° 19.5 eF 1d \*?

4 24 -17° 20.5

1.05 26 20.0

2 14 +10.3

21 6 40 -17° ~~30.3~~  
9.7

16 44.5 21 1 43 -16° 45.7 v.F. 2d BM

16 58.9 1 42 -16° 45.8

1.04 43 45.8

2 15 +10.3

21 3 58 -16° ~~56.1~~ 35.5



14

10.7  
-19.3  
428  
-77.2

0.7  
15.0

5804  
5815

21 V 58 16  
21 3 92 14  
45  
-80

17

15.8  
-11.7  
63.2  
-46.8

-1.7  
-10.5

6211  
6220

21 5 37.6 17  
21 7 33.2 17  
65  
-49

18

9.8  
-3.0  
39.2  
-12.0

8.3  
-2.9

6220  
6222

21 7 33.2 17  
21 8 25.3 17  
41  
-13

19

12.0  
-2.2  
48.0  
-8.8

8.9  
0.3

6157  
6058

21 6 34.7 19  
21 7 34.3 19  
51  
-9

21

5.2  
-11.8  
20.8  
-47.2

4.3  
-20.2

5833  
5835

21 9 48.4 16  
21 10 38.4 16  
22  
-49



16 44.5 21 1 51 -16° 43.8 ✓ F. 2d 6M

16 58.9 1 49 -16° 43.9

1.04 50 43.8

2 15 +10.3

21 4 5 -16° 54.1

33.5

16 17 26.6 21 6 43 -17° 28.3 F. 6' by 1" at 125° spin

2 17 17.6 6 44 -17° 28.1

5 1.05 44 28.2

9 2 14 +10.3

21 8 58 -17° 38.5

17.9

2 17 17.6 21 8 14 -17° 9.3 e F. 10'

3 17 6.9 8 12 -17° 9.8

41 1.05 13 9.6

3 2 14 +10.3

21 10 27 -17° 19.9

-16 59.3

7 19 34.7 21 7 26 -19° 25.8 e F. 10' 6M

3 19 25.1 7 25 -19° 24.8

1 1.06 26 25.3

9 2 11 +8.1

21 9 37 -19° 33.4

17.2

4 16 29.8 21 10 10 -16° 25.5 ✓ F. 2d 6M

4 16 5.5 9 49 -16° 25.7

2 1.04 21 9 59 25.6

9 2 15 +10.3

21 12 44 -16° 35.9

15.3



22

13.0	-7.7	5835	21	10	38.4	1
-8.8	16.0	5844	21	12	8.2	1
52.0					54	
-35.2					-37	

23

4.8	-11.0	5844	21	12	8.2	1
5.2	25.2	6238	21	12	6.4	1
19.2					20	
20.8					22	

24

3.7	-36.0	5844				
3.9	0.1	6238				
14.8					16	
15.6					16	

25\*

26

9.9	-12.9	6243	21	13	6.5	1
-1.8	16.2	5914	21	13	55.1	18
39.6					42	
-7.2					-8	

27

9.7	-14.7	5911	21	12	8.1	1
-6.0	5.5	5912	21	13	13.8	14
38.8					41	
-24.0					-25	



4 16 5.5 21 11 32  $-16^\circ$  13.2 eF .5 by .1' at  $45^\circ$  susp

16 28.9 11 31  $-16^\circ$  13.9

4 1.04 32 13.5

37 2 15 +10.3

21 13 47  $-16^\circ$  23.8

3.2

2 16 28.9 21 12 28  $-16^\circ$  39.9 F .5 by .1' at  $60^\circ$  bM spin

4 17 4.7 12 28  $-16^\circ$  39.5

20 1.04 28 39.7

22 2 15 +10.3

21 14 43  $-16^\circ$  50.0

29.4

21 12 24  $-17^\circ$  4.9 eF .3 by .1' at  $160^\circ$

12 22  $-17^\circ$  4.8 susp.

1.05 23 4.8

2 14 +11.2

21 14 37  $-17^\circ$  16.0

-16 53.6

17 34.3 21 13 48  $-17^\circ$  47.2 eF .5 by .2' at  $95^\circ$

1 18 4.0 13 47  $-17^\circ$  47.8

2 1.05 48 47.5

8 2 14 +11.2

21 16 2  $-17^\circ$  58.7

36.3

1 18 24.1 21 12 49  $-18^\circ$  38.5 v F .2 d bM

8 18 44.4 12 48  $-18^\circ$  38.9

11 1.06 49 38.8

25 2 14 +11.2

21 15 3  $-18^\circ$  50.0 27.6



22

30\*

31

12.2

1.7

5851

21 13 53.0

-8.7

1.6

5854

21 15 19.0

48.8

51

-34.8

-36

32

17.9

-2.9

6251

21 15 35.5

-10.3

3.4

6263

21 17 32.0

71.6

75

-41.2

-43

33\*

Plate No. 7675

2

1.8

-2.9

2711

12 24 55.2 +

-19.8

-17.1

2718

12 26 21.0 +

7.2

7

-79.2

-79

3

26.3

2.3

2711

1.8

-11.7

2718

105.2

105

7.2

7

4

17.5

-4.9

2952

12 25 34.5 +0

-33.7

-3.7

2958

12 28 57.0 +0

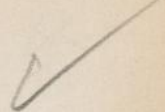
70.0

70

-134.8

-135





0 16 19.4 21 14 44 -16° 17.7 vF .5 by .2' at 160°  
 16 19.6 14 43 -16° 18.0 bM spin

1.04

44

17.8

2 15

+10.3

21 16 59 -16° ~~28.1~~

7.5

5 17 18.8 21 16 51 -17° 21.7 F .5 by .2' at 100° bM  
 0 17 25.0 16 49 -17° 21.6 spin

1.05

50

21.6

2 14

+11.2

21 19 4 -17° ~~32.8~~

10.4

5.2 +1 13.6 12 25 2 +1° 10.7 F id gbm  
 0 +1 27.2 25 2 +1° 10.1

1.00

2

10.0

2 18

-14.8

12 27 20 +0° 55.2

12 26 40 +1° 15.9 eF .3d bM

26 28 +1° 15.3

1.00

34

15.7

2 18

-14.6

12 28 52 +1° 0.9

1.5 +0 31.6 12 26 44 +0° 26.7 eF .3d R bM  
 0 +0 30.2 12 26 42 +0° 26.5

1.00

43

26.6

2 18

-14.8

12 29 1 +0° ~~13.9~~

11.8



5

5.2 19.2  
 -19.8 -22.8  
 20.8  
 -79.2

2590

2956

12 26 57.7

12 28 35.0

21

-79

11

92.2 30.9  
 -2.8 -11.2  
 368.8  
 -11.2

2590

2956

369

-11

6

22.8 12.2  
 -32.8 0.8  
 91.2  
 -131.2

3532

3544

12 25 14.6

12 28 53.3

91

-131

10

49.1 14.2  
 -6.3 2.9  
 196.4  
 -25.2

5532

3544

196

-25

7

38.0.7 3.9  
 -4.3 0.9  
 28  
 -17.2

2594

2698

12 27 58.7

28 20.6

3

-17



7 -0 37.9 12 27 19 -0° 18.7 eF. 2d 6M  
 +0 3.6 27 16 -0° 19.2  
 1.00 18 19.0  
 2 18 -14.8  
 12 29 36 -0° 33.8

12 33 7 -0° 7.0  
 28 24 7.6 eF. 2d 6M  
 1.00 16 7.3  
 2 18 -14.8  
 34 -0° 22.1

6 -2 20.6 12 26 45 -2° 8.4 eF. 3d 6M  
 3 -2 9.1 26 42 -2° 8.3  
 1.00 44 8.4  
 2 17 +14.8  
 12 29 1 -2° 23.2

12 28 31 -2° 6.4 ✓ F. 4d 6M  
 28 28 -2° 6.2  
 1.00 30 6.3  
 2 17 +14.8  
 12 30 47 -2° 21.1

-1° 36.3 12 28 2 -1° 32.4 ✓ F. 2d 6M 1E at 0°  
 33.5 28 4 -1° 32.6  
 1.00 3 32.5  
 2 19 -14.8  
 12 30 22 -1° 47.3



9	6.8 1.8 27.2 7.2	0.3 -2.7	2694 2698	12 <sup>N</sup> 27 58.7 12 28 20.6 27 7
8	7.8 5.3 31.2 21.2	-5.7 18.8	2591 2695	12 27 54.1 12 28 6.4 31 21
12	5.8 -21.8 23.2 -87.2	-21.1 7.8	2954 2958	12 27 8.8 12 28 57.0 23 -87
13	17.8 -15.7 47.2 -62.8	-22.1 6.8	2954 2958	47 -63
14	7.2 -20.5 28.8 -82.0	-9.1 19.9	2954 2958	29 -82



$-1^{\circ} 36.3$  12 28 26  $-1^{\circ} 36.0$  F .2 by .1 at  $135^{\circ}$  v16M  
 $-1^{\circ} 33.5$  28 28  $-1^{\circ} 36.2$   
 1.00 27 36.1  
 2 19  $-14.8$   
 12. 30 46  $-1^{\circ} 50.9$

$-0^{\circ} 57.2$  12 28 25  $-1^{\circ} 2.9$  eF .5 by 6M  
 $-1^{\circ} 22.6$  28 27  $-1^{\circ} 3.8$   
 1.00 26 3.3  
 2 19  $-14.8$   
 12 30 45  $-1^{\circ} 18.1$

$+0^{\circ} 58.7$  12 27 32  $+0^{\circ} 37.6$  eF .2 d 6M  
 $+0^{\circ} 30.2$  27 30  $+0^{\circ} 38.0$   
 1.00 31 37.8  
 2 18  $-13.9$   
 12 29 49  $+0^{\circ} 23.9$

12 27 56  $+0^{\circ} 36.6$  vF .3 d 6M  
 27 54  $+0^{\circ} 37.0$   
 1.00 55 36.8  
 2 18  $-13.9$   
 12 30 13  $+0^{\circ} 22.0$

12 27 38  $+0^{\circ} 49.6$  eF .3 d 6M  
 27 35  $+0^{\circ} 50.1$   
 1.00 37 49.8  
 2 18  $-13.9$   
 12 29 55  $+0^{\circ} 35.0$



15

16.6

-23.8

2954

12 27 8.8

-11.1

5.1

2958

12 28 57.0

66.4

66

-44.4

-44

16

17.3

-24.2

2954

-10.2

4.7

2958

69.2

69

-40.8

-41

17\*

18

33.3

7.8

2718

12 26 21.0

-2.8

-3.3

2723

1 28 44.7

133.2

133

-11.2

-11

19

1.3

-6.2

2560

12 30 58.8

-33.5

27.7

2566

12 33 17.4

5.2

5

-134.0

-134

20

2.9

-27.3

2560

-31.8

76.4

2566

11.6

12

-127.2

-127



$+0^\circ$  58.7 12 28 15  $+0^\circ$  34.9 eF .5 by .1 at  $40^\circ$  spin  
 $+0^\circ$  30.2 28 13  $+0^\circ$  35.1

1.00

14 35.0  
 14.8  
 -13.9  
 2 18  
 12 30 32  $+0^\circ$  20.2

12 28 18  $+0^\circ$  34.5 cF .2 d RBM  
 28 16  $+0^\circ$  34.9

1.00

17 34.7  
 14.8  
 -13.9  
 2 18  
 12 30 35  $+0^\circ$  19.9

$+1^\circ$  27.2 12 28 34  $+1^\circ$  35.0 eF .2 d BM

$+1^\circ$  38.9 28 34  $+1^\circ$  35.6

1.00

34 35.3  
 14.8  
 -14.8  
 2 18  
 12 30 32  $+1^\circ$  20.5

$+2^\circ$  39.6 12 31 14  $+2^\circ$  33.4 F .3 d BM

$+2^\circ$  6.4 31 3  $+2^\circ$  34.1

1.00

4 33.7  
 14.8  
 -14.8  
 2 18  
 12 33 22  $+2^\circ$  18.9

12 31 11  $+2^\circ$  12.3 vF .1 by .2 at  $150^\circ$  BM

31 10  $+2^\circ$  12.8 Spin

1.00

11 12.6  
 14.8  
 -14.8  
 2 18  
 12 33 29  $+1^\circ$  57.8



21

3.8  
-31.1  
15.2  
-124.4

-23.2  
10.8

2560  
25668

12 30 588  
12 33 17.4  
15  
-124

22

12.4  
-22.3  
49.6  
-89.2

-25.2  
8.8

2560  
2566

50  
-89

23

14.0  
-20.8  
56.0  
-83.2

-25.9  
8.0

2560  
2566

56  
-83

24\*25

13.8  
-6.9  
55.2  
-27.6

-0.4  
-14.8

2963  
2728

12 29 468  
12 31 7.2  
55  
-28

26

27.3  
+6.9  
109.2  
27.6

5.2  
-9.0

2963  
2728

109  
28





+2 39.6 12 31 14 +2° 16.4 eF .2 by 1' at 160° BM

+2 16.4 31 13 +2° 17.2 spin

1.00 14 16.8

2 18 -14.8

12 33 32 +2° 2.0

12 31 49 +2° 14.4 vF .32 BM

31 48 +2° 15.2

1.00 49 14.8

2 18 -14.8

12 34 7 +2° 0.0

12 31 55 +2° 13.7 eF .32 BM

31 54 +2° 14.4

1.00 55 14.0

2 18 -14.8

12 34 13 +1° 59.2

+0° 46.5 12 30 42 +0° 46.1 cF 1 by 2' at 135° ps BM

+1° 1.0 12 30 39 46.2 spin

1.00 41 46.2

2 18 -13.9

12 32 59 +0° 31.4

12 31 36 +0° 51.7 eF .12 BM a/m.x

31 35 +0° 52.0

1.00 36 51.8

2 18 -13.9

12 33 54 +0° 37.0



27

3.9  
-28.1  
15.6  
-112.4

3.1  
0.6

2728  
2737

12<sup>h</sup> 31 7.2  
12<sup>h</sup> 33 14.6  
16  
- 112

28

3.6  
-29.0  
14.4  
-116.0

6.1  
3.7

2728  
2737

14.0  
- 116.0

33

8.4  
-23.7  
33.6  
-94.8

3.9  
1.2

2728  
2737

34.0  
-95.0

29

-3.9  
-22.3  
-15.6  
-89.2

-19.0  
27.2

2730  
2737

12 32 2.0  
12 33 14.6  
16  
- 89

30

-1.2  
-19.7  
-4.8  
-78.8

-34.7  
14.9

2730  
2737

- 5  
- 79





2	+1°	1.0	12	31	23	+1°	4.1	eF. 2d BM
	+1°	3.8	12	31	23	+1°	4.4	
		1.00			23		4.3	
				2	18		-14.8	
			12	33	41	+0°	49.5	
			12	31	21	+1°	7.1	eF. 2d BM
			12	31	19	+1°	7.5	
0		1.00			20		7.3	
0				2	18		-14.8	
			12	33	38	+0°	52.5	
			12	31	41	+1°	4.9	eF. 2d BM
			12	31	40	+1°	5.0	
0		1.00			41		5.0	
50				2	18		-14.8	
			12	33	59	+1°	0.2	
0	+1°	50.7	12	31	46	+1°	31.7	F. 8d R ps/bM
16	+1°	38	12	31	46	+1°	31.0	
		1.00			46		31.3	
				2	18		-14.8	
			12	34	4	+1°	16.5	
			12	31	57	+1°	16.0	vF. 3d BM 1E at 60°
			12	31	56	+1°	15.7	
		1.00			57		15.8	
				2	18		-14.8	
			12	34	15	+1°	1.0	



31

2.6  
-16.0  
10.4  
-64.0

-17.1  
29.6

2730  
2737

12 32 2.0  
12 33 14.6

32

4.8  
-13.8  
19.2  
-55.2

-8.2  
38.2

2730  
2737

34

11.2  
-7.1  
44.8  
-28.4

-20.5  
26.0

2730  
2737

35

12.9  
-5.4  
51.6  
-21.6

-24.5  
22.1

2730  
2737

36

-1.6  
-12.2  
-7.2  
-48.8

39.8  
-8.3

2767  
2737

12 32 34.9  
12 33 14.6



✓

 $+1^{\circ}$  50.7 12 32 12  $+1^{\circ}$  33.6 vF .3 by .2 at  $30^{\circ}$  BM

 $+1^{\circ}$  3.8 12 32 11  $+1^{\circ}$  33.4 sp 14

1.00 12 33.5

2 16 -14.4

 12 34 30  $+1^{\circ}$  18.7

 12 32 21  $+1^{\circ}$  42.5 eF .2 d BM

 12 32 20  $+1^{\circ}$  42.0

1.00 21 42.3

2 16 -14.4

 12 34 39  $+1^{\circ}$  27.5

 12 32 47  $+1^{\circ}$  30.2 eF .2 d BM

 12 32 47  $+1^{\circ}$  29.8

1.00 47 30.0

2 16 -14.8

 12 35 5  $+1^{\circ}$  15.2

 12 32 54  $+1^{\circ}$  26.2 vF .3 by .1 at  $25^{\circ}$  BM

 12 32 53  $+1^{\circ}$  25.9 defect?

1.00 54 26.0

2 16 -14.8

 12 35 12  $+1^{\circ}$  11.2

 $+0^{\circ}$  16.3 12 31 28  $+0^{\circ}$  56.1 eF .2 d BM

 $+1^{\circ}$  3.8 12 32 36  $+0^{\circ}$  55.5

1.00 32 55.8

2 16 -14.8

 12 34 50  $+0^{\circ}$  41.0



37

4.7

20.7

2967

12 32 34.9

-5.8

-27.0

2737

12 33 14.6

1.8.8

- 23.2

38

6.4

7.4

2594

12 30 28.6

-8.2

-6.8

2595?

12 31 31.8

25.6

- 32.8

39

-16.9

24.8

2599

12 33 43.2

-20.3

-20.0

2970

12 33 45.8

- 67.6

- 81.2

- 107.8

42

-0.8

5.1

2599

-4.2

-39.2

2970

- 3.2

- 16.8

44

0.8

42.0

2599

-2.9

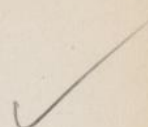
-2.5

2970

3.2

- 11.6





9.  $+0$  16.3 12 32 54  $+0^\circ$  37.0 eF. 2'd 6M  
 $+1$  38 12 32 52  $+1^\circ$  36.8  
 1.00 53 36.9  
 1.00

$-0^\circ$  18.0 12 30 54  $-0^\circ$  10.6 eF. 2'd 6M  
 $-0^\circ$  2.5 12 31 0  $-0^\circ$  9.3  
 1.00 12 30 57 10.0  
2 18 -14.6  
 12 33 15  $-0^\circ$  24.8

2.  $-0$  40.2 12 32 35  $-0^\circ$  15.4 eF. 4 by 1 at  $150^\circ$   
 $+0$  3.8 12 32 25  $-0^\circ$  16.2 spin defect?  
 1.00 30 15.8  
2 18 -14.6  
 12 34 48  $-0^\circ$  30.6

12 33 41  $-0^\circ$  35.1 eF. 2'd 6M  
 12 33 29  $-0^\circ$  35.4  
 1.00 35 35.3  
2 18 -14.6  
 12 35 53  $-0^\circ$  50.1

12 33 46  $+0^\circ$  1.8 eF. 3'd 6M  
 12 33 34  $+0^\circ$  1.3  
 1.00 40 1.6  
2 18 -13.9  
 12 35 58  $-0^\circ$  46.8



40	14.5	3.2	2699	12 29 41.2
	-7.2	-2.3	2704	12 31 5.1
				58.0
				78.3
				- 28.8

41	10.4	-1.3	3555	12 33 15.4
	-1.2	-6.9	3558	12 34 0.9
				41.6
				56.1
				-4.8

43	0.0	-8.3	2599	12 33 43.2
	-8.2	-4.0	2600	12 34 16.6
				0.0
				-32.8

45	24.1	24.8	2967	12 32 34.9
	-18.1	5.1	2973	12 35 22.4
				96.4
				- 72.4

46	4.5	-14.3		12 35 22.4
	-23.3	-3.8		12 37 13.0
				18.0
				- 93.2



$-1^\circ$  31.5 12 30 39  $-1^\circ$  28.3 pF .564.2 at  $45^\circ$  BM  
 $-1^\circ$  24.6 12 30 36  $-1^\circ$  26.9 spin  
 1.00 38 27.6  
 2 19 -14.6  
 12 32 57  $-1^\circ$  42.4

$-2^\circ$  14.1 12 33 57  $-2^\circ$  15.4 cF .764.2 at  $150^\circ$  BM  
 $-2^\circ$  8.5 12 33 55  $-2^\circ$  15.4 spin  
 1.00 56 15.4  
 2 17 +14.6  
 12 36 13  $-2^\circ$  00.6

$-0^\circ$  40.2 12 33 43  $-0^\circ$  48.5 eF .2 d BM  
 $-0^\circ$  44.5 12 33 44  $-0^\circ$  48.5  
 1.00 44 48.5  
 2 16 -14.8  
 12 36 2  $+0^\circ$  3.3

$+0^\circ$  16.3 12 34 11  $+0^\circ$  41.1 vF .1 d BM  
 $+0^\circ$  35.7 12 34 11  $+0^\circ$  40.8  
 1.00 11 41.0  
 2 16 -14.8  
 12 36 29  $+0^\circ$  26.2

$+0^\circ$  35.7 12 35 40  $+0^\circ$  21.4 vF .2 d BM  
 $+0^\circ$  24.3 12 35 40  $+0^\circ$  20.5  
 1.00 40 21.0  
 2 16 -14.8  
 12 37 58  $+0^\circ$  6.2



40

46' ←

14.2

-9.6

2973

12 35 22.4

-13.7

11.0

2979

12 37 13.0

56.8

- 54.8

46" ←

17.7

-11.9

2973

-10.2

-1.2

2979

70.8

- 40.8

47' ←

2.8

-17.7

2566

12 33 17.4

-23.9

-19.7

2569

12 35 3.5

11.2

- 129.0

47" ←

7.3

6.8

2566

-19.3

4.8

2569

29.2

9.2

-77.2

-77.2

47

3.0

0.9

2569

12 35 3.5

0.8

-17.1

2570

12 35 10.2

12.0

3.2



$+0^\circ$  35.7 12 36 19  $+0^\circ$  26.7 v F 2d bin

$+0^\circ$  24.3 12 36 18  $+0^\circ$  25.3

1.00

19

25.7

2 18

~~14.8~~  
~~-13.9~~

12 38 37  $+0^\circ$  10.9

12 36 33  $+0^\circ$  23.5 v F .5 by .1' at  $165^\circ$  spin

12 36 32  $+0^\circ$  23.1 defect?

1.00

33

23.4

2 18

~~-14.8~~

12 38 51  $+0^\circ$  8.6

$+2^\circ$  6.4 12 33 29  $+1^\circ$  48.7 e F .2d bin skin skin

$+2^\circ$  8.5 12 33 28  $+1^\circ$  48.8

1.00

29

48.8

2 18

~~-14.8~~

12 35 47  $+1^\circ$  34.0

12 33 46  $+2^\circ$  13.2 F .3d bin bin N 2 spin?

12 33 47  $+2^\circ$  13.3

1.00

47

13.2

2 18

~~-14.8~~

12 36 5  $+1^\circ$  58.4

$+2^\circ$  8.5 12 35 16  $+2^\circ$  9.4 F id psu bin R

$+2^\circ$  26.0 12 35 13  $+2^\circ$  8.9

1.00

15

9.2

2 18

~~-14.8~~

12 37 33  $+1^\circ$  54.4



481.9  
-0.23.5  
-14.32569  
257012 35 35  
12 35 10.77.6  
-0.8502.5  
-3.117.9  
-15.22573  
257412 37 16.7  
12 37 38.810.0  
-12.44924.0  
-19.0-2.9  
13.12739  
274812 34 395  
12 37 29296.0  
-76.05136.5  
-6.4-2.1  
8.22739  
2748146.0  
-25.65240.8  
-2.1-13.8  
-3.32739  
2748163.0  
-8.4





+2° 5.5 12 35 11 +2° 12.0 v F .2d/bM

+2° 26.0 12 35 10 +2° 11.7

1.00 11 11.8

2 18 -14.8

12 37 29 +1° 57.0

+2° 11.2 12 37 27 +2° 29.1 e F .2d/bM a/m.\*

+2° 44.8 12 37 26 +2° 29.6

1.00 27 29.3

2 18 -14.8

12 39 45 +2° 14.5

+1° 17.7 12 36 16 +1° 26.6 r F .2d/bM

+1° 7.7 12 36 13 +1° 20.8

1.00 15 20.7

2 18 -14.8

12 38 33 +1° 5.9

12 47 6 +1° 15.6 v F .8 by 2' at 45° 16M

12 47 3 +1° 15.9 spin

1.00 4 15.7

2 18 -14.8

12 49 22 +1° 0.9

12 37 23 +1° 3.9 r F .2d/bM

12 37 21 +1° 4.4

1.00 22 4.2

2 18 -14.8

12 39 30 +0° 49.4



53

41.1

-13.6

2739

12 34 395

-1.8

-3.2

2748

12 37 292

164.4

- 7.2

54

4.7

19.9

2979

12 37 130

0.8

-22.7

2748

12 37 292

18.6

3.2

55

17.2

-3.7

2979

12 37 130

-13.0

13.9

2981

12 39 14.7

68.8

- 52.0

55 ←

28.3

-16.5

2979

-2.0

1.1

2981

113.2

- 6.0

55 ←

31.1

-20.7

2979

0.8

-3.0

2981

124.4

3.2



+1° 17.7 12 37 24 +1° 4.1 v F. 2d/6M

+1° 7.7 12 37 22 +1° 4.5

1.00 23 4.3

2 18 -14.8

12 39 41 +0° 49.5

+0 24.3 12 37 31 +0° 44.2 v F. 1d/6M

+1 7.7 12 37 31 +0° 45.0

1.00 31 14.6

2 18 -14.8

12 39 49 +0° 29.8

+0° 24.3 12 38 22 +0° 20.6 e F. 2d/6M

+0° 7.2 12 38 23 +0° 21.1

1.00 23 20.9

2 18 -14.8

12 40 41 +0° 6.1

12 39 6 +0° 7.8 v F. 2d/6M

12 39 6 +0° 8.3

1.00 6 8.0

2 18 -14.8

12 41 24 -0° 53.2

12 39 17 +0° 3.6 v F. 5 by 3 at 30° spin?

12 39 17 +0° 4.2

1.00 17 3.9

2 18 -14.8

12 41 35 -0° 49.1

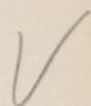


5612.7  
-21.810.2  
-16.72600  
260512 34 16.6  
12 36 29.6  
50.8  
- 87.25718.8  
-15.717.3  
-9.22600  
260575.2  
- 62.85820.2  
-14.014.2  
-12.32600  
260580.8  
- 36.0

59\*

6018.9  
- 2.43.1  
12.92713  
271912 34 29.6  
12 35 54.0  
75.6  
- 9.6619.6  
-18.7-2.8  
22.13568  
357212 36 24.4  
12 38 15.4  
38.4  
- 74.8





-0 44.5 12 35 7 -0° 34.3 pF .8d iR bM.

-0 16.5 12 35 13 -0° 33.2

1.00 10 33.7

2 18 -14.8

12 37 28 -0° 48.5

12 35 32 -0° 27.2 pF 2 b4.4 at 75° bM

12 35 37 -0° 25.7 spin

1.00 35 26.4

2 18 -14.8

12 37 53 -0° 41.2

12 35 38 -0° 30.3 pF R.5d bM

12 35 34 -0° 28.8

1.00 36 29.5

2 18 -14.8

12 37 54 -0° 44.3

-1° 45.5 12 35 45 -1° 42.4 vF .3d ps/bM

-1° 54.3 12 35 44 -1° 41.4

1.00 45 41.9

2 19 -14.8

12 38 4 -1° 56.7

-2° 98.1 12 37 3 -2° 12.6 vF .3d bM

-2° 35.1 12 37 1 -2° 13.0

1.00 2 12.8

2 17 +14.8

12 39 19 -1° 58.0



62

29.7

-20.8

3566

12 36 244

1.3

4.0

3572

12 38 154

118.8

5.2

63

2.8

-34.9

2754

12<sup>h</sup> 40 5.7

-6.1

13.3

2983

12<sup>h</sup> 40 42.8

11.2

-24.4

64

29.3

-2.2

2748

12 37 292

-10.0

-8.7

2754

12 40 5.7

117.2

-40.0

65

36.4

+4.2

2748

-2.9

-2.1

2754

145.6

- 11.6

66

16.6

-0.8

2582

12 42 9.5

-10.8

1.8

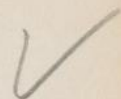
2590

12 43 55.7

66.4

- 43.2





$-2^\circ$  98 12 38 24  $-2^\circ$  30.6 F. 30/ 6M

$-2^\circ$  35.1 12 38 21  $-2^\circ$  31.1

1.00 23 30.9

2 17 +14.8

12 40 40  $-2^\circ$  16.1

$+1^\circ$  14.3 12 40 17  $+0^\circ$  39.4 e F. 10/ 6M st. sp. 5'

$+0^\circ$  26.0 12 40 18  $+0^\circ$  39.3

1.00 18 39.4

2 18 -13.9

12 42 36  $+0^\circ$  25.5

$+1^\circ$  7.7 12 39 27  $+1^\circ$  5.5 e F. 10/ 6M

$+1^\circ$  14.3 12 39 26  $+1^\circ$  5.6

1.00 27 5.6

2 18 -14.8

12 41 45  $+0^\circ$  50.8

12 39 55  $+1^\circ$  11.9 v F. 20/ 6M

12 39 54  $+1^\circ$  12.2

1.00 55 12.0

2 18 -14.8

12 42 13  $+0^\circ$  57.2

$+2^\circ$  17.1 12 43 16  $+2^\circ$  16.3 F. 1.2 64.2' at  $+170^\circ$  16M

$+2^\circ$  14.3 12 43 12  $+2^\circ$  16.1 spin

1.00 14 16.2

2 18 -14.8

12 45 32  $+2^\circ$  11.4



67

22.2

6.8

2983

12 40 428

-25.1

-13.8

2990

12 43 51.0

88.8

88.8

-100.4

-100.4

68\*

69

4.6

14.9

2761

12 43 34.0

-27.7

4.8

2762

12 45 41.4

18.4

18.4

-100.8

-100.8

70

1.9

-2.2

2760

-30.2

-12.3

2763

7.6

7.6

-120.8

-120.8

71

8.7

3.2

2989

12<sup>h</sup> 43 16.0

-13.7

13.5

2622

12<sup>h</sup> 44 45.9

34.8

34.8

-54.8

-54.8

72

15.8

-11.1

2989

-6.7

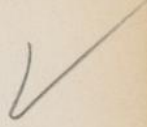
-0.7

2622

63.2

-26.8





+0° 26.0 12 42 11 +0° 32.8 eField BM

+0° 46.7 12 42 11 +0° 32.9

1.00 11 32.8

2 18 -14.8

12 44 29 +0° 18.0

+1° 4.0 12 43 52 +1° 18.9 eField BM

+1° 14.2 12 44 0 +1° 19.0

1.00 43 56 19.0

2 18 -14.8

12 46 14 +1° 4.2

12 43 41 +1° 6.8 eField BM

12 43 40 +1° 1.9

1.00 41 1.8

2 18 -14.8

12 45 59 +0° 47.0

+0° 1.8 12 43 53 +0° 5.0 eField BM

-0° 9.6 12 43 51 3.9

1.00 152 4.6

2 18 -14.8

12 46 10 -0° 49.8

12 44 21 -0° 7.9 eField BM

12 44 19 8.9

1.00 20 8.4

2 18 -14.8

12 46 38 -0° 23.2



7325.1  
- f.27.1  
18.4

2730

2734

12 42 49.4

12 44 59.9

100.4

-32.8

743.1  
-15.9-17.1  
-3.9

2625

2628

12 45 27.6

12 46 42.4

12.4

-63.6

7517.1  
-1.8-15.3  
-2.2

2625

2628

68.4

-7.2

7618.9  
0.2-0.1  
13.0

2625

2628

75.6

0.8

773.0  
1.140.8  
-12.4

2740

2629

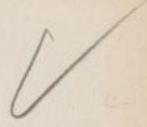
12 48 2.4

12 48 6.6

12.0

4.4





-1°	24.3	12	44	30	-1°	17.2	F. 3d BM
-1°	35.2	12	44	27	-1°	16.8	
	1.00			29		17.0	
			2	19		-14.8	
		12	46	48	-1°	31.8	

-0°	28.5	12	45	40	-0°	45.6	e F. 2d BM
-0°	41.4	12	45	38	-0°	45.3	
	1.00			39		45.4	
			2	16		-14.6	
		12	47	57	+0°	00.2	

		12	46	36	-0°	43.8	v F. 3d BM
		12	46	35	-0°	43.6	
	1.00			36		43.7	
			2	16		-14.6	
		12	48	54	-0°	58.5	

		12	46	44	-0°	28.6	e F. 3 by 1 at 60° spin?
		12	46	43	-0°	28.4	
	1.00			44		28.5	
			2	18		-14.6	
		12	49	2	-0°	43.3	

-1°	12.3	12	46	14	-0°	31.5	e F. 2d BM
-0°	20.4	12	48	11	-0°	32.8	
	1.00			13		32.1	
			2	18		-14.8	
		12	50	37	-0°	46.9	



54

81

8.0

39.7

2740

12 48 2.4

6.4

-13.5

2629

12 48 6.6

32.0

26.6

82

11.8

-8.7

2740

12 48 2.4

-3.2

-0.9

2742

12 48 55.9

47.2

-12.8

78

0.9

14.4

2629

12 48 6.6

-5.0

-37

2631

12 48 32.4

3.6

-20.0

79

24.3

0.2

2999

12 46 11.5

-6.5

3.8

3002

12 48 14.4

97.2

-26.0

80

8.7

3.8

2766

12 45 41.4

-1.2

9.2

2768

12 46 21.7

34.8

-4.8





$-1^\circ$  12.3 12 48 34  $-0^\circ$  32.6 v F. 3'd bM

$-0^\circ$  20.4 12 48 33  $-0^\circ$  33.9

1.00 34 32.1

2 18  $-14.8$   
12 50 52  $-0^\circ$  46.9

$-1^\circ$  12.3 12 48 50  $-1^\circ$  21.0 v F. 5'd R 1 bM

$-1^\circ$  20.6 12 48 43  $-1^\circ$  21.5

1.00 47 21.3

2 19  $-14.6$   
12 51 06  $-1^\circ$  36.1

$-0^\circ$  20.4 12 48 10  $-0^\circ$  6.0 v F. 4'd R

$-0^\circ$  3.1 12 48 10  $-0^\circ$  6.8

1.00 10 6.4

2 18  $-14.8$   
12 50 28  $-0^\circ$  21.2

+0 53.8 12 47 49 +0 54.0 F 2 by 8 at 170° ps bM

+0 51.0 12 47 48 +0 54.8 spin

1.00 49 54.4

2 18  $-14.8$   
12 50 7 +0 39.6

+1 14.2 12 46 16 +1 18.0 e F. 3'd

+1 7.4 12 46 17 +1 16.8

1.00 17 17.2

2 18  $-14.8$   
12 48 35 +1 2.4



1 MISSING

Plate 9069

2	-9.1	-13.8	2263	22 27 0.0
	-13.2	-3.2	2264	22 27 55.0
				<del>-12.8</del>
				<del>36.4</del>
				<del>52.8</del>
				<del>97.8</del>
				<del>-8.6</del>

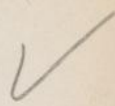
3	4.8	-4.8	2263	
	0.7	5.9	2264	
				67.2
				+9.2
				9.8
				-2.8

4	20.8	-10.1	2264	22 27 55.6
	-6.1	-17.8	2268	22 34 10.5
				289.6 83.2
				84.9 27.4

5	19.4	26.3	2264	
	-7.3	-1.2	2268	
				268.5
				-77.6
				-101.0
				-29.2

5	23.0	-14.8	2268	22 34 10.5
	-4.2	0.2	2269	22 40 29.0
				320.5
				-92.0
				-58.4
				-76.8





73° 18.9 22 24 52 26 47 -73° 32.7 v F 2d bM

73° 28.9 22 24 49 -73° 32.1

353 51 32.4

2 2 +7.7

22 26 53 -73° 24.7

22 28 7 -73° 23.7 v F 2d bM

22 28 5 -73° 23.0

350 6 23.3

2 2 +7.7

22 30 8 -73° 15.6

73 28.9 22 32 45 -73° 18.8 e F 3d bM

73 2.5 22 32 46 -73° 20.3

348 46 19.5

2 2 +7.7

22 34 48 -73° 11.8

22 32 28 -73° 12.6 v F 2d bM alm. x

22 32 30 -73° 3.7

346 27 3.2

2 2 +7.7

22 34 29 -72° 55.5

73 2.5 22 39 31 -73° 17.3 e F 2d bM

73 16.8 22 39 31 -73° 16.6

348 31 17.0

2 2 +7.7

22 41 33 -73° 9.3



8.	5.8	1.1	2702	22 29 48.6
	-7.1	17.3	2711	22 32 132.5
				74.7
				-23.2
				-99.1
				-28.4

9.	7.7	3.7	2702	
	-5.2	19.9	2711	
				96.6
				-30.8
				-66.7
				-20.8

10.	4.9	4.1	2711	22 32 32.5
	-28.7	-11.7	2725	22 39 45.5
				50.8
				-15.6
				-374.9
				-114.8

11.	16.5	1.3	2711	
	-22.0	-14.3	2725	
	17.0			215.2
	66.0			66.0
	-68.0 = 221.7			-286.8
				-28.0

12.	20.2	12.2	2711	
	-13.3	-3.3	2725	
				260.9
				80.8
				-171.8
				-53.2



$71^\circ$  54.5 22 31 .3  $-71^\circ$  53.4  $\checkmark F. 36/bM$   
 $72^\circ$  10.7 22 31 3  $-71^\circ$  53.4  
 3.22 3 53.4

1 54  
 22 32 57  $-71^\circ$  43.7  $+7.2$

22 31 28  $-71^\circ$  50.8  $\checkmark F. 26/bM$   
 22 31 26  $-71^\circ$  50.8  
 3.21 27 50.8  
 1 54  $+7.8$   
 22 33 21  $-71^\circ$  43.0

72. 10.7 22 33 23  $-72^\circ$  6.6  $\checkmark F. 26/bM$   
 71 55.4 22 33 31  $-72^\circ$  7.1  
 3.26 27 6.8  
 1 58  $+7.8$   
 22 35 25  $-71^\circ$  59.0

22 36 8  $-72^\circ$  9.4  $\checkmark F. 26/bM$   
 22 36 03  $-72^\circ$  9.7  
 3.26 6 9.6  
 1 58  $+7.8$   
 22 38 4  $-72^\circ$  1.8

22 36 53  $-71^\circ$  58.5  $\checkmark F. 26/bM$   
 22 36 54  $-71^\circ$  58.7  
 3.23 54 58.6  
 1 51  $+7.8$   
 22 38 45  $-71^\circ$  50.8



~~13~~

27.1 ✓

16.1

2711

22 32 32.5

-6.7 ✓

0.9

2725

22 39 45.5

368.6

+08.4

~~-220.0~~

-26.8

-91.1

~~14~~

28.0 ✓

13.1

2711

-5.6 ✓

-2.5

2725

379.6

+12.0

~~-26.3~~

-22.4

3

~~15~~

9.3

-8.2

2720

22 38 32.6

3.3

19.8

2721

22 39 47.4

123.5

37.2

43.8

13.2

~~16~~

-0.3

-24.2

2720

-6.2

3.8

2721

41.0

-1.2

-83.3

-24.8

~~17~~

7.9

9.3

2289

23<sup>h</sup> 21 34.0

-0.5

-18.0

2763

23<sup>h</sup> 23 30.4

109.3

31.6

-61.0

-2.0



~~This page check  
up to last. Nebula~~

72	10.7	22	38	<del>33</del> 26 41	-72°	54.6	eF .8 b p 1' at 175° spin
71	55.4	22	38	<del>44</del> 18	-72°	54.5	
	<del>3.40</del>			21		54.6	
	3.26			<u>1.54</u>		<u>+7.6</u>	
		22	40	15	-72°	46.8	

		22	38	38	-72°	57.5	vF .3 d R b M
		22	38	33	-72°	57.9	
	<del>0.41</del>			36		57.7	
	3.26			<u>1.54</u>		<u>+7.6</u>	
		22	40	3.0	-72°	49.9	

72	18.3	22	40	36	-72°	26.5	eF .5 b M a/m.
72	46.3	22	40	31	-72°	26.5	
	3.32			34		26.5	
				<u>1.52</u>		<u>+7.9</u>	
		22	42	26	-72°	18.6	

		22	38	28	-72°	42.5	eF .3 d p s b M
		22	38	24	-72°	42.5	
	3.36			26		42.5	
				<u>1.54</u>		<u>+7.6</u>	
		22	40	20	-72°	34.7	

73	91.0	23	23	23	-73°	11.7	vF .3 d R b M
72	54.3	23	24	24	-73°	12.3	
	3.46			23 53		12.0	
				<u>1.34</u>		<u>+8.3</u>	
		23	25	27	-73°	3.7	

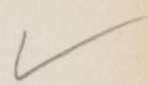


1828.8  
-7.7-17.7  
-8.22764  
276623 21 9.5  
23 28 34.0  
358.8  
+15.2  
-90.7  
-30.8195.6  
-18.818.2  
3.82758  
276023 11 31.0  
23 16 29.0  
62.9  
20.0  
-235.4  
-75.2200.3  
-4.8-24.2  
17.02269  
227123 40 29.0  
23 41 39.5  
4.2  
+1.2  
-68.1  
-19.2

21

6.8  
-11.3-2.3  
20.12047  
204923 44 49.0  
23 49 12.0  
99.2  
-27.2  
-165.0  
-45.22216.8  
-15.58.1  
10.62299  
231123 32 11.9  
23 39 40.9  
2253.2  
-67.2  
-215.1  
-62.0





71	1.7	23	27	9	-71°	19.4	p.F. 6 by .5 at 0° 6M spin
71	11.0	23	26	58	-71°	19.2	
	3.12	23	27	3		19.3	
			<u>1</u>	<u>28</u>		<u>+8.3</u>	
		23	28	31	-71°	11.0	

71	41.1	23	12	34	-71°	22.9	e.F. 2.2
71	26.7	23	12	34	-71°	22.9	
	3.13			34		22.9	
			<u>1</u>	<u>37</u>		<u>+8.2</u>	
		23	14	11	-71°	14.7	

73°	168	23	40	33	-73°	41.0	F. 5.5 p.s/b M
73°	58.1	23	40	32	-73°	41.1	
	3.56			33		41.0	
			<u>1</u>	<u>26</u>		<u>+8.3</u>	
		23	41	59	-73°	32.7	

74	4.2	23	46	28	-74	6.5	e.F. 6 by .1 at 100° spin.
74	26.5	23	46	27	-74	6.4	
	3.65			28		6.4	
			<u>1</u>	<u>21</u>		<u>+8.3</u>	
		23	47	49	-73°	38.1	

73	23.4	23	35	55	-73	15.3	p.F. 3.3 6M
73	26.1	23	36	6	-73	15.5	
	3.47	23	36	1		15.4	
			<u>1</u>	<u>28</u>		<u>+8.3</u>	
		23	37	29	-73°	7.1	



17.8  
-3.0

11.7  
-6.2

2720  
2962

23 34 56.1  
23 38 58.7  
209.3  
68.4  
-9.21  
-72.0

24

5.4  
-11.8

-12.9  
-2.0

2734  
2735

23 45 34.0  
23 49 33  
67.3  
21.8  
-147.2  
-47.2

25

8.1  
-9.1

-9.3  
1.6

2734  
2735

100.7  
32.4  
-113.2  
-36.4

26

11.7  
-0.3

4.3  
-6.3

2275  
2738

23 47 35.0  
23 50 17.4  
151.7  
46.8  
-3.9  
-1.2

27

8.2  
-6.3

-20.3  
3.8

2735  
2742

23 48 53.8  
23 52 2.5  
108.2  
32.8  
-82.2  
-25.2



✓

71 10.8 23 38 25-70° 59.1 eF bM .18 E? susp  
 70 53.4 23 38 49-70° 59.6  
 3.07

✓

71 5.0 23 46 41-71° 17.9 pF 1.2 by 1.0 at 0°  
 71 15.9 23 46 36-71° 17.9 psm bM spir?  
 3.12 39 17.9  
 1 23 +8.3  
 23 48 2 -71° 9.6

23 47 15 -71° 14.3 pF .64 psm bM  
 23 47 10 -71° 14.3  
 3.11 13 14.3  
 1 23 +8.3  
 23 48 36 -71° 6.0

73° 9.1 23 50 7 -73° 4.8  
 72° 58.5 23 50 13 -73° 4.8  
 3.25 10 4.8  
 1 22 +8.3  
 23 51 32 -72° 56.5

72° 0.3 23 50 42-72° 20.6 F .3 by .2 at 20° spin?  
 72° 24.3 23 50 40-72° 20.5  
 3.30 41 20.6  
 1 21 +8.3  
 23 52 2 -72° 12.3



288.7  
-5.9

-5.0

19.1

2735

2742

23 48 53.6

23 52 2.5

113.1

34.8

-109.2

-23.6

2911.0  
-25.2

-6.2

6.5

2743

2750

22 53 33.5

23 1 42.0

148.7

44.0

-341.3

-100.8

324.0  
-1.8

-13.3

12.9

2749

2750

23 0 26.0

23 1 42.0

53.7

14.0

-24.1

-7.2

333.7  
-2.2

-14.9

11.3

2749

2750

49.7

14.8

-29.5

-8.6

3413.8  
8.0

-18.8

7.3

2749

2750

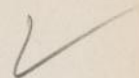
186.5

55.2

108.1

32.0





72 0.3 23 50 53 -72 5.3 F .2d gbm a/m.\*

72 24.3 23 50 35 -72 5.2

3.25 46 5.2

1 21 +8.3  
23 52 7 -71° 56.9

72 41.2 23 56 2

72 53.4 23 56 1 -72° 47.4

3.38 2 -72° 46.9

1 19 47.2  
23 57 21 -72° +8.4  
38.8

pF .3d pgbm st. N

72 27.1 23 1 20 -72° 40.4

72 53.4 23 1 18 -72° 40.5

3.36 19 40.4

1 43 +8.1  
23 3 2 -72° 32.3

pF .4 by .2 at 135°  
bm spin

23 1 16 -72° 42.0

23 1 13 -72° 42.1

3.36 15 42.0

1 43 +8.1  
23 2 58 -72° 33.9

cF .7 by .3 at 85° bM  
spin

23 3 22 -72° 45.9

23 3 30 -72° 45.1

3.38 31 45.5

1 43 +8.1  
23 5 14 -72° 37.4

F .2d bM 1E at 8°



35

3.6

-10.4

2751

23 5 500

-2.8

11.2

2753

23 7 140

48.0

14.4

-18.6

-5.6

7

1.1

11.2

2278

22 57 34.0

-21.8

-15.7

2279

23 2 56.0

15.4

4.4

-306.0

-87.2

30

-8.0

12.7

2278

-30.9

-13.8

2279

-112.3

-32.0

-435.2

-423.6

31

19.9

5.0

2278

-3.0

-21.8

2279

250.9

9.6

-42.4

-12.0

Plate N<sup>o</sup> 73431

8.0

-12.5

6221

22 7 588

-7.3

1.9

6226

22 8 596

32.6

32.0

-42.4

-29.2

-29.7



72° 23.9 23 6 38 -72° 34.3 v F. 2d b/M

72° 45.7 23 6 56 -72° 34.5

3.34 47 34.4

1 41 +8.2

23 8 28 -72° 26.2

73 38.6 22 57 49 -73° 27.4 e F. 2d b/M

73 12.1 22 57 50 -73° 27.8

3.51 50 27.6

1 49 +8.0

22 59 39 -73° 19.6

22 55 42 -73° 25.9 F. 3d RbM

22 55 41 -73° 25.9

3.51 42 25.9

1 47 +8.0

22 57 29 -73° 17.9

23 2 15 -73° 33.6 e F. 3b4. 1st 10° b/M

23 2 14 -73° 33.9

3.53 15 33.8

1 45 +8.1

23 4 0 -73° 25.7

12 35.1 22 8 31 -12° 47.6 v F. 4d b/M

12 49.3 22 8 30 -12° 47.4

10.2 31 47.5

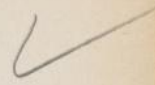
1 17 +10.8

22 9 48 -12° 36.7



<u>2</u>	5.3 -13.3	-0.1 -7.1	6146 6150	22 8 4.3 22 9 20.7 21.8 <del>21.2</del> <del>-54.7</del> -53.2
<u>3</u>	6.3 -2.9	-1.0 2.0	5812 5813	22 13 13.6 22 13 47.6 25.7 <del>25.2</del> +11.8 +11.6
<u>4</u>	6.1 -3.1	-4.3 4.8	5812 5813	24.8 <del>24.4</del> -12.6 <del>-12.4</del>
<u>5</u>	4.1 -3.4	-1.0 -11.3	6250 5815	22 13 28.3 22 14 5.2 16.7 <del>16.4</del> <del>-13.8</del> -73.6
<u>6</u>	6.3 -1.0	3.0 2.7	5820 5822	22 15 51.9 22 16 74.9 25.7 <del>25.2</del> -4.0 <del>-4.0</del>





13 23.0 22 8 26 -13° 23.1 v F. 4d BM

13 15.7 22 8 26 -13° 22.8

1.03 26 22.9

2 25 +13.0

22 10 51 -13° 9.9

11 13.8 22 13 40 -11° 14.8 e F. 1d BM

11 23.4 22 13 36 -11° 15.4

1.02 38 15.1

2 24 +13.5

22 16 2 -11° 1.6

22 13 38 -11° 18.1 e F. 1d BM

22 13 34 -11° 18.6

1.02 36 18.3

2 24 +13.5

22 16 0 -11° 4.8

12 7.1 22 13 45 -12° 6.1 e F. 1d BM

11 56.6 22 13 51 -12° 7.9

1.02 48 7.0

1 17 +10.4

22 15 5 -11° 56.2

11 55.3 22 16 18 -11 52.3 e F. 2d BM Dx in 2'

11 54.7 22 16 20 -11 52.0

1.02 19 52.2

2 24 +13.5

22 18 43 -11° 38.7



<u>7</u>	1.0 -14.1	14.3 -5.2	6175 6181	22 16 0.4 22 17 4.8 4.2 4.0 -58.0 -56.4	1.0 1.0
<u>8</u>	4.0 -11.1	13.5 -6.1	6175 6181	16.0 -16.0 -45.7 -44.4	
<u>9</u>	15.7 -15.2	2.9 -10.2	6179 6190	22 16 58.6 22 19 4.2 64.6 -62.8 -62.6 -60.8	1.3 1.3
<u>10</u>	6.9 -4.5	-14.0 2.2	6175 6178	22 16 33.4 22 17 19.0 28.4 27.6 -18.0 -16.0	1.4 1.4
<u>11</u>	15.8 -9.7	9.1 7.4	6187 6198	22 18 24.4 22 20 9.0 65.0 63.2 -39.9 -38.8	1.3 1.3



13 28.6 22 16 5 -13° 14.3 eF. 15' bM a/m. x

13 9.1 22 16 7 -13° 14.3

1.03 6 14.3

2 25 +13.0

22 18 31 -13° 11.3

22 16 16 -13° 15.1 eF. 2d

22 16 19 -13° 15.2

1.03 18 15.2

2 25 +13.0

22 18 43 -13° 2.2

13 56.4 22 18 3 -13° 53.5 pF 17' by .4' at 135°

13 44.7 22 18 3 -13° 54.9 pSBM spir.?

1.03 0 53.2

2 25 +13.0

22 20 28 -13° 40.2

14 10.1 22 17 2 -14° 24.1 F. 3' by .2' at 135° bM

14 26.4 22 17 1 -14° 24.2 spin

1.03 2 24.2

2 25 +13.5

22 19 27 -14° 10.7

13 32.2 22 19 29 -13° 23.1 F. 1.5' by .2' at 170° bM

13 31.3 22 19 29 -13° 23.9 spin

1.03 29 23.5

2 24 +13.0

22 21 53 -13° 10.5



11  
NGC.??

7.0  
-15.4

-8.4  
-3.0

6295  
6300

22 22 468  
22 24 169  
28.0  
28.0  
-63.4  
-61.6

12

6.6  
-29.0

-7.8  
25.9

6266  
6274

22 17 59.3  
22 20 239  
26.9  
26.9  
-116.0  
-46.0

13

248  
~~15.9~~  
10.9

-20.2  
7.3

6266  
6274

101.1  
99.0  
~~64.8~~  
-63.6  
-44.5

14

4.8  
-12.6

0.7  
3.1

5912  
5916

22 17 35.3  
22 18 44.9  
19.5  
19.2  
-46.0  
-46.0

16

11.3  
-2.1

-12.2  
0.3

5841  
5856

22 21 49.5  
22 22 418  
46.1  
45.2  
-8.4  
-8.4



14 36.2 22 23 15-14° 44.6 pB 1.2' by 4' at 170° BM

14 41.8 22 23 16-14° 44.8 spin

1.03 16 44.7

2 25 +13.5

22 25 41 -14° 31.2

12 11.0 22 18 26-12° 12.8 eF 2d BM

12 37.4 22 18 28-12° 11.5

1.02 27 12.2

1 17 +10.8

22 19 44 -12° 1.4

22 19 40 -12° 31.2 eF 1d scsp

22 19 ~~40~~ <sup>40</sup> -12° 30.1

1.02 40 31.7

1 17 +10.8

22 20 57 -12° 20.9

10 41.0 22 17 55 -10° 40.3 eF 5d scsp

10 44.1 22 17 57 -10° 41.0

1.02 56 40.6

2 23 +13.5

22 20 19 -10° 27.1

75 11° 2.4 22 22 36 -11° 14.6 F 5d ps BM

8 11° 75.5 22 22 34 -11° 15.2

1.02 35 14.9

2 24 +13.5

22 24 59 -11° 1.4



1717.0  
-11.0-0.5  
5.6.5849  
585922 22 57.8  
22 24 50.7  
68.0  
68.0  
-44.0  
-44.01818.6  
-9.3-1.9  
6.9.5849  
585975.8  
74.1  
-37.9  
-37.21919.2  
-12.0-0.2  
-9.66284  
629122 22 3.6  
22 24 10.8  
78.3  
76.8  
-46.0  
-46.02011.2  
-3.92.7  
-4.06299  
630322 26 22.5  
22 26 57.6  
45.6  
44.8  
-16.0  
-15.62122.0  
-11.82.3  
-11.3

6216

22 26 7.3  
22 28 37.1  
88.0  
88.0  
-60.9  
-59.2



11 9.9 22 24 6 -11 9.4 e F 2d BM

11 14.0 22 24 6 -11 8.4

1.02 6 8.9

2 24 +13.5

22 26 30 -10° 55.4

22 24 14 -11° 8.0 v F 2d BM

22 24 23 -11° 7.1

1.02 19 7.6

2 24 +13.5

22 26 43 -10° 54.1

12° 27.3 22 23 22 -12° 27.5 e F 12d

12° 17.8 22 23 22 -12° 27.4

1.02 22 27.4

1 17 +10.8

22 24 39 -12° 16.6

12 54.0 22 27 8 -12 51.3 v F 3d R BM

12 48.8 22 26 42 -12 52.8

1.03 26 55 52.0

1 17 +10.8

22 28 12 -12° 41.2

13 42.8 22 27 35 -13° 34.5 v F 16 by 2 at +150° spin

13 22.7 22 27 36 -13° 34.0

1.03 36 34.3

2 24 +13.9

22 30 0 -13° 20.4



22

7.4

3.8

6224

22 28 37.1

-4.2

-11.1

6225

22 29 5.2

30.4

-29.6

-17.3

-16.8

23

6.8

5.0

6224

0.0

-9.8

6225

28.0  
-27.2

0.0

24

2.3

3.9

6224

1.8

-11.0

6225

34.1  
33.2  
7.2  
7.2Plate N<sup>o</sup> 7884

/

7.9

-5.0

3987

14 48 1.7

-6.9

1.8

3990

14 49 2.1

32.8  
31.6  
-28.7  
-27.6

/

2.2

-1.9

4026

14 49 36.5

-13.3

-1.7

4031

14 50 40.0

8.8  
-8.8  
-54.7  
-53.2



13 22.7 22 29 .8 -13° 18.9 F 26' 6M  
 13 8.2 22 28 48 -13° 19.3  
 1.03 2 2 19.0

22 29 5 -13° 17.7 c F 30' 6M  
 22 29 5 -13° 18.0  
 103 5 17.8  
 2 24 +13.9  
 22 31 29 -13° 3.9

22 29 11 -13° 18.8 v F 30' 6M  
 22 29 12 -13° 19.2  
 103 12 19.0  
 2 24 +13.9  
 22 31 36 -13° 5.1

-15° 48.9 14 48 34 -15 53.9 v F 30' 6M  
 -15° 55.7 14 48 34 -15 53.9  
 1.04 34 53.9  
 2 30 -10.8  
 14 51 4 -16° 4.7

13 7.0 14 49 45 -13° 8.9 F 40' 6M  
 13 7.7 14 49 45 -13° 9.4  
 1.03 45 9.2  
 2 28 -11.2  
 14 52 13 -13° 2.4



<u>3</u>	12.6 ✓ -27.6 ✓	16.1 -14.7	3997 4008	14 14	50.94 <del>53.30.1</del> 52.4 50.4 -113.7 -110.4
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<u>4</u>	18.3 ✓ -21.7 ✓	21.2 -9.3	3997 4008		76.1 73.2 -90.2 -86.8
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<u>5</u>	7.5 0.5	1.4 -23.1	4086 4089	14 14	52.25.7 52.54.2 30.0 <del>30.0</del> 2.0 2.0
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<u>6</u>	-1.3 8.3	22.8 -1.8	4086 4089		5.2 -5.2 -34.1 -33.2
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<u>7</u>	12.9 -6.9	8.5 -0.8	4190 4193	14 14	54 11.7 55 31.2 52.6 51.6 -25.1 -27.6
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15	<del>12.9</del> <del>53.6</del> <del>44</del> <del>27.2</del>	14	51	4	-15	37.7	VF. 161 bM a/m.x
15		14	51	39	-15	35.9	
	1.04					1.8	
	1.03						

14	50	25	-15°	32.6	VF. 161 bM a/m.x
14	51	0	-15°	30.8	
	1.04				
	1.03				

14	51.5	14	52	56	-14	50.1	F 164.1 at 25° bM
14	26.8	14	52	56	-14	49.9	spin
	1.03		56			50.0	
			2	29		-10.8	
		14	55	25	-15°	0.8	

14	52	20	-14°	28.7	VF. 164.1 at 45°
14	52	20	-14°	28.6	16M. spin.
	1.03	20		28.8	
		2	29	-10.8	
14	54	49	-14°	38.8	

12	50.7	14	55	3	-12	42.2	pF. 164.1 at 150 psbM
12	41.8	14	55	2	-12	42.6	spin
	1.02		3			42.4	
			2	28		-10.8	
14	57	31	-12°	53.2			



8

15.3

-5.8

41007

14 52 15.0

-31.2

-2.2

3992

14 55 27.9

63.6  
61.2-130.0  
-124.89

15.4v

1.7

41109

14 56 42.7

-1.0v

-20.0

4118

14 58 56.2

63.4  
61.6-4.0  
-24.010

6.0

8.3

41065

14 58 2.1

-13.2

8.8

41068

14 59 19.9

24.0

24.0

-54.3

-52.8

11

3.2

-28.9

41200

14 58 55.8

-3.2

20.2

41068

14 59 19.9

13.5

13.2

-13.1

-12.8

12

12.9

-1.5

41200

14 58 55.8

-15.8

1.3

4205

15 0 51.6

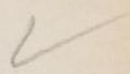
52.6

51.6

-64.4

-63.2





15 57.7 14 53 19 -16° 3.5 CF .464.2 at 120°

16 1.4 14 53 18 -16° 3.6 BM defect?

1.04 19 3.6

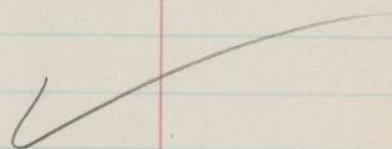
2 31 -11.2

14 55 50 -16° 14.8

14 25.7 14 57 46 -14 24.0 F .22.6 BM almit

14 58 14 -14 25.8

1.03



13 41.5 14 58 26 -13 33.2 F .22.6 BM

13 24.6 14 58 26 -13 33.4

1.03 26 33.3

2 28 -11.2

15 0 54 -13° 44.5

12 36.0 14 59 9 -13° 4.9 pF .764.2 at 5° BM

13 24.6 14 59 7 -13° 4.4 scnp.

1.03 8 4.6

2 28 -11.2

15 1 36 -13° 15.8

12 36.0 14 59 48 -12 37.5 vF .664.3 at 80°

12 58.7 14 59 48 -12 37.4 BM spin

1.02 48 37.4

2 28 -10.8

15 2 16 -12° 48.2



135.0  
-8.610.0  
-4.14093  
4101

15 3 12.5  
15 4 0.1  
20.0  
20.0  
-35.4  
-34.4

145.1  
-8.710.5  
-3.74093  
4101

21.0  
20.4  
-36.1  
-34.8

1518.8  
-25.1-10.1  
-1.74255  
4267

14 59 36.8  
15 2 39.6  
27.9  
74.2  
-106.0  
-100.4

1613.7  
-23.8-4.0  
-1.14018  
4029

15 2 5.8  
15 4 40.7  
56.5  
54.8  
-99.0  
-95.2

177.0  
-8.39.8  
-2.14052  
4053

15 5 15.9  
15 6 18.6  
28  
28.0  
-34.5  
-23.1



13 26.0 15 3 33 -13 16.0 F. 2d BM. 5 of 2

13 12.8 15 3 33 -13 16.9

1.03 33 16.4

2 28 -11.2

15 6 1 -13° 27.6

15 3 34 -13° 15.5 F. 2d BM 17 of 2

15 3 32 -13° 16.5

1.03 33 16.0

2 28 -11.2

15 6 1 -13° 27.2

17 4.4 15 0 55 -17 14.5 F. 3d psbm

17 12.7 15 0 54 -17 14.4

1.05 55 14.4

2 32 -10.3

15 3 27 -17° 24.7

16 32.6 15 3 2 -16° 36.6 v F. 1d BM alm \*

16 35.4 15 3 2 -16° 36.5

1.04 2 36.6

2 31 -11.2

15 5 33 -16° 47.8

15 5.0 15 5 44 -14 55.2 pF 1.6 by 1.4 at 90°

14 53.1 15 5 44 -14 55.2 psbm spit?

1.04 44 55.2

2 29 -10.8

15 8 13 -15° 4.0



18

113✓ 7.3  
-5.7✓ -16.8

4151 15 5 37.6  
4117 15 7 48.9  
46.5  
45.2  
-23.4  
-22.8

N.G.C 2  
5843

20.2✓ 12.0  
-3.1✓ -12.2

4151  
4117 (Pos.?)

83.2  
80.8  
-12.7  
-12.4

18'

22.3✓ 9.8  
5.2✓ -14.7

4151  
4117 (Pos.?)

91.8  
89.2  
21.4  
20.8

19

5.8✓ -19.8  
-2.8✓ 1.8

4107 15 5 46.6  
4117 15 7 48.9  
(Pos.?)  
23.8  
23.2  
-36.2  
-35.8

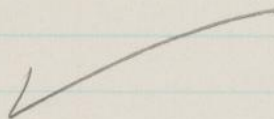
20

26.9 2.9  
-20.7 -1.8

41216 15 4 5.9  
4222 15 7 20.3  
110.0  
107.6  
84.4  
-25.8

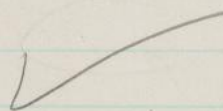


14 14.2 15 6 24 -14° 6.9 F. 8 by 1' at 115° 16M  
 13 49.3 15 7 25 -14° 6.1 spin  
 1.03



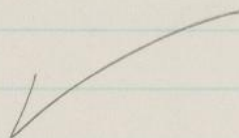
15 7 1 -14° 2.2 CF 13.6 6M  
 15 7 36 -14° 1.5

1.03

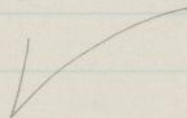


15 7 <sup>9</sup>/<sub>5</sub> -14° 4.4 pF 3.2 6M  
 15 8 10 -14° 4.0

1.03

~~229~~

13 21.3 15 6 10 -13 48.1 pF 10 by 2' at 95° 6.6M  
 13 49.3 15 7 13 -13 47.5 spin  
 1.03



12 42.3 15 5 56 -12° 33.4 CF 3.2 6M  
 12 31.5 15 5 56 -12° 33.3  
 1.02 5.6 33.4

2 28 -10.8

15 8 24 -12° 44.2



21

17.8

1.2

41107

15 5 46.6

8.8

7.7

4116

15 7 35.8

73.3

71.2

-36.2

35.2

Plate No. 3164

1

17.1

-3.0

(CDM) 11268

13 56 20.6

-5.8

0.1

(CDM) 11276

13 58 0.5

75.2

68.4

-25.5

-23.2

2

19.2

-2.8

1126

5

-3.7

0.3

11276

15

84.4

76.8

-16.3

-14.8

3

3.0

2.3

3825

13 55 52.5

0.1

-2.2

3827

13 56 5.4

12.0

+2.0

0.4

0.4

4

2.9

-30.9

3936

13 53 14.6

-0.2

6.9

3937

13 53 27.8

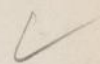
12.4

+1.6

6.8

-0.8





13 28.3 15 7 0 -13° 27.1 p F 9 by 2 at 90° spin  
 13 35.2 15 6 58 -13° 27.5 b M  
 1.03 15 6 59 27.3  
2 28 -11.2  
 15 9 27 -13° 38.5

24 10.7 13 57 36 -24° 13.7 p F 1.1 by 5 at 0° b S  
 24 14.0 13 57 35 -24° 13.9 spin p of 2  
 1.10 36 13.8  
1 24 -7.3  
 13 59 0 -24° 21.1

13 57 45 -24° 13.5 a F 2 by 16 at 95° b M  
 13 57 44 -24° 13.7 spin arms rh  
 1.10 45 13.6  
1 24 -7.3  
 13 59 9 -24° 20.9

21 55.3 13 56 4 -21° 53.0 F 13 d b M  
 21 51.0 13 56 6 -21° 53.2  
 1.08 5 53.1  
1 24 -7.2  
 13 57 29 -22° 0.3

20 16.4 13 53 27 20° 47.3 v F 1.5 by 4 at 30° 10 M  
 20 53.7 13 53 27 20° 46.8 spin  
 1.07 27 47.0  
1 23 -7.4  
 13 54 50 -20° 54.4



~~5~~

2.9

-31.7

3936

13 53 14.6

20

-0.2

5.9

3937

13 53 27.8

20

12.4

71.6

-0.8

-5.8

~~6~~

24.3

18.2

3814

13 52 11.1

21

-17.7

1.8

3820

13 55 9.9

21

104.9

97.2

-76.4

-70.8

~~7~~

16.3

5.8

3814

-25.6

-10.8

3820

70.4

65.2

-70.2.4

~~8~~

21.4

17.0

3703

13 51 36.5

22

1.1

-11.3

3707

13 53 23.2

22

92.4

85.6

4.7

4.1

~~13~~

6.9

-0.7

3703

-13.2

-29.1

3707

29.8

27.6

-57.0

-52.8





20 16.4 13 53 27 -20° 48.1 v F. 4 by 11' at 130° spin

20 53.7 13 53 27 -20° 47.8 16 M

1.07

27  
1 23  
+ 23

47.9

7.3

13 54 50 -20° 55.3

21 58.1 13 53 56 -21° 39.9 F. 7 d' psb M 1 E at 45°

21 41.6 13 53 54 -21° 39.8 spin?

1.08

55

39.8

1 23

-7.3

13 55 18 -21° 47.1

13 53 21 -21° 52.3 F. 7 by 3' at 115° psb M

13 53 20 -21° 52.4 spir. 1h?

1.08

21

52.4

1 23

-7.3

13 54 44 -21° 59.7

22 43.5 13 53 29 -22° 26.5 p F. 6 by 3' at 135° b M

22 14.8 13 53 28 -22° 26.1 spin.

1.08

29

26.3

1 23

-7.4

13 54 52 -22° 33.7

13 52 26 -22° 44.2 F. 10 by 1' at 175° b M spin

13 52 26 -22° 43.9

1.08

26

44.1

1 23

-7.4

13 53 49 -22° 51.5



144.9  
-15.26.4  
-22.0

3703

3707

13 51 56.5

13 53 23.2

$$\begin{array}{r}
 21.1 \\
 -19.6 \\
 -65.6 \\
 -60.8
 \end{array}$$
155.1  
-15.17.2  
-21.2

3703

3707

$$\begin{array}{r}
 22.0 \\
 -20.4 \\
 -65.2 \\
 -60.4
 \end{array}$$
169.1  
-11.114.2  
-14.2

3703

3707

$$\begin{array}{r}
 39.3 \\
 -36.4 \\
 47.9 \\
 -44.9
 \end{array}$$
101.7  
-8.2-1.8  
9.7

(CDM) 11242

("...") 10132

13 54 46.3

13 55 31.3

$$\begin{array}{r}
 7.5 \\
 6.8 \\
 -36.1 \\
 -32.6
 \end{array}$$
112.7  
-7.2-9.0  
2.2

11242

10132

$$\begin{array}{r}
 11.9 \\
 10.6 \\
 -31.7 \\
 -28.8
 \end{array}$$



5	22	43.5	13	52	18	-22°	37.1	v F 3d psbM
	22	14.8	13	52	17	-22°	36.8	
		1.08			18		37.0	
				1	23		-7.4	
			13	53	41	-22°	44.4	
			13	52	18	-22°	36.3	F 1.06y. 15 at 70° 2 spin
			13	52	17	-22°	36.0	D neb?
		1.08			18		36.2	
				1	23		-7.4	
			13	53	41	-22°	43.6	
						-22°		
			13	52	36		29.3	v F 1.8 by. 1 at 100° psbM
			13	52	35	-22°	29.0	spin
		1.08			36		29.2	
				1	23		-7.4	
			13	53	59	-22°	36.6	
3	24	54.4	13	54	56	-24°	56.2	F 96.6 at psbM
3	25	5.1	13	54	55	-24°	55.4	
		1.10			56		55.8	
				1	24		-7.4	
			13	56	60	-25°	3.2	
			13	55	0	-25°	3.4	v F 1.5 by. 2 at 145° bM
			13	55	0	-25°	2.9	spin
		1.10			0		3.2	
				1	24		-7.3	
			13	56	24	-25°	10.5	

<u>12</u>	4.4 -24.8	-6.3 12.6	11410 11435	13 52 17.31 2 13 54 43.9 2 19.1 +7.6 -108.7 -99.8
<u>9</u>	3.2 ✓ 2.3 ✓	2.3 -10.2	(CDM) 11438 3706	13 54 53.5 2 13 53 10.6 2 13.9 +2.8 -60.0 -47.2
<u>17</u>	7.8 -4.7	1.7 -10.3	3700 3814	13 51 19.5 2 13 52 11.1 2 33.6 31.2 -20.3 -18.8
<u>18</u>	4.3 -7.0	5.7 -9.2	3806 3927	13 48 29.6 2 13 49 17.5 2 18.4 +7.2 -29.0 -11.8
<u>25</u>	11.4 -3.6	7.1 -7.2	3679 3807	13 47 16.5 2 13 48 31.6 2 47.0 43.6 -15.5 -14.4



34 23° 39.7 13 52 36 -23° 45.4 c F .4d psb M  
 27 23° 56.9 13 52 55 -23° 44.3  
 1.09 46 44.4  
 1 23 -7.0  
 13 54 9 -23° 51.8

23 4.7 13 55 7 -22 56.4 v F .3d 9 b M 1875 Per  
 22 38.7 13 53 21 -22 48.9 1855 Per  
 1.09 1 2

22 10.2 13 51 53 -22° 8.5 F .2d 6 M  
 21 58.1 13 51 51 -22° 8.4  
 1.08 52 8.4  
 1 23 -7.4  
 13 53 15 -23° 15.8

21 10.9 13 48 48 -21° 5.2 F .3d psb M  
 20 56.7 13 48 47 -21° 5.9  
 1.07 48 5.6  
 1 23 -7.3  
 13 50 11 -21° 12.9

5 22 2.7 13 48 4 -21° 55.6 F R 4d psb M  
 6 21 48.5 13 48 16 -21° 55.7  
 1.08 10 55.6  
 1 23 -7.3  
 13 49 33 -22° 2.9

19

8.7

8.2

11188

13

50

19.9

2

-17.8

-24.9

11410

13

52

17.3

23

38.3

~~34.8~~~~-78.3~~~~-71.2~~20

2.2

4.7

11188

-24.2

-26.5

11410

9.7

~~8.8~~~~-106.4~~~~-96.8~~21

4.7

13.8

11188

-22.0

-19.3

11410

20.4

~~18.8~~~~-95.0~~~~-88.0~~23

13.8

~~11.8~~

-6.3

11366

13

48

12.9

23

-10.0

4.0

11383

13

49

55.6

23

81.9

~~160.2~~~~-75.2~~~~-43.7~~~~-40.0~~24

13.3

~~18.3~~

-5.2

11366

-10.4

5.2

11383

58.0

~~79.7~~~~72.2~~~~-45.4~~~~-41.6~~





9 24 12.0 13 50 58 -24° 3.8 F. 7 by 2 at 45° 6M spin.  
 23 39.1 13 50 59 -24° 4.0  
 1.10 59 3.9  
 1 24 -7.4  
 13 52 23 -24° 11.3

13 50 29 -24° 7.3 F. 3 by 6M  
 13 50 14 -24° 7.6  
 1.10 22 7.4  
 1 24 -7.4  
 13 51 46 -24° 14.8

13 50 40 -23 58.2 vF. 8 by 1 at 45° 6M spin  
 13 50 42 -23 58.4  
 1.09 41 58.3  
 1 23 -7.0  
 13 52 4 -24° 5.3

9 23 3.1 13 49 ~~35~~ 23° 9.4 F. 3 by 1 at 95° 6M spin  
 16 23 13.7 13 49 13 -23° 9.7  
 1.09 13 9.6  
 1 23 -7.0  
 13 50 36 -23° 14.6

13 49 ~~33~~ 10 -23° 8.3 vF. 2 by 1 at 45° 6M spin  
 13 49 11 -23° 8.5  
 1.09 11 8.4  
 1 23 -7.0  
 13 50 34 -23° 15.4

27

25.9

4.6

.11338

13 45 35.9

-5.8

-9.9

11362

13 47 52.8

$$\begin{array}{r} 112.9 \\ - 24.4 \\ \hline 88.5 \end{array}$$
31

11.1

-15.7

11268

13 39 21.8

-4.2

4.9

11084

13 40 28.8

$$\begin{array}{r} 46.3 \\ 44.4 \\ - 18.3 \\ \hline 72.4 \end{array}$$
26

35.7

-12.7

3674

13 44 40.3

-6.5

5.8

3682

13 47 41.9

$$\begin{array}{r} 154.2 \\ - 28.0 \\ \hline 126.2 \end{array}$$
22 ←

9.8

-4.0

3686

13 49 17.6

-26.8

1.7

3704

13 52 26.5

$$\begin{array}{r} 42.3 \\ 39.2 \\ - 115.8 \\ \hline \end{array}$$
22 ←

12.1

-1.9

3686

-24.3

3.8

3704

$$\begin{array}{r} 52.2 \\ 48.4 \\ - 104.9 \\ \hline \end{array}$$

-97.2



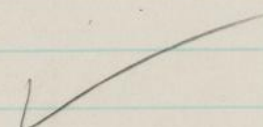


23 37.4 13 47 29 -23° 33.2 F .5d 96M R  
 23 23.3 13 47 29 -23° 33.2  
 1.09 29 33.2  
 1 23 -7.6  
 13 48 52 -23° 40.8

23 49.1 13 46 10 -23° 4.8 F .8 by .3 at 90° 6M  
 24 8.8 13 40 10 -23° 3.9 spin  
 1.09 10 4.4  
 1 23 -7.6  
 13 41 33 -23° 12.0

22 19.1 13 47 14 -22° 31.8 F .8d 156M spin?  
 22 37.2 13 47 14 -22° 31.4  
 1.08 14 31.6  
 1 23 -7.4  
 13 48 37 -22° 39.0

22 38.3 13 50 2 -22 42.3 F .5 by .1 at 100° 6M spin  
 22 43.3 13 50 30 -22 41.6 st of .8 1.2 77  
 1.08 16 42.0



40.2 F .4 by .1 at 80° 6M spin  
 39.5

1.08

278.9  
-14.0-8.2  
-7.33682  
368613 47 41.9  
13 47 19.6  
38.4  
-35.6  
-60.4  
-56.02639.0  
-3.0-18.0  
0.93674  
368213 44 40.3  
13 47 41.9  
168.5  
-156.0  
-12.9  
-12.62814.5  
-9.0-13.8  
-6.03778  
367013 40 59.9  
13 42 41.8  
62.6  
-58.0  
-38.9  
-36.0291.6  
-22.0-7.3  
0.43778  
36705.8  
5.4  
-95.0  
-58.030228  
-15.1-13.6  
-2.23656  
366013 36 38.5  
13 39 10.4  
98.4  
-97.2  
-65.2  
-60.4



✓

9 22 37.2 13 48 20 -22° 45.4 F 96.62 1R 9/6M  
 22 38.3 13 48 20 -22° 45.6  
 1.08 20 45.5  
1 23 -7.4  
 13 49 43 -22° 52.9

3 22 19.1 13 47 29 -22° 37.1 F 1564.1 6M spin  
 22 37.2 13 47 29 -22° 36.3  
 1.08 29 36.6  
1 23 -7.4  
 13 48 52 -22° 44.0

21 59.5 13 42 2 -22° 13.3 V F 461 psbm  
 22 7.4 13 42 2 -22° 13.4  
 1.08 2 13.4  
1 23 -7.4  
 13 43 25 -22° 20.8

13 41 6 -22° 6.5 V F 368 psbm  
 13 41 7 -22° 7.0  
 1.08 7 6.9  
1 23 -7.4  
 13 42 30 -22° 14.3

22 33.4 13 38 7 -22° 47.0 c F 2064.5 at 150° psbm  
 22 45.1 13 38 15 -22° 47.3 spin  
 1.08 11 47.2  
1 23 -7.4  
 13 39 34 -22° 54.6

## Plate No. 3078

✓ 1	4.7	7.7	10315	13	17	31.6	20
	-7.2	2.8	10323	13	18	24.7	20
						21.6	
						78.8	
						-33.1	
						-28.8	
✓ 2	5.3	6.1	10315				
	-6.3	1.2	10323				
						24.3	
						21.2	
						-28.9	
						-25.2	
✓ 3	9.9	-6.7	10315	13	17	31.6	20
	-18.9	6.0	10335	13	19	41.9	20
						45.5	
						37.6	
						-86.9	
						-75.6	
✓ 4	10.1	6.2	10560	13	18	42.9	30
	-2.7	-5.9	10335	13	19	41.9	30
						46.0	
						40.4	
						-12.5	
						-70.8	
✓ 5	7.8	-16.7	10527	13	15	47.7	30
	-14.0	7.1	10544	13	17	21.9	30
						36.1	
						31.2	
						-64.9	
						-56.0	



Checked to here  
Feb. 25 '24

29 46.5 13 17 53 -29° 38.8 c F 1.0 by 2 at 10° 6M

29 41.5 13 17 52 -29° 38.7 spin

1.15 53 38.8

1 23 -7.9

13 19 16 -29° 46.7

13 17 56 -29° 40.4 F 1.9 by 3 at 45° 6M spin

13 17 56 -29° 40.3

1.15 56 40.3

1 23 -7.9

13 19 19 -29° 48.2

29 46.5 13 18 17 -29° 53.2 F 3.6 6M

29 59.6 13 18 15 -29° 53.6

1.15 16 53.4

1 23 -7.9

13 19 39 -30° 1.3

30 11.8 13 19 30 -30° 5.6 v F 3.6 6M

30 59.6 13 19 28 -30° 5.5

1.16 29 5.5

1 23 -7.9

13 20 52 -30° 13.4

30 31.7 13 16 24 -30° 48.4 v F 3.6 6M

30 55.4 13 16 17 -30° 48.3

1.16 21 48.4

1 23 -7.9

13 17 44 -30° 56.3

✓ 6	9.8 -8.5	7.2 -4.0	10290 10307	13 15 21.5 13 16 45.9	3 3
				45.8 39.2 -39.0 -34.0	
✓ 17	-1.0 <del>4.3</del> -9.3	-9.1 11.0	10307 10316	13 16 45.9 13 17 24.2	31 31
				-4.1 45.8 -43.5 -37.2	
✓ 18	2.0 -19.1	5.3 -2.2	10377 10407	13 21 13.9 13 22 51.7	31 31
				9.0 4.0 -89.3 -76.4	
✓ 19	17.2 -11.0	-2.8 0.0	10571 10598	13 19 36.7 13 21 47.4	30 30
				79.8 68.8 -51.0 -44.0	
✓ 10	1.3 -4.9	4.3 -7.9	10611 10616	13 22 41.4 13 23 8.4	3 3
				6.0 5.2 -18.0 -15.6	





31	42.5	13	16.7	-31	35.3	✓ F. 20/6M
31	31.4	13	16.7	-31	35.4	
	1.17		7		35.4	
			<u>1 23</u>		<u>-7.9</u>	
		13	17 30	-31°	43.3	

31	31.4	13	17 <sup>41</sup> / <sub>6</sub>	-31	40.5	e F. 16/6M
31	50.6	13	17 41	-31	40.6	
	1.17		41		40.5	
			<u>1 23</u>		<u>-7.9</u>	
		13	19 4	-31°	48.4	

31	16.7	13	21 23	-31	11.4	✓ F 116y.2 at 30° psbM spin
31	10.7	13	21 23	-31	12.9	
	1.17		23		12.2	
			<u>1 23</u>		<u>-7.9</u>	
		13	22 46	-31°	20.1	

30	48.2	13	20 57	-30	51.0	✓ F. 30/6M
30	51.4	13	20 56	-30	51.4	
	1.16		57		51.2	
			<u>1 23</u>		<u>-7.9</u>	
		13	22 20	-30°	59.1	

30	44.5	13	22 47	-30	40.2	✓ F. 38y.2 at 135° 6M
30	32.1	13	22 50	-30	40.0	spin
	1.16		49		40.1	
			<u>1 23</u>		<u>-7.9</u>	
		13	24 12	-30°	47.0	

113.0  
-3.23.3  
-9.010611  
10616

13	22	41.4	3
13	23	8.4	3
$\begin{array}{r} 13.0 \\ +2.0 \\ -14.8 \\ -12.8 \end{array}$			

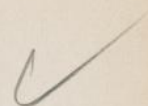
125.0  
-18.4-1.3  
21.210611  
10428

13	22	41.4	3
13	24	28.7	3
$\begin{array}{r} 23.2 \\ 20.0 \\ -25.3 \\ -73.6 \end{array}$			

1311.0  
-12.3-11.2  
11.210611  
10428
$$\begin{array}{r} 51.0 \\ +4.0 \\ -57.0 \\ -49.2 \end{array}$$
1414.0  
-9.7-18.2  
4.310611  
10428
$$\begin{array}{r} 65.5 \\ 56.0 \\ -45.3 \\ -38.8 \end{array}$$
150.8  
-8.3  
-5.33.7  
-10.810342  
10346

13	19	59.6	2
13	20	42.1	2
$\begin{array}{r} 3.6 \\ 3.2 \\ -15.1 \\ -13.2 \\ -38.2 \end{array}$			





30	44.5	13	22	54	-30°	41.2	v F .361 bM
30	32.1	13	22	53	-30°	41.1	
	1.16			54		41.2	
			1	23		-7.9	
		13	24	17	-30°	49.1	

30	44.5	13	23	5	-30°	45.8	F 1064.2 at 435° bM
31	7.5	13	23	3	-30°	46.3	spin
	1.16			4		46.0	
			1	23		-7.9	
		13	24	27	-30°	53.9	

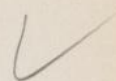
		13	23	31	-30°	55.7	F 1964.1 at 150° bM
		13	23	31	-30°	56.3	spin
	1.16			31		56.0	
			1	23		-7.9	
		13	24	54	-31°	3.9	

		13	23	47	-31°	2.7	v F .664 .3 at 90° bM
		13	23	44	-31°	2.2	
	1.17			46		2.4	
			1	24		-7.7	
		13	25	10	-31°	10.1	

29	28.9	13	20	3	-29	25.2	e F .561 bM i F
29	15.1	13	20	<del>27</del>	-29	25.9	
	1.15			4		29.6	
			1	23		-7.8	
		13	21	27	-29°	37.4	

✓ 1614.2  
-8.1-4.8  
-1.910358  
1038013 21 31.0  
13 23 13.0  
60.7  
52.8  
-37.2  
-32.4✓ 175.1  
-15.5-0.5  
-1.110428  
1045213 24 28.7  
13 26 4.1  
23.8  
20.4  
-72.5  
-62.2✓ 184.8  
-4.35.5  
-10.410440  
1045213 25 21.5  
13 26 4.1  
22.1  
19.2  
20.1  
-17.2✓ 193.1  
-5.913.7  
-2.210442  
1045214.5  
12.4  
-27.6  
-23.6✓ 20-5.7  
-35.610.6  
-11.710452  
1070313 26 4.1  
13 28 30.9  
-26.6  
-22.8  
-166.2  
-142.1





29 49.5 13 22 32 -29° 54.3 F 30/6MR  
 29 52.5 13 22 36 -29° 54.4  
 1.15 34 54.4  
 1 23 -7.9  
 13 23 57 -30° 2.3



31 7.5 13 24 51 -31° 8.0 e.F 30/6M  
 31 9.4 13 24 52 -31° 8.3  
 1.17 52 8.2  
 1 24 -7.7  
 13 26 16 -31° 15.9



31 24.4 13 25 44 -31° 18.9 F 50/ps/6M R  
 31 9.4 13 25 44 -31° 19.8  
 1.17 44 19.4  
 1 24 -7.7  
 13 27 8 -31° 27.1



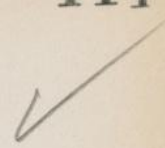
13 25 36 -31° 10.7 vF 30/6M  
 13 25 37 -31° 11.6  
 1.17 37 11.2  
 1 24 -7.7  
 13<sup>h</sup> 27 1 -31° 18.9



31 9.4 13 25 37 -30 58.2 e.F 120/6M  
 30 46.9 13 25 45 -30 58.6  
 1.17 41 58.7  
 1 23 -7.8  
 13 27 4 -31° 6.5

✓ 211.0  
-30.87.6  
-14.710452  
1070313 26 4.1  
13 28 30.7  
4.7  
4.0  
-143.9  
-123.2✓ 222.2  
-29.618.2  
-3.910452  
1070310.2  
8.8  
-138.1  
-118.4✓ 239.3  
-22.319.1  
-3.010452  
1070343.1  
37.2  
-103.4  
-89.2✓ 2412.0  
-19.926.0  
3.910452  
1070355.7  
46.0  
-92.3  
-79.6✓ 2528.2  
-3.622.0  
-0.110452  
10703131.1  
112.8  
-16.7  
-144.4





31 9.4 13 26.9 -31° 1.8 eF.22/bM ✓

30 46.9 13 26.7 -31° 1.6

1.17 8 1.7

1.24 -7.7

13 27 32 -31° 9.4

13 26 14 -30 51.2 eF.22/bM ✓

13 26 13 -30 50.8

1.17 14 50.0

1.24 -7.7

13 27 38 -30° 57.7

13 26 17 -30 50.3 eF.22/bM ✓

13 26 18 -30 49.9

1.16 48 50.1

1.24 -7.7

13 28 12 -30° 57.8

13 27 0 -30° 43.4 F 16 by 9 at 45° bM spin ✓

13 27 0 -30° 43.6

1.16 0 43.2

1.24 -7.7

13 28 24 -30° 50.9

13 28 15 -30° 47.4 rF.22/bM ✓

13 28 14 -30° 47.0

1.16 15 47.2

1.24 -7.7

13 29 39 -30° 54.9

✓ 26

25.0

21.8

10452

13 2.6 4.1 3

-4.9

-0.3

10703

13 28 30.9 3

117.0

100.0

-22.7

-19.6

✓ 27

27.1

20.2

10452

-4.7

-1.8

10703

128.3

107.4

-21.8

-18.8

✓ 28

23.8

11.5

10452

-8.1

-10.7

10703

111.3

95.2

-37.9

-52.1

✓ 29

24.0

10.7

10452

-7.9

-11.6

10703

112.3

96.0

-36.9

-31.6

✓ 30

24.9

8.2

10452

-6.9

-13.9

10703

116.6

99.6

-36.9

-27.6





31 9.4 13 28 1 -30° 47.6 VF 26/6M ✓

30 4/69 13 28 8 -30° 47.2

1.16 5 47.4

1 24 -7.7

13 29 29 -30° 55.1

13 28 9 -30° 49.2 eF 10 ✓

13 28 10 -30 48.7

1.16 10 48.0

1 24 -7.7

13 29 34 -30° 55.7

13 27 55 -30° 57.9 VF 26/6M ✓

13 27 53 -30 57.6

1.17 54 57.8

1 24 -7.7

13 29 18 -31° 55.5

13 27 56 -30 58.7 VF 10 ✓

13 27 54 -30 58.5

1.17 55 58.6

1 24 -7.7

13 29 19 -31° 6.3

13 28 1 -31° 1.2 VF 26/6M ✓

13 27 54 -31 0.8

1.17 13 27 58 1.0

1 25 -7.7

13 29 23 -31° 8.7

114

✓ 31	22.0	2.8	10452	13	264.1	3
	-9.8	-19.3	10703	13	2830.9	3

$$\begin{array}{r}
 102.0 \\
 -88.0 \\
 -45.8 \\
 -39.2
 \end{array}$$

✓ 32	20.8	-0.4	10452			
	-11.1	-22.5	10703			

$$\begin{array}{r}
 97.3 \\
 -8.32 \\
 -51.9 \\
 -44.4
 \end{array}$$

✓ 33	16.3	3.3	10452			
	15.4	-18.8	10703			

Supposed to be 2.8

$$\begin{array}{r}
 76.2 \\
 -65.2 \\
 -72.0 \\
 -61.6
 \end{array}$$

✓ 34	16.1	2.8	10452			
	(-15.8)	-19.3	10703			

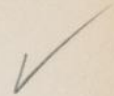
Supposed to be 2.8

$$\begin{array}{r}
 75.3 \\
 -64.4 \\
 -73.9 \\
 -63.2
 \end{array}$$

✓ 34'	6.0	7.3	10452			
	-25.9	-14.8	10703			

$$\begin{array}{r}
 28.1 \\
 -24.0 \\
 -120.5 \\
 -102.6
 \end{array}$$





31 9.4 13 27 46 -31 6.6 r F 20' bM

30 46.9 13 27 45 -31 6.2

1.17 46 6.4

1 24 -7.7

13 29 10 -31° 14.1

13 27 41 -31° 9.4 e F 20' bM

13 27 39 -31 9.4

1.17 40 9.6

1 24 -7.7

13 29 4 -31° 17.3

13 27 20 -31 6.1 F 30' bM

13 27 19 -31 5.7

1.17 20 5.9

1 24 -7.7

13 28 44 -31° 13.6

13 27 19 -31° 6.6 e F 10' bM

13 27 17 -31° 6.2

1.17 18 6.4

1 24 -7.7

13 28 42 -31° 14.1

13 26 32 -31° 2.1 F 40' R bM

13 26 30 -31° 1.7

1.17 31 1.9

1 24 -7.7

13 27 55 -31° 9.6

116

✓ 358.8  
-31.014.2  
4.210483  
10524

13	28	33.8	31
13	31	38.2	31
		41.1	
		35.2	
		-145.1	
		-124.0	

✓ 368.9  
-30.912.5  
2.310483  
10524

	41.6
	35.6
	-145.1
	-123.6

✓ 4629.6  
-10.12.3  
-7.710483  
10524

	138.1
	118.4
	-47.2
	-40.4

✓ 4727.8  
-11.922.9  
12.910483  
10524

	129.9
	111.2
	-55.6
	-47.6

✓ 377.2  
-6.5-4.6  
-0.99437  
9451

13	25	51.7	31
13	26	57.2	31
		33.9	
		28.8	
		-30.7	
		-26.0	



✓

1	31	22.3	13	29	15	-31°	8.1	eF .464.1 at 130°
2	31	12.3	13	29	13	-31°	8.1	bM spin
		1.17			14		8.1	
					<u>1 24</u>		<u>-7.7</u>	
			13	30	38	-31°	15.8	

			13	29	15	-31°	9.2	vF .48/bM
			13	29	13	-31°	10.0	
		1.17			14		9.9	
					<u>1 24</u>		<u>-7.7</u>	
			13	30	38	-31°	17.6	

			13	30	52	-31°	20.0	vF .464.1 at 120° spin
			13	30	51	-31°	20.0	
		1.17			52		20.0	
					<u>1 24</u>		<u>-7.7</u>	
			13	32	16	-31°	27.7	

			13	30	44	-30°	59.4	vF .38/bM D st. 50.5'
			13	30	42	-30°	59.4	
		1.17			43		59.4	
					<u>1 24</u>		<u>-7.7</u>	
			13	32	7	-31°	7.1	

1	32	0.1	13	26	26	-32°	4.7	pF .1064.2 at 30° bM
2	32	4.6	13	26	26	-32°	5.5	spin
		1.18			26		5.1	
					<u>1 24</u>		<u>-7.8</u>	
			13	27	50	-32°	12.9	

✓  
389.0  
-13.320.2  
0.39451  
10485

13	26	57.2	3
13	28	41.6	3
		42.5	
		<del>36.0</del>	
		<del>62.7</del>	
		<del>53.2</del>	

✓  
3916.3  
-6.010.0  
-10.09451  
10485

	76.9
	<del>65.2</del>
	<del>28.3</del>
	<del>24.0</del>

405.2  
-24.8-10.3  
8.19459  
9488

13	27	38.0	3
13	29	59.7	3
		24.7	
		<del>20.8</del>	
		<del>118.0</del>	
		<del>99.2</del>	

4115.1  
-14.9-8.8  
9.99459  
9488

	71.8
	<del>60.4</del>
	<del>20.9</del>
	<del>59.6</del>

425.8  
-24.0-12.8  
9.89468  
9495

13	28	33.5	3
13	30	52.9	3
		27.3	
		<del>23.2</del>	
		<del>113.3</del>	
		<del>96.0</del>	



✓

32	41.6	13	27	39	-31°	44.4	VF .3 by .2 at 160° BM
31	43.9	13	27	39	-31°	43.6	spin
	1.18			39		44.0	
				<u>1.24</u>		<u>-7.7</u>	
		13	29	3	-31°	51.7	
		13	28	14	-31°	54.6	F .5 by .2 at 30° BM
		13	28	14	-31°	53.9	spin
	1.18			14		54.0	
				<u>1.24</u>		<u>-7.7</u>	
		13	29	38	-32°	1.7	
0 32	40.3	13	28	3	-32°	50.6	pF 1.0 by .3 at 75°
7 32	58.6	13	28	1	-32°	50.5	* N spin
	1.19			4		50.6	
				<u>1.24</u>		<u>-7.6</u>	
		13	29	28	-32°	58.4	
		13	28	50	-32°	49.1	pF .3 by .6 BM st. f. 0.8"
		13	28	50	-32°	48.7	
	1.19			50		48.9	
				<u>1.24</u>		<u>-7.6</u>	
		13	30	14	-32°	56.7	
32	10.1	13	29	1	-32°	22.9	cF .5 by .6 BM
32	31.9	13	29	0	-32°	22.1	
	1.18			1		22.5	
				<u>1.24</u>		<u>-7.6</u>	
		13	30	25	-32°	30.3	

4323.1  
- 6.7-12.8  
9.89468  
9495

13	28	33.5	3
13	30	52.9	3
	109.0		
	92.4		
	-31.6		
	-26.8		

455.0  
-8.77.1  
-23.210416  
10428

13	23	25.3	3
13	24	28.7	3
	23.4		
	20.0		
	-40.7		
	-34.8		

445.5  
-5.7-3.3  
-6.010498  
10512

13	29	41.3	3
13	30	33.5	3
	25.9		
	22.0		
	-26.9		
	-22.8		

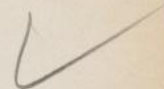
48-1.2  
-1.3-13.8  
25.810759  
10524

13	31	13.1	3
13	31	38.2	3
	5.5		
	-4.8		
	-6.0		
	-5.2		

4921.2  
-5.2-11.0  
-4.710657  
10723

13	27	37.1	3
13	29	32.1	3
	98.3		
	-4.8		
	-24.1		
	-20.8		





3.5 32 10.1 13 30 22 -32° 22.9 10 F 1.0 by 2 at 30°  
 9 32 31.9 13 30 21 -32° 22.1 2 st.s in spin  
 1.18 22 22.5  
 1 24 -7.8  
 13 31 46 -32° 30.3



3 31 37.5 13 23 49 -31° 30.4 e.F 2.0 by 1  
 31 7.5 13 23 48 -31° 30.7  
 1.17 49 30.6  
 1 24 -7.7  
 13 25 13 -31° 38.3



3 31 46.5 13 30 7 -31° 49.8 F 5.0 R 6 M  
 5 31 43.1 13 30 9 -31° 49.1  
 1.18 8 49.4  
 1 24 -7.7  
 13 31 32 -31° 57.1

30 33.2 13 31 19 -30° 47.0 F 1.0 by 2 at 135° p 5.6 M  
 31 12.3 13 31 32 -30° 46.5 st. ATT. pre spin  
 1.16 26 46.7  
 1 24 -7.7  
 13 32 50 -30° 54.4



30 11.5 13 29 15 -30° 22.5 F 3.0 by 1  
 30 17.2 13 29 8 -30° 21.9  
 1.16 12 22.2  
 1 24 -7.8  
 13 30 36 -30° 29.9

22

✓  
50

14.2

-3.0

10687

13 27 37.1

-10.2

3.3

10723

13 29 32.1

$$\begin{array}{r}
 65.8 \\
 -56.6 \\
 \hline
 -47.3 \\
 -40.8
 \end{array}$$

51

9.3

-0.6

10418

13 25 47.7

-16.8

-0.3

10443

13 27 46.9

$$\begin{array}{r}
 42.7 \\
 -37.2 \\
 \hline
 -77.2 \\
 -67.2
 \end{array}$$

55

4.0

4.7

10443

13 27 46.9

→ -2.2

-11.9

10446

13 27 57.4

→ +2.2

$$\begin{array}{r}
 18.4 \\
 -16.0 \\
 \hline
 -10.4 \\
 -5.6 \\
 \hline
 10.1
 \end{array}$$

52

14.0

8.1

10119

13 24 50.6

-8.8

-1.2

10139

13 26 34.7

$$\begin{array}{r}
 63.8 \\
 -56.0 \\
 \hline
 -40.1 \\
 -35.2
 \end{array}$$

53

17.3

6.1

10139

13 26 34.7

-11.7

6.1

10160

13 28 45.4

$$\begin{array}{r}
 78.8 \\
 -67.2 \\
 \hline
 -53.3 \\
 -46.8
 \end{array}$$





30 11.5 13 28 43 -30° 14.5 pB 1.0' by .3' at 95° ps/bM  
 30 17.2 13 28 45 -30° 13.9 spin

1.16 44 14.2  
1 24 -7.7  
 13 30 8 -30° 21.9

29 33.0 13 26 31 -29° 33.6 e.F 1.0' by .1' at 160° spin  
 29 33.4 13 26 30 -29° 33.7

1.15 31 33.4  
1 24 -7.8  
 13 27 54 -29° 41.4

29 33.4 13 28 5 -29° 28.7 pF 1.5' d ps/bM

29 17.5 13 27 47 -29° 29.4

1.15 6 29.0  
1 24 -7.6

28 36.9 13 25 54 -28° 28.8 v F 2.0' bM

28 29.6 13 25 55 -28° 28.8

1.14 55 28.8  
1 24 -7.8  
 13 27 19 -28° 36.6

28 27.6 13 27 54 -28° 21.5 F .3' by .2' at 120° bM

28 27.9 13 27 52 -28° 21.8 spin

1.14 53 21.6  
1 24 -7.8  
 13 29 17 -28° 29.4

54

10.0

-8.2

10160

13

2845.4

-3.7

8.0

10164

13

2948.4

45.6

70.0

-16.8

-74.8

56

9.5

-4.9

10448

13<sup>h</sup>

285.1

-9.1

7.5

10461

13<sup>h</sup>

2929.4

43.7

38.0

-41.8

-36.4

57

10.0

-7.7

10448

-8.7

4.7

10461

46.0

40.0

-40.0

-34.8

58

20.8

-7.2

10448

2.1

5.1

10461

95.6

83.2

9.6

5.4

59

19.8

-11.7

10448

1.1

0.8

10461

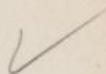
91.0

79.2

5.1

4.4





28 279 13 29 31 -28° 36.1 F 1.0' by .3' at 45°

28 44.0 13 29 31 -28° 36.0 gibM spin

1.14 31 36.0

1 24 -7.8

13 30 55 -28° 43.8

29 38.9 13 28 49 -29° 43.8 F .5' psbM

29 52.3 13 28 47 -29° 44.8

1.15 48 44.3

1 24 -7.8

13 30 12 -29° 52.1

13 28 51 -29° 46.6 e F 3.0' 16M

13 28 49 -29° 47.6

1.15 50 47.0

1 24 -7.8

13 30 14 -29° 54.8

13 29 41 -29° 46.1 e F 1.3 by .1' at 75° spin

13 29 39 -29° 47.2

1.15 40 46.6

1 24 -7.8

13 31 4 -29° 54.4

13 29 36 -29° 50.6 c F 3 by .2' at 75° 6M

13 29 35 -29° 51.5

1.15 36 51.0

1 24 -7.8

13 31 0 -29° 58.8

60

19.9

-3.5

10461

13 29 29.4

-7.7

4.8

10760

13 31 34.9

$$\begin{array}{r} 91.5 \\ 79.6 \\ -35.4 \\ \hline 50.8 \end{array}$$
61

17.8

-0.1

10723

13 29 32.1

-15.0

3.3

10776

13 32 2.2

$$\begin{array}{r} 82.5 \\ 71.2 \\ -69.6 \\ \hline -60.0 \end{array}$$
62

26.8

2.3

10723

-6.0

5.8

10776

$$\begin{array}{r} 124.3 \\ 107.2 \\ -27.8 \\ \hline -24.0 \end{array}$$
63

9.7

-8.1

10760

13 31 34.9

-24.8

1.3

10813

13 34 13.4

$$\begin{array}{r} 45.0 \\ 38.8 \\ -115.0 \\ \hline -99.2 \end{array}$$
64

18.7

10.4

9488

13 29 59.7

-13.1

8.3

9524

13 32 29.4

$$\begin{array}{r} 89.0 \\ 74.8 \\ -62.3 \\ \hline -52.4 \end{array}$$



✓

4	29	523	13	31	1	-29° 55.8	VF 1.6 by 1' at 150°
	30	0.6	13	31	0	-29° 55.8	BM spin
		1.15			1	55.8	
				1	24	-7.8	
			13	32	25	-30° 3.6	
	30	17.2	13	30	55	-30° 17.3	pB 1.5 by 1' at 80°
	30	21.5	13	30	52	-30° 18.2	psbM spin
		1.16			54	17.8	
				1	24	-7.7	
			13	32	18	-30° 25.5	
			13	31	36	-30° 14.9	VF 1.0 by 1' at 125° psbM
			13	31	34	-30° 15.7	spin
		1.16			35	15.3	
				1	24	-7.7	
			13	32	59	-30° 23.0	
9	30	0.6	13	32	20	-30° 8.7	pF ab. 8d iF psymbM
	30	9.5	13	32	18	-30° 8.2	
		1.16			19	8.4	
				1	24	-7.7	
			13	33	43	-30° 16.1	
7	32	58.6	13	34	29	-32° 48.2	pF ab. 8d iF psymbM
4	32	55.9	13	31	27	-32° 47.6	
		1.19			28	47.9	
				1	24	-7.8	
			13	32	52	-32° 55.7	

6411.3  
-20.25.7  
3.69488  
952413 29 59.7  
13 32 29.4  
53.7  
45.2  
-96.1  
-80.8653.8  
-30.3-6.2  
-4.710533  
956213 32 36.0  
13 35 14.4  
17.9  
15.2  
-142.8  
-121.27014.3  
-19.8-10.1  
0.710533  
956255.6  
47.2  
-93.4  
-17.27127.7  
-6.3-5.3  
5.210533  
9562131.0  
110.8  
-29.7  
-80.2668.2  
-4.0-23.0  
16.010524  
1053313 31 38.2  
13 32 36.0  
38.3  
32.8  
-18.7  
-75.0





32	56.8	13	30	54	-32	51.1	F 5 by .2 at 0° 6M spin
32	55.9	13	30	53	-32	52.3	st. 5 p 15 min.
	1.19			54		51.6	
				<u>124</u>		-7.6	
		13	32	18	-32°	59.4	
31	51.1	13	32	54	-31°	57.3	p F 10 by .3 at 25° 6M spin
32	2.1	13	32	51	-31°	57.4	
	1.18			53		57.4	
				<u>125</u>		-7.7	
		13	34	18	-32°	5.1	
		13	33	32	-32°	1.2	C F .5 d R 6M
		13	33	41	-32°	1.4	
	1.18			37		1.3	
				<u>124</u>		-7.8	
		13	35	1	-32°	9.1	
		13	34	47	-31	56.4	V F .5 by .1 at 40° spin
		13	34	41	-31	56.9	
	1.18			44		56.6	
				<u>125</u>		-7.7	
		13	36	9	-32°	4.3	
31	12.3	13	32	16	-31°	35.3	p B .3 d R 16M
31	51.1	13	32	16	-31°	35.1	
	1.17			16		35.2	
				<u>125</u>		-7.7	
		13	33	41	-31°	42.9	

67

10.3      -15.8  
-1.8      23.2

10524      13      31      38.2      3  
10533      13      32      36.0      3  

$$\begin{array}{r} 48.2 \\ -11.2 \\ \hline 37.0 \\ -8.4 \\ \hline 28.6 \end{array}$$

68

14.7      -15.2  
2.3      23.9

10524  
10533

68.7  
-5.8  
10.7  
9.2

69

25.0      -27.8  
12.9      11.2

10524  
10533

118.0  
-10.0  
65.0  
55.6

72

22.7      29.2  
-3.8      -5.8

10533      13      32      36.6      31  
10565      13      34      37.3      31  

$$\begin{array}{r} 106.2 \\ -90.8 \\ \hline 15.4 \\ -17.7 \\ \hline -2.3 \end{array}$$

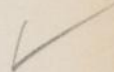
75

11.2      1.8  
-3.9      -6.1

10813      13      34      13.4      3  
10825      13      35      21.2      3  

$$\begin{array}{r} 52.4 \\ -44.8 \\ \hline 7.6 \\ -18.2 \\ \hline -10.6 \end{array}$$





2 31 12.3 13 32 26 -31° 28.1 v F .3 by .1 at 80° bM spin  
 31 51.1 13 32 24 -31° 27.9  
 1.17 25 28.0  
1 25 -7.7  
 13 33 50 -31° 35.7

13 32 47 -31° 27.5 F .5 by .1 at 70° bM  
 13 32 47 -31° 27.2 spin  
 1.17 47 27.3  
1 25 -7.7  
 13 34 12 -31° 35.0

13 33 36 -31° 40.1 F .5 d ps bM  
 13 33 41 -31° 39.9  
 1.17 39 40.0  
1 25 -7.7  
 13 35 4 -31° 47.7

31 51.1 13 34 22 -31° 21.9 pB .8 by .3 at 110° bM spin  
 31 16.6 13 34 20 -31° 22.4  
 1.17 21 22.2  
1 25 -7.7  
 13 35 46 -31° 29.9

30 9.5 13 35 7 -30 7.7 pF .8 by .2 at 95° ps bM  
 30 1.9 13 35 3 -30 8.0 spin  
 1.16 5 7.8  
1 24 -7.6  
 13 36 29 -30° 15.4

32

739.8  
-17.8-31.8  
7.910813  
10841

13	34	134	3
13	36	211	30
115.4			
39.2			
-82.5			
-71.2			

7412.1  
-15.2-14.8  
24.910813  
10841

56.1
48.4
-70.5
-60.8

763.6  
-7.713.2  
-9.210544  
10551

13	36	3.9	2
13	36	53.8	2
16.5			
14.4			
-35.4			
-50.8			

774.0  
-15.24.2  
1.210559  
10575

13	37	20.4	2
13	38	47.4	2
18.4			
16.0			
-69.9			
-50.8			

77'1.2  
-17.9-0.6  
-3.710559  
10575

13
13
5.5
4.8
-52.3
-71.2



4 30 9.5 13 34.59 -30° 41.3 F .45/6 M R  
 30 49.2 13 34 59 -30° 41.3  
 1.16 59 41.3  
 1 24 -7.6  
 13 36 23 -30° 48.9

13 35 9 -30° 24.3 F 1.0 by 2' at 45°  
 13 35 11 -30° 24.3 psbm  
 1.16 10 24.3  
 1 24 -7.6  
 13 36 34 -30° 31.9

29 56.7 13 36 20 -29° 43.5 CF .6 by .4' at 120°  
 29 35.2 13 36 19 -29° 44.4 psbm spin  
 1.15 20 44.0  
 1 24 -7.7  
 13 37 44 -29° 51.7

4 29 30.3 13 37 39 -29° 26.1 V F .5 by .3' at 90°  
 29 27.2 13 37 37 -29° 26.0  
 1.15 38 26.0  
 1 24 -7.7  
 13 39 2 -29° 33.7

13 37 26 -29° 30.9 p F .5 by .3' at 30° bM  
 13 37 25 -29° 30.9 spin st. np 1.2  
 1.15 26 30.9  
 1 24 -7.7  
 13 38 50 -29° 38.6

78

14.4

-15.5

10544

13 36 3.9 2

-16.3

-3.9

10865

13 38 26.3 30

$$\begin{array}{r}
 66.8 \\
 -57.6 \\
 \hline
 9.2 \\
 -75.6 \\
 \hline
 -65.2
 \end{array}$$
79

0.8

-0.8

10607

13 37 2.9 3

-6.1

12.2

10611

13 37 34.6 31

$$\begin{array}{r}
 3.7 \\
 -3.2 \\
 \hline
 0.5 \\
 -28.5 \\
 \hline
 -27.9
 \end{array}$$
80

5.3

-0.9

10855

13 37 31.9 30

-5.3

4.2

10620

13 38 22.0 31

$$\begin{array}{r}
 24.8 \\
 -21.2 \\
 \hline
 3.6 \\
 -24.8 \\
 \hline
 -21.2
 \end{array}$$
81

16.1

-15.3

9562

13 35 14.4 32

-5.1

-0.7

9598

13 36 52.2 33

$$\begin{array}{r}
 75.9 \\
 -64.4 \\
 \hline
 11.5 \\
 -24.0 \\
 \hline
 -12.5
 \end{array}$$
82

12.0

-8.1

9616

13 39 20.8 32

-5.1

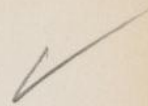
17.0

9632

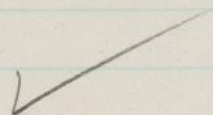
13 40 40.9 32

$$\begin{array}{r}
 56.6 \\
 -48.0 \\
 \hline
 8.6 \\
 -24.0 \\
 \hline
 -15.4
 \end{array}$$





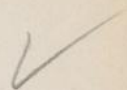
29	56.7	13	37	10	-30°	12.2	F .56 psbM
30	9.2	13	37	10	-30°	13.1	
	1.16			10		12.7	
				<u>1.24</u>		<u>-7.6</u>	
		13	38	34	-30°	20.3	
31	11.5	13	37	6	-31°	12.3	F .46 by .2 at 150° bM
31	23.8	13	37	7	-31°	11.6	spin st 8 mpi
	1.17			7		12.0	
				<u>1.25</u>		<u>-7.6</u>	
		13	38	32	-31°	19.6	
30	59.6	13	38	57	-31°	00.5	F .86 by .1 at 5° bM
31	4.3	13	37	58	-31°	00.1	spin
	1.17			58		0.3	
				<u>1.25</u>		<u>-7.6</u>	
				<u>23</u>	<u>-31°</u>	<u>7.9</u>	
32	2.1	13	36	30	-32°	17.4	cF 1.2 by .1 at 45° bM
32	16.8	13	36	28	-32°	17.5	spin
	1.18			29		17.4	
				<u>1.26</u>		<u>-7.5</u>	
		13	37	55	-32°	24.9	
32	6.8	13	40	18	-32°	14.9	pF 1.6 by .4 at 5°
32	31.4	13	40	17	-32°	14.4	psbM spin
	1.18			18		14.6	
				<u>1.26</u>		<u>-7.5</u>	
		13	41	44	-32°	22.1	



136

8321.5  
- 7.04.0  
6.29632  
965113 40 40.9  
13 42 53.4  
102.3  
~~86.0~~  
~~-33.3~~  
- 28.0842.1  
- 13.8-2.1  
-4.910649  
1066713 40 31.8  
13 41 45.3  
9.9  
~~8.4~~  
~~-65.1~~  
- 55.2851.1  
~~-1.3~~  
-7.00.0  
-1.710655  
1066513 41 0.7  
13 41 35.8  
5.1  
~~4.4~~  
~~-4.8~~  
-32.786-0.6  
-11.717.8  
-10.910658  
1091313 41 10.5  
13 42 1.5  
-2.8  
-2.4  
-54.7  
-46.8871.4  
-0.3-31.3  
10.610910  
1091313 41 51.9  
13 42 1.5  
6.4  
~~5.6~~  
-1.3  
-1.2





9	32	31.4	13	42.7	-32	27.4	pF 1.0 by .3 at 90°
	32	33.4	13	42.20	-32	27.2	bM spin st. in u
		1.19		14		27.3	
				1	26	-7.5	
			13	43	40	-32°	34.8
	31	47.9	13	40	42	-31°	50.0
3	31	45.5	13	40	45	-31°	50.4
		1.18		1	44		50.2
				<del>*</del>	25		-7.6
			13	42	9	-31°	57.8
7	31	36.9	13	41	6	-31°	36.9
8	31	34.8	13	41	<del>29</del>	-31°	36.5
		1.17		6			36.7
				1	25		-7.6
			13	42	31	-31°	44.3
5	31	26.9	13	41	8	-31°	9.1
5	30	58.1	13	41	7	-31°	9.0
		1.17		8			9.0
				1	25		-7.6
			13	42	33	-31°	16.6
9	30	45.4	13	41	58	-30°	48.7
5	30	58.1	13	42	0	-30°	48.1
		1.16	13	41	59		48.4
				1	24		-7.6
			13	43	23	-30°	56.0

88

-2.2

13.3

10910

13 41 51.9

-3.0

-26.9

10912

13 41 52.5

$$\begin{array}{r}
 -10.2 \\
 8.8 \\
 -13.9 \\
 \hline
 -12.0
 \end{array}$$
89

2.1

12.9

10910

1.2

-27.6

10912

$$\begin{array}{r}
 9.7 \\
 8.4 \\
 5.5 \\
 \hline
 4.8
 \end{array}$$
90

27.2

~~22.2~~

-10.1

10865

13 38 26.3

-17.7

-13.5

10912

13 41 52.5

$$\begin{array}{r}
 126.2 + 03.0 \\
 81.8 \\
 -82.1 \\
 \hline
 -90.8
 \end{array}$$
91

13.0

-6.3

10865

-32.1

-9.7

10912

$$\begin{array}{r}
 60.3 \\
 52.0 \\
 -118.5 \\
 \hline
 -12.2
 \end{array}$$
92

31.9

-2.5

10865

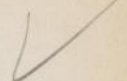
-13.2

-5.9

10912

$$\begin{array}{r}
 148.5 \\
 127.6 \\
 -61.2 \\
 \hline
 -52.8
 \end{array}$$





30	45.4	13	41	42	-30°	32.1	pB 1.2 by .2 at 135°
30	4.5	13	41	40	-30°	31.4	psbM spin
	1.16			41		31.8	

			<u>1 24</u>			<u>-7.6</u>	
13	43	5	-30°	39.4			

		13	42	1	-30°	32.5	pB 1.2 by .3 at 0°
		13	41	59	-30°	32.1	psbM spin
1.16		13	42	0		32.3	
			<u>1 24</u>			<u>-7.6</u>	
		13	43	24	-30°	39.9	

30	9.2	13	40	<sup>32</sup> <del>7</del>	-30°	19.3	pB 1.2 by .9 psbM Red
30	4.5	13	40	30	-30°	18.0	
	1.16			31		18.7	
			<u>1 24</u>			<u>-7.6</u>	
		13	41	55	-30°	26.3	

		13	39	27	-30°	15.5	F .8 by .1 at 100° spin
		13	39	24	-30°	14.2	st. inv.
1.16				26		14.8	
			<u>1 24</u>			<u>-7.6</u>	
		13	40	50	-30°	22.4	

		13	40	55	-30°	11.7	F .5 by .6 M
		13	40	52	-30°	10.4	
1.16				54		11.0	
			<u>1 24</u>			<u>-7.6</u>	
		13	42	18	-30°	18.6	

9333.7  
-11.31.3  
-2.010865  
10912

13	38	26.3	3
13	41	52.5	3
		156.6	
		<del>134.8</del>	
		<del>-52.4</del>	
		<del>-45.2</del>	

9440.2  
~~-9.8~~  
-4.8-2.5  
-6.0(?) 10865  
10912

	186.7
	<del>16.08</del>
	<del>-45.4</del>
	<del>-39.2</del>
	-22.2

951.3  
-21.1-13.9  
5.710591  
10912

13	40	8.6	12
13	41	52.5	3
		6.0	
		<del>5.2</del>	
		<del>-57.9</del>	
		<del>-4.4</del>	

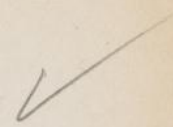
9610.9  
-11.8-8.9  
10.810591  
10912

	50.1
	<del>45.6</del>
	<del>-54.2</del>
	<del>-47.2</del>

97-11.9  
-10.6-3.7  
15.910591  
10912

	54.7
	<del>47.6</del>
	<del>-48.7</del>
	<del>-32.4</del>





3 30 9.2 13 41 3 -30° 17.9 eF .12 BM

5 30 4.5 13 41 0 -30° 6.5

1.16 2 7.7

1 24 -7.6

13 42 26 -30° 15.3

13 41 33 -30° 11.7 pB 1.2 by 2" at 90°

13 41 <sup>30</sup>7 -30° 10.5 psbM spin

1.16 32 11.1

1 24 -7.6

13 42 56 -30° 18.7

6 29 45.9 13 40 15 -29° 59.8 LF .36 BM

5 30 4.5 13 40 13 -29° 58.8

1.16 14 59.3

1 24 -7.6

13 41 38 -30° 6.9

13 40 59 -29° 54.8 pB 1.2 by 5" at 160°

13 40 58 -29° 53.7 psbM spin?

1.15 59 54.2

1 24 -7.6

13 42 23 -30° 1.8

13 41 3 -29° 49.6

13 41 3 -29° 48.6

1.15 3 49.1

1 24 -7.6

13 42 27 -29° 56.7

985.2  
-2.911.0  
-8.410607  
1061313 41 45.3 2  
13 42 22.3 2  
23.9  
~~20.6~~  
~~12.1~~  
~~11.6~~995.9  
-17.95.0  
2.410946  
1097213 43 43.4 3  
13 45 32.3 3  
27.3  
~~23.6~~  
~~83.0~~  
~~71.6~~1000.0  
-1.1-13.0  
1.510630  
1095213 44 1.3 2  
13 44 4.5 3  
0.0  
~~5.1~~  
~~4.4~~

Plate No. 8356

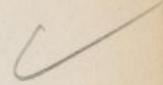
12.8  
-15.3-0.1  
3.05594  
560811 52 10.4 4  
11 53 54.3 4  
16.2  
11.2  
~~88.7~~  
~~61.2~~2(Supported)  
7.4  
0.7-0.3  
2.85594  
560842.9  
~~29.6~~  
~~62.0~~  
~~42.8~~



3	29	27.4	13	42	9	-29°	16.4	F .6 by .1 at 50° psbM
3	29	8.7	13	42	10	-29°	17.1	spin
		1.15			10		16.8	
					<u>1 24</u>		<u>-7.6</u>	
			13	43	34	-29	24.4	
4	30	36.2	13	44	11	-30°	31.2	p.B 1.4 by .7 at 150°
	30	34.4	13	44	9	-30°	32.0	6M spin
		1.16			10		31.6	
					<u>1 24</u>		<u>-7.6</u>	
			13	45	34	-30°	39.2	
29	56.3		13	44	1	-30°	9.3	pF .9 by .3 at 50° M
30	11.2		13	44	0	-30°	9.7	spin
	1.16				1		9.5	
					<u>1 24</u>		<u>-7.6</u>	
			13	45	25	-30°	17.1	
46	32.8		11	52	27	-46°	32.9	eF .3 by .1 at 50° 6M
3	46	36.2	11	52	25	-46°	33.2	
	1.45				26		33.0	
					<u>1 16</u>		<u>-8.4</u>	
			11	53	42	-46°	41.4	
			11	52	53	-46°	33.1	F .32 6M
			11	52	52	-46°	33.4	
	1.45				53		33.3	
					<u>1 16</u>		<u>-8.4</u>	
			11	54	9	-46°	41.7	

39.7  
-8.3511  
835594  
560811 52 10.4  
11 53 54.3  
56.2  
38.8  
-46.1  
-33.247.1  
-2.112.0  
-3.25628  
563211 55 40.3  
11 56 30.3  
39.1  
28.4  
-11.5  
-8.7513.1  
-13.5-10.1  
6.05758  
567911 57 18.6  
11 59 49.2  
75.4  
52.4  
-77.0  
-54.64'6.8  
-14.19.2  
-0.25674  
569811 59 33.7  
12 1 33.7  
39.7  
28.2  
-82.3  
-56.45'14.3  
-6.16.1  
-3.35674  
569868.9  
47.2  
-35.6  
-24.4





4	46	328	11	53	7	-46°	27.7	F .56/6M
3	46	36.2	11	53	6	-46°	27.9	
		1.45			7		27.8	
				<u>1</u>	<u>16</u>		-8.4	
			11	54	23	-46°	36.2	

3	43	42.7	11	56	19	-43°	30.7	F .76y.1 at 135° spin
3	43	27.5	11	56	19	-43°	30.7	
		1.38			19		30.7	
				<u>1</u>	<u>16</u>		-8.4	
			11	57	35	-43°	39.1	

2.0	45	53.6	11	58	33	-46°	3.7	e F .36/6M
2	46	9.9	11	58	32	-46°	3.9	
		1.44			33		3.8	
				<u>1</u>	<u>17</u>		-8.4	
			11	59	50	-46°	12.2	

7	46	48.1	12	0	14	-46°	38.9	F .36/6M
7	46	38.7	12	0	12	-46°	38.9	
		1.46			13		38.9	
				<u>1</u>	<u>17</u>		-8.4	
			12	1	30	-46°	47.3	

			12	0	43	-46°	42.0	V F .36
			12	0	57	-46°	42.0	
		1.46			52		42.0	
				<u>1</u>	<u>17</u>		-8.4	
			12	2	9	-46°	50.4	

6/

4.8  
-23.5-1.7  
5.35620  
5654

11	56	41.2
11	59	15.5
	26.3	
	19.2	
	-128.0	
	-94.0	

7/

19.5  
-8.6-6.6  
0.85620  
5654

10	6.9
7	8.0
-4	7.1
-3	4.4

8/

3.7  
-4.2-2.2  
3.25659  
5666

11	59	36.8
12	0	19.0
	20.4	
	11.8	
	-53.1	
	-16.9	

9/

5.2  
-0.47.3  
-0.95816  
5821

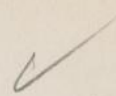
12	4	10.5
12	4	41.5
	28.7	
	20.8	
	-2.2	
	-1.6	

12/

23.5  
-1.0-4.9  
0.05881  
5900

12	6	25.7
12	8	41.1
	130.6	
	94.0	
	-2.5	
	-4.0	





42 56.0 11 57.7 -42° 57.7 p F .664.1 at 45° 6M

43 3.0 11 57.7 -42° 57.7 spin

1.37 7 57.7

1 16 -8.4

11 58 23 -43° 6.1

11 58 28 -43° 2.6 v F .16.6M

11 58 28 -43° 2.2

1.37 28 2.4

1 16 -8.4

11 59 44 -43° 10.8

43 42.8 11 59 57 -43° 45.0 v F .564.2 at 100°

43 48.4 11 59 56 -43° 45.2 spin st. ATT. 8

1.38 57 45.1

1 16 -8.4

12 1 13 -43° 53.5

45 50.0 11 4 39 -45° 42.7 F .964.2 at 45° 6M

45 41.8 11 4 39 -45° 42.7 spin st 10 mf 1

1.38 39 42.7

1 9 -8.1

11 5 48 -45° 50.8

44 0.7 11 8 36 -44° 51.6 v F .26.6M

44 4.7 11 8 36 -44° 41.7

1.39 36 51.2

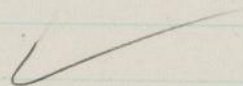
1 10 -8.2

11 9 46 -44° 13.4

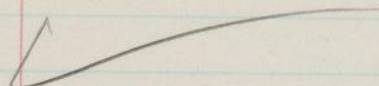
100.8 ✓  
-18.5 ✓2.7  
-11.25756  
576912 7 15.2  
12 8 41.2  
4.6  
-3.2  
-107.3  
-74.0114.3 ✓  
-15.0 ✓5.1  
-8.65756  
576924.9  
-17.2  
-87.0  
-66.0133.2  
-3.94.7  
-3.15707  
571312 11 8.8  
12 11 47.3  
16.0  
-12.8  
-32.0  
-23.61416.0  
-10.81.3  
-0.55713  
573112 11 47.3  
12 14 10.5  
87.0  
-64.0  
-58.7  
-43.21813.2  
-9.76.9  
-14.15731  
574012 14 10.5  
12 16 10.0  
71.8  
-52.8  
-52.7  
-38.8



416 37.1 12 7 20 -46° 34.4 cF .8 by .2' at 135°  
 46 23.9 12 6.54 -46° 35.1 bM spin  
 1.45



12 7 40-46° 32.0 vF .6 by .1' at 120°  
 12 7 14-46° 32.5 bM spin F str. att n  
 1.45



412 55.5 12 11 25 -42° 50.8 pF 1.1' by .2' at 30°  
 42 47.7 12 11 25 -42° 50.8 ps 1 bM spin  
 1.36 25 50.8  
 1 19 -8.3  
 12 12 44 -42° 59.1

42 47.7 12 13 14 -42° 46.4 F 1.5' R bM defect?  
 42 45.5 12 13 11 -42° 46.0  
 1.36 13 46.2  
 1 19 -8.3  
 12 14 32 -42° 54.5

42 45.5 12 15 22 -42° 38.6 cF .4' bM  
 42 24.0 12 15 28 -42° 38.1  
 1.36 25 38.3  
 1 19 -8.3  
 12 16 44 -42° 46.6

16

1.9  
-3.5  
7.6  
-14.0

-6.2  
11.7

5942  
5944

12 15 9.4  
12 15 41.9  
10.6  
-19.6

15

9.7  
-4.1  
38.8  
-16.4

4.0  
-1.2

5905  
5908

12 14 35.7  
12 15 48.2  
55.4  
-23.4

17

2.5  
0.3  
10.0  
1.2

4.8  
-4.9

5823  
5824

12 15 51.2  
12 16 1.7  
14.5  
1.7

Plate N<sup>o</sup> 62221

3.8  
-15.1  
15.2  
-60.4

-16.2  
4.7

172  
163

0 49 43.1  
0 51 1.7  
15.8  
-62.8

3

11.4  
-8.8  
45.6  
-35.2

-5.0  
15.0

172  
163

47.4  
-36.6



4 44 10.8 12 15 20 -44° 17.0 VF 2' d/bM  
 44 28.1 12 15 22 -44° 16.4  
 1.40 21 16.7  
 1 19 -8.3  
 12 16 40 -44° 25.0

57 45 35.5 12 15 31 -45° 31.5 VF 2' d/bM susp  
 52 45 29.9 12 15 35 -45° 31.1  
 1.43 28 31.3  
 1 19 -8.3  
 12 16 47 -45° 39.6

1.2 46 36.0 12 16 5 -46° 31.2 pF 1.0 by 2' at 95°  
 7 46 26.3 12 16 3 -46° 31.2 bM spins defect?  
 1.45 4 31.2  
 1 19 -8.3  
 12 17 23 -46° 39.5

3.1 15 54.2 0 49 59 -16° 18.4 VF 1.0 by 2' at 90° susp.  
 1.7 16 15.0 0 49 59 -16° 10.3  
 1.04 59 10.4  
 2 14 +14.4  
 0 52 13 -15° 56.0 ✓

0 50 36 -15° 59.2 VF 2' d/bM  
 0 50 25 -16° 0.0  
 104 28 -15° 59.6  
 2 15 +14.4  
 0 52 43 -15° 45.2 ✓

4

4.7  
-3.5  
18.8  
-14.0

5.0  
-5.0

201  
203

0 57 129  
0 57 50.5  
19.3  
-14.4

5

12.3  
1.1  
49.2  
4.4

2.4  
-3.9

204  
205

0 0 44.1  
0 1 31.1  
50.6  
4.5

6

6.3  
-16.2  
25.2  
-1.8

-13.9  
3.0

206  
189

0 1 14.6  
0 2 48.3  
26.2  
-0.8

2

6.7  
-15.9  
26.8  
-63.6

-14.8  
2.2

206  
189

27.8  
-66.1

7

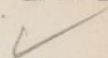
16.1  
-9.5  
64.4  
-38.0

0.0  
5.4

183  
188

0 0 32.8  
0 2 17.9  
66.9  
-39.5





14 42.3 0 57 32  $-14^{\circ}$  37.3 v F. 2d BM

14 32.1 0 57 36  $-14^{\circ}$  37.1

1.03 34 37.2

2 19 +14.4

0 59 53  $-14^{\circ}$  22.8

13 26.2 0 1 35  $-13^{\circ}$  23.4 e F. 1d BM a/mix

13 19.1 0 1 36  $-13^{\circ}$  23.0

1.03 36 23.4

2 18 +14.8

0 3 54  $-13^{\circ}$  8.6

15 57.0 0 2 40  $-16^{\circ}$  10.9 v F. 3 by .1 at  $45^{\circ}$

16 13.9 0 2 47  $-16^{\circ}$  10.9 spin.

1.04 44 10.9

2 14 +14.4

0 4 58  $-15^{\circ}$  56.5

0 1 43  $-16^{\circ}$  11.8 e F. 1d 1E susp

0 1 42  $-16^{\circ}$  11.7

1.04 43 11.8

2 14 +14.4

0 3 57  $-15^{\circ}$  57.4

16 43.3 0 1 40  $-16^{\circ}$  43.3 e F. 1d BM

16 49.2 0 1 39  $-16^{\circ}$  43.8

1.04 40 43.5

2 14 +14.4

0 2 54  $-16^{\circ}$  29.1

8

20.0  
-5.3  
80.0  
-21.2

-3.0  
2.3

143  
188

0 0 328  
0 2 179  
83.2  
-22.0

9

10.1  
-0.3  
40.4  
-1.2

-3.8  
4.0

190  
192

0 58 301  
0 59 142  
42.5  
-1.3

Plate No. 7228

1

19.0  
-11.2  
76.0  
-44.8

-2.2  
-3.9

1479  
1496

6<sup>n</sup> 24 49.7  
6 26 57.9  
81.3  
-47.9

Plate No. 6003

1

0.8  
-29.9  
3.2  
-119.6

-12.2  
-16.7

15666  
15693

19 46 39.4  
19 48 49.9  
3.5  
-130.9

2

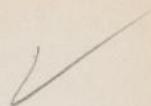
51  
-25.2  
20.4  
-100.8

-13.2  
-17.8

15666  
15693

22.4  
-111.1





8	16	43.3	0	1	54	-16°	46.3	v F .3 d bM
	16	49.2	0	1	56	-16°	46.9	
		1.04			55		46.6	
					<u>214</u>		<u>+14.4</u>	
			0	4	9	-16°	32.2	

1	17	22.5	0	59	13	-17°	26.3	v F .2 d bM
2	17	30.3	0	59	13	-17°	26.3	
		1.05			13		26.3	
					<u>214</u>		<u>+14.5</u>	
			1	1	27	-17°	11.5	

7	20	58.4	6	26	11	-20°	56.2	e F .3 d bM
9	20	59.6	6	26	10	-20°	55.7	
		1.07			11		55.9	
					<u>14</u>		<u>-0.6</u>	
			6	27	14	-20°	56.3	

1	24	50.0	19	46	43	-25°	2.2	e F .1 d bM
9	24	45.6	19	46	38	-25°	2.3	
		1.10			41		2.2	
					<u>731</u>		<u>+3.7</u>	
			19	48	12	-24°	58.5	

	24		19	47	2	-25°	3.2	v F .5 by .2 at 90°
	24		19	46	59	-25°	3.1	bM spin
		1.10	19	47	1		3.3	
					<u>131</u>		<u>+3.7</u>	
			19	48	32	-24°	59.6	

3

22.1	-10.2	15666	19 46 39.4
-8.1	-14.7	15693	19 48 49.9
88.4			97.2
-32.4			-35.6

4

4.0	11.1	15942	19 54 50.7
-5.9	-3.2	15953	19 55 33.4
16.0			17.4
-23.6			-25.7

5

20.9	-8.1	5614	19 57 35.6
0.1	7.7	5620	19 59 6.2
83.6			90.2
0.4			0.4

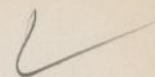
PLATE N<sup>o</sup> 90261

6.0	0.3	10799	18 48 0.1
-7.1	-1.9	10807	18 49 19.1
24.0			36.7
-28.4			-43.4

2

1.9	-0.8	9132	18 51 16.7
-7.8	21.9	9138	18 52 10.7
7.6			11.2
-31.2			-46.1





4 24 50.0 19 48 17 -25° 0.2 VF 1.2d bM q/m+  
 24 45.6 19 48 14 -25° 0.3  
 110 16 0.2  
1 31 +3.8  
 19 49 47 -24° 56.4

7 23 49.8 19 55 8 -23° 38.7 F 3.6 by 1.2' at 90° bM  
 4 23 35.4 19 55 7 -23° 38.6 spir?  
 109 8 38.6  
1 29 +4.2  
19 56 37 -23° 34.4

6 21 24.8 19 59 6 -21° 32.9 pF 1.2 by .7' at 20°  
 21 39.8 19 59 7 -21° 32.1 psu bM spir?  
 108 7 32.5  
1 28 +4.2  
 20 0 35 -21° 28.3

49 10.6 18 48 37 -49° 10.3 F 3d bM  
 49 8.6 18 48 36 -49° 10.5  
 153 37 10.4  
1 55 +1.7  
 18 50 32 -49° 8.7

7 47 21.3 18 51 28 -47° 22.1 F 7.6 by 1' at 0° bM  
 7 47 43.9 18 51 25 -47° 22.0 spir  
 148 27 22.0  
1 55 +1.7  
 18 53 22 -47° 20.3

3	6.9	10.8	10816	18 50 24.1	4
	-7.3	-4.7	10826	18 51 54.1	4
	27.6			42.2	
	-29.2			-44.6	

4	4.1	13.9	10026	18 54 59.0	4
	-4.2	-5.7	9162	18 55 50.2	4
	16.4			24.4	
	-16.8			-24.8	

4'	8.3	1.1	9604	18 56 32.3	4
	-7.9	-1.0	9617	18 58 6.3	4
	33.2			48.4	
	-31.6			-46.1	

8	3.0	16.5	9648	19 3 33.3	4
	-6.9	8.3	9652	19 4 32.3	4
	12.0			17.9	
	-27.6			-41.1	

8'	0.9	1.6	9648		
	-9.2	-6.6	9652		
	3.6			5.1	
	-36.8			-52.9	



1	49	26.2	18	51	6	-49° 15.4	F .3d 6M
	49	11.5	18	51	10	-49° 16.2	
		1.53		8		15.8	
				1	54	+1.8	
			18	53	2	-49° 14.0	
2	48	15.3	18	55	23	-48° 1.4	pB .7by.2 at 30° psbM
	47	56.1	18	55	25	-48° 1.8	spin
		1.49		24		1.6	
				1	53	+2.0	
			18	57	17	-47° 59.6	
3	46	47.4	18	57	21	-46° 46.3	pB .7by.4 at 135°
	46	45.3	18	57	20	-46° 46.3	psbM spir 1h?
		1.46		21		46.3	
				1	51	+2.1	
			18	59	12	-46° 44.2	
3	46	14.5	19	3	51	-47° 58.0	cF .5d 96M
	46	6.5	19	3	51	-47° 58.2	
		1.49		51		58.1	
				1	52	+2.3	
			19	5	43	-47° 55.8	
			19	3	38	-46° 12.9	cB 12' by .7 at 115°
			19	3	39	-46° 13.1	psbM spir rh
		1.44		39		13.0	
				1	51	+2.2	
			19	5	30	-46° 12.8	

9

4.0  
-2.0  
16.0  
-8.0

-6.0  
6.7

9654  
9658

19 4 37.8 4  
19 5 11.8 4  
23.4  
-11.6

9'

1.7  
-9.3  
6.8  
-37.2

-4.9  
5.7

9658  
9663

19 5 11.8 4  
19 6 16.3 4  
9.9  
-34.3

13

11.2  
-7.9  
44.8  
-31.6

-0.6  
-0.4

9663  
9676

19 6 16.3 4  
19 8 6.9 4  
65.4  
-46.1

14

18.0  
-1.2  
72.0  
-4.8

-0.5  
-0.3

9663  
9676

105.0  
-7.0

18

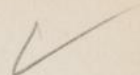
7.0  
-3.0  
28.0  
-12.6

-6.9  
0.6

9712  
9717

19 19 16.8 4  
19 20 16.7 4  
40.9  
-17.5





46	31.0	19	5	1	-46°	37.0	pF .8 by .1 at 60°
46	43.5	19	5	0	-46°	36.8	psbM spin
	1.46			1		36.9	
				1	51	+2.3	
		19	6	52	-46°	34.6	
46	43.5	19	5	22	-46°	48.4	pB 1.3 by .3 at 150°
46	53.9	19	5	22	-46°	48.2	psbM spin
	1.46			22		48.3	
				1	51	+2.3	
		19	7	13	-46°	46.0	
46	53.9	19	7	22	-46°	54.5	pF .9 by .1 at 135°
46	54.0	19	7	23	-46°	54.4	psbM spin
	1.46			23		54.4	
				1	51	+2.3	
		19	9	14	-46°	52.1	
		19	8	1	-46°	54.4	pF 1.2 by .1 at 120°
		19	8	2	-46°	54.3	psbM spin st & nf
	1.46			2		54.4	1.2
				1	51	+2.3	
		19	9	53	-46°	52.1	
46	43.3	19	19	58	-46°	50.2	F .9 by .1 at 160° bM
46	50.6	19	19	59	-46°	50.0	spin
	1.46			59		50.1	
				1	51	+2.3	
		19	21	50	-46°	47.8	

15

12.7

0.0

9661

19 7 341

-1.8

0.5

9671

19 8 54.6

50.8

72.6

-7.2

-10.2

7

4.1

7.5

9199

19 2 15.7

-0.2

-0.7

9204

19 2 41.7

16.4

24.2

-0.8

-11.8

7'

3.8

-4.7

9210

19 3 54.2

-2.5

2.2

9213

19 4 29.7

15.2

22.3

-10.0

-14.7

11

4.1

-4.1

9216

19 4 57.2

-2.4

10.1

9220

19 5 35.2

16.4

24.1

-9.6

-14.1

16

18.0

6.0

10111

19 8 78

-1.0

-1.9

9238

19 10 0.2

72.0

1073

-4.0

-6.0



4

45	49.9	19	8	47	-45°	49.9	pF .32 bM
45	50.7	19	8	45	-45°	50.2	
	1.43			46		50.0	
				<u>1 49</u>		<u>+2.4</u>	
		19	10	35	-45°	47.6	
7	47	42.6	19	2	40	-47°	35.1 pB 1.2 by .2 at +30°
47	34.6	19	2	30	-47°	35.3	16M spin st. 9 ATT
	1.48			35		35.2	nf
				<u>1 52</u>		<u>+2.3</u>	
		19	4	27	-47°	32.9	
2	47	11.6	19	4	17	-47°	16.3 pB .62 psum bM
7	47	18.2	19	4	15	-47°	16.0
	1.47			16		16.2	
				<u>1 52</u>		<u>+2.3</u>	
		19	6	8	-47°	13.9	
2	47	6.0	19	5	21	-47°	10.1 pF 1.2 by .3 at 55°
47	20.1	19	5	21	-47°	10.0	16M spin bet 2 stars
	1.47			21		10.0	
				<u>1 52</u>		<u>+2.3</u>	
		19	7	13	-47°	9.7	
48	4.9	19	9	55	-47°	58.9	pB .8 by .3 at 150° bM
47	57.3	19	9	54	-47°	59.2	spin
	1.49			55		59.0	
				<u>1 52</u>		<u>+2.4</u>	
		19	11	47	-47°	56.6	

5

9.7

7.8

10059

18 58 47.0

-17.5

5.2

10076

19 1 29.9

(38.8)

58.2

(70.0)

105.0

6

20.2

-1.2

10059

-6.9

7.1

10076

(80.8)

121.2

(-27.6)

-41.4

12

3.9

-0.9

10097

19 5 53.4

-4.6

-0.8

10103

19 6 44.9

(15.6)

23.4

(-18.4)

-27.6

17

4.1

15.1

10142

19 14.0.0

~~18.0~~

-1.8

10148

19 15 13.3

~~-8.1~~

(16.4)

24.6

(-72.0)

~~-108.0~~

-32.4

-48.6

10

4.0

-2.9

10889

19 3 28.6

-9.2

-0.2

10899

19 4 51.1

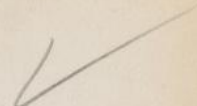
(16.0)

24.8

-36.8

-57.0





0 48 16.8 18 59 45-48° 11.0 vF 15 by 2 at 60° BM  
 48 16.5 18 59 45-48° 11.3 spin  
 1.50 45 11.2  
1 53 +2.1  
 19 1 38 -48° 9.1

19 0 48 -48° 17.6 F 16 BM st s 8'  
 19 0 48 -48° 17.6  
 1.50 48 17.6  
1 53 +2.1  
 19 2 41 -48° 15.5

4 48 5.0 19 6 17 -48° 5.9 pF 1.3 by 1.9 at 60°  
 19 48 5.0 19 6 17 -48° 5.8 9 16 M spin  
 1.50 17 5.8  
1 53 +2.1  
 19 8 10 -48° 3.7

48 23.5 19 14 25 -48° 8.4 pF 1.6 by 2 at 125°  
 48 7.0 19 ~~13~~<sup>14</sup> 25 -48° 8.8 9 6 M spin  
 1.50 25 8.6  
1 53 +2.1  
 19 16 18 -48° 6.3

6 49 50.9 19 3 53 -49° 53.8 F 1.3 by 2 at 140° BM  
 49 53.6 19 3 54 -49° 53.8 spin  
 1.55 34 53.8  
1 54 +2.3  
 19 5 48 -49° 51.5

Plate No. 1836

3.3	-19.5	1855	13 5 0.9
-32.9	7.0	1856	13 8 1.8
-13.2			- 19.1
-131.6			- 191.0

28.6v	10.2	2109	13 20 41.6
- 0.9v	-5.7	1872	13 23 32.0
114.4			164.7
-3.6			267.3
			- 5.1

19.7	9.1	2103	13 11 33.9
0.2	-3.8	2108	13 13 28.8
28.8			118.9
.8			1.2

1' = 1 mm.

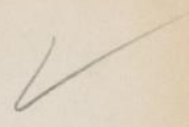
4" = mm.

+24.0v	-13.7	2062	13 23 8.9
+4.8v	8.9	1875	13 25 7.0
+96.0			140.2
+19.2			+28.0

Sign of  
measure  
wrong.

22.8	3.2	1881	13 27 59.4
- 3.7	-5.2	2073	13 30 30.5
91.2			133.1
-14.8			-21.7





46 45.5 13 4 42 46 26.0 F .8 by .2 at 10° 6M

46 21.6 13 4 51 46 27.6 spin

1.45 47 26.8

1 27 -8.0

13 6 14 46° 18.8

45 58.3 13 <sup>23 26</sup>~~24~~ 8 46° 8.5 cF 1.2 by .3 at 100°

46 13.6 13 23 27 46° 7.9 6M spin

1.44 27 8.2

1 29 -7.8

13 24 56 46° 0.4

48 18.7 13 13 33 48° 27.8 F .6 by .2 at 120° 6M

48 32.6 13 13 30 48° 28.8 spin

1.51 32 28.3

1 28 -7.9

13 14 59 48° 20.4

47 8.3 13 <sup>e</sup> 25 29 46 54.6 pF .6 by .3 at 0° 6M

46 45.5 13 ~~25~~ 3<sup>5</sup>~~8~~ 46 54.4 spin

1.46 34<sup>2</sup> 54.5

1 29 -7.6

13 27 18 46° 46.87

46 53.5 13 30 13 46° 56.7 vF .7 d 16M 1R

47 2.0 13 30 8 46° 57.8 spin susp.

1.46 11 57.2

1.47 1 30 -7.7

13 31 41 46° 49.5

6/

9.0      -36.5  
 -11.5      16.8  
 36.0  
 -46.0

2074

13 32 42.8 -41

2077

13 34 33.2 -4

53.2

-68.1

Plate No. 10054

2.1      6.7  
 -5.9      -13.1  
 8.4  
 -23.6

8898

11 4 32.2 20

8905

11 5 8.8 20

12.6

-35.4

Plate No. 6303

2x9.9      4.0  
 -18.0      4.2  
 11 9.6  
 -72.0

2785

9 5 48.6 -1

2800

9 9 3.2 -1

123.6

-74.2

Plate No. 8962

10.0      -6.5  
 -11.3      6.7  
 40.0  
 -45.2

4323

20 28 9.4 -1

4328

20 29 33.0 -1

40.0

-45.2

2/

9.0      -0.9  
 -21.3      0.1  
 36.0  
 -85.2

4334

20 31 30.9 +

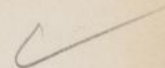
4343

20 33 31.9 +

36.0

-85.2





417 53.8 13 33 36 47° 17.3 F .32 BM

47 0.0 13 33 25 47° 16.8

1.48 31 17.0

1 31 -7.7

13 35 2 47° 9.3

29 46.7 11 41 45 -29° 40.0 pF .32 BM

29 27.3 11 41 34 -29° 40.4

1.50 39 40.2

1 13 -8.1

11 55 2 -29° 48.3

-13 1.3 9 7 52 -12° 57.3 F .22 BM 1E at 90°

-13 1.2 9 7 50 -12° 57.0

1.03 51 57.2

1 17 +10.8

9 9 8 -12° 46.4

20.8 20 28 49 +1° 14.3 F .42 RBM

7.5 20 28 48 +1° 14.2

1.00 49 14.2

2 17 +9.4

20 31 6 +1° 23.6

+1 32.3 20 32 7 +1° 31.4 CF .8 by .2 at 35°

+1 31.5 20 32 14 +1° 31.6 BM spin

1.00 11 31.5

2 17 +9.4

20 34 25 +1° 40.9

3

13.8  
-16.8  
55.2  
-67.2

-0.1  
0.8

4334  
4343

20 31 30.9  
20 33 31.9  
55.2  
-67.2

4

2.1  
-18.6  
8.4  
-74.4

-1.7  
-2.1

4075  
4079

20 35 48.5  
20 37 10.7  
8.4  
-74.4

6

3.8✓  
~~29.8~~✓  
25.0  
15.2  
~~119.2~~  
100.0

7.1  
~~7.0~~  
4.7

4089  
~~4102~~  
4079

20 38 34.5  
20 37 10.7  
~~41.2~~ 9.7  
15.2  
~~119.2~~  
100.0

10

29.9✓  
~~3.7~~✓  
51.5  
119.6  
~~14.8~~  
206.0

9.8  
~~7.2~~  
-5.0

4089  
~~4102~~  
4079

119.6  
~~14.8~~  
206.0

7

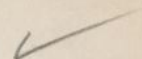
3.1  
-27.8  
12.4  
-111.2

-21.9  
8.5

4585  
4101

20 39 114.5  
20 41 2.0  
12.4  
-111.2





+1 32.3 20 32 26 +1° 32.2 CF .8 by .2 at 45°

+1 31.5 20 32 15 +1° 32.3 bM spin

1.00 26 32.2

2 17 +9.4

20 34 43 +1° 41.6

5 -0 37.7 20 35 57 -0° 39.4 vF .2 by .1 at 85° spin

-0 36.7 20 35 57 -0° 38.8

1.00 57 39.1

2 19 +9.9

20 38 16 -0° 29.2

5 -0 52.0 20 38 50 -0° 44.9 F .2 by .1 bM

7 -0 36.7 20 39 29 -0° 43.6

1.00 38 50 43.7

44.3

50

2 19 +9.9

20 41 9 -0° 34.4

20 40 34 -0° 42.2 CF 1.2 by .1 at 60°

20 41 15 -0° 41.1 spin

1.00 40 37 41.7

42.0

2 19 +9.9

20 42 55 -0° 32.1

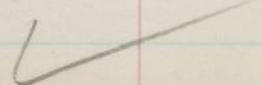
4 -0 9.7 20 39 14 -0° 12.2 F .7 by .1 at 135° bM

0 -0 19.9 21 39 11 -0° 11.4 spin

1.00 13 11.8

2 19 +9.9

2 41 32 -0° 1.9



172

NGC 6959	10.6 -20.2 42.4 -80.8	-16.3 14.0	4585 4101	20 39 1.4 20 41 2.0 42.4 -80.8
NGC 6961	11.3 -19.3 45.2 -77.2	-20.3 9.9	4585 4101	45.2 -77.2
NGC 6962	13.4 -17.2 53.6 -68.8	-23.0 7.3	4585 4101	53.6 -68.8
NGC 6963	13.2 -17.3 52.8 -69.2	-11.7 18.7	4585 4101	52.8 -69.2
IC 5058	13.8 -17.0 55.2 -68.0	-13.1 17.2	4585 4101	55.2 -68.0





+0 9.7 20 39 44 -0° 6.6 p F 15 by 1' at 60° b M  
 -0 19.9 20 39 41 -0° 5.9 spin  
 1.00 43 6.2

2 19 +9.9  
 20 42 2 -1° 56.3

20 39 47 -0° 10.6 F 22 b M  
 20 39 45 -0° 10.0  
 1.00 46 10.3

2 19 +9.9  
 20 42 5 -0° 0.4

20 39 55 -0° 13.3 p B 22 R b M  
 20 39 53 -0° 12.6  
 1.00 54 13.0

2 19 +9.9  
 20 42 13 -0° 3.1

20 39 54 -0° 2.0 p F 12 b M  
 20 39 53 -0° 2.2  
 1.00 54 2.1

2 19 +9.9  
 20 42 13 -1° 52.2

20 39 57 -0° 3.1 c F 12 by 1' at 75°  
 20 39 54 -0° 2.7 b M spin  
 1.00 56 3.0

2 19 +9.9  
 20 42 15 -1° 53.1

NGC 6964

14.8      -24.1  
 -16.0      6.2  
 59.2  
 -64.0

4585

20 39 1.4

4101

20 41 2.0

59.2

-64.0

NGC 6965

15.0      -17.5  
 -15.8      12.8  
 60.0  
 -63.2

4585

60.0

4101

-63.2

NGC 6966

15.3      -20.1  
 -15.2      10.2  
 61.2  
 -60.8

4585

61.2

4101

-60.8

NGC 6967

17.2      -17.3  
 -13.4      12.9  
 68.8  
 -52.8

4585

68.8

4101

-52.8

9

10.5      2.3  
~~-27.0~~  
~~-23.2~~  
 42.0  
 -108.0

4050

20 39 16.9

4056

20 41 45.0

42.0

-108.0





4 +0 9.7 20 40 1 -0° 14.4 pB .2d bM  
 -0 19.9 20 39 58 -0° 13.7  
 1.00 20 40 0 14.0  
       2 19 +9.9  
 20 42 19 -0° 4.1

20 40 1 -0° 7.8 pB 1d 5/mi x  
 20 40 59 -0° 7.1  
 1.00 20 40 0 7.4  
       2 19 +9.9  
 20 42 19 -1° 57.5

20 40 2 -0° 10.4 v F 11d bM  
 20 40 1 -0° 9.7  
 1.00 20 40 0 10.0  
       2 19 +9.9  
 20 42 21 -0° 0.1

20 40 10 -0° 7.6 pB .4 by .2' at 110° bM  
 20 40 10 -0° 7.0 spins st f .9'  
 1.00 20 40 0 7.3  
       2 19 +9.9  
 20 42 19 -1° 57.4

9 -1 21.7 20 39 59 -1° 19.4 pF .2d bM st ATT  
 5.0 -1 35.1 20 39 57 -1° 20.0 30°  
 1.00 20 40 0 19.8  
       2 19 +9.4  
 20 42 17 -1° 10.4

176

5	7.2 <del>2.2</del> -7.2 28.8 -8.8 -28.8	13.1 4.2	4037 4040	20 36 4.8 20 37 4.4 28.8 -8.8 -28.8	-1 -1
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8	4.4 <del>6.3</del> 17.6 -25.2	3.0 -1.6	4049 4052	20 38 58.8 20 39 39.9 17.6 -25.2	-1 -1
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11	4.6 <del>15.8</del> ✓ -0.1 ✓ 18.4 <del>63.2</del> -0.4	32.5 <del>11.7</del> 4.3	4056 <del>4102</del> ✓ 4057 4060	20 41 45.0 20 41 29.7 20 41 30.1 18.4 <del>63.2</del> -0.4	-1 -1
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12	4.6 <del>16.0</del> ✓ 0.1 ✓ 18.4 <del>64.0</del> +0.4	4.3 <del>11.6</del> 4.3	4056 <del>4102</del> 4057	18.4 <del>64.0</del> 0.4	
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13	+17.9 ✓ -6.9 ✓ +71.6 -27.6	-4.1 2.2	4056 4060	20 41 45.0 20 43 7.4 +71.6 -27.6	-1 -1
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-1 37.3 20 36 34 -1° 24.2 F .26/6M

-1 29.2 20 36 ~~35~~ -1° 25.6

1.00 35 24.6

2 19 +9.4

20 38 54 -1° 15.2

-1 56.0 20 39 16 -1° 53.0 5.F .26/6M

-1 52.3 20 39 25 -1° 53.9

1.00 21 53.4

2 19 +9.4

20 41 40 -1° 44.0

42 3

-1 35.1 20 41 48 -1° 2.0 ✓ F .26 by .1 at 20°

-1 5.6 20 41 50 -1° 1.3

1.00 49 1.7

2 19 +9.4

20 44 8 -2° 52.3

20 44 15

20 42 34 -1° 1.9 eF .36 by .1 at 30°

20 41 50 -1° 1.3

1.00 20 42 10 1.6

2 19 +9.4

20 44 29 -2° 52.2

15

-1 35.1 20 42 56 -1° 39.2 F .26/6M

-1 40.4 20 42 41 -1° 38.2

1.00 48 38.7

2 19 +9.4

20 45 7 -1° 29.3

## Plate No. 6134

✓	4.8	20.7	15820	19 4 10.4	-
	-4.9	-7.9	15833	19 4 57.1	-
	19.2			22.0	
	-15.6			- 17.9	

## Plate No. 7424

✓	5.6	3.0	9368	18 23 51.2	-4
	-0.7	-8.1	9374	18 24 27.2	-4
	22.4			32.7	
	-2.8			- 4.0	

## Plate No. 6252

✓	10.3	-3.0	874	6 23 57.0	4
	-14.1	1.8	865	6 26 15.5	4
	41.2			60.5	
	-56.4			-82.9	

2/	10.4	-2.9	874		
	-14.0	1.9	865		
	41.6			61.1	
	-56.0			-82.3	

## Plate No. 2512 03

✓	18.8				
	<del>13.8</del>	-20.3	2345	12 13 38.2	40
	-6.3	4.3	2331	12 19 28.9	4
	75.2			104.5	
	<u>55.2</u>			<del>81.1</del>	
	-25.2			-37.0	
				-35.0	



✓

1 -29 35.0 19 4 32 -29° 14' 3" VF 15' d p 56 M  
 -29 7.2 19 4 39 -29° 15' 1"  
 1.15 36 14.6  
 1 35 +2.3  
 19 6 11 -29° 12' 3"

2 -46 41.2 18 24 24 -46° 38' 2" eF 13' d 1/2 M  
 -46 30.0 18 24 24 -46° 38' 1"  
 1.46 24 38.2  
 1 52 +0.9  
 18 26 16 -46° 37' 3"

45 55.7 6 24 57 -45° 58' 7" VF 20' d 6 M sp of 2  
 46 0.3 6 24 52 -45° 59' 5" R  
 1.47 54 59.1  
 0 43 -0.4  
 6 25 37 -45° 59' 9"

6 24 58 -45° 58' 6" VF 20' d 6 M nf of 2  
 6 24 53 -45° 59' 4"  
 1.47 56 59.0  
 0 43 -0.8  
 6 25 39 -45° 59' 8"

2 44 22.4 12 15 23 44° 2' 1" pF 30' d 6 M  
 43 57.0 12 18 54 44° 1' 3"  
 1.39

pos. not completed  
 1 P.M.

✓

Aug 30 - 1922  
 DHM obs - L. C. J. H. C.





446 allowed by 17  
61 for 560  
57 for 620  
6. - 650  
7 for - 790



1922phae.proj.2310M