

Telescope: G14

Frame prefix #: FR88F

Day of Week: Sun, 1/14

RA offset: 27

Focus: 3612

Humidity:

Sheet #: 1

Observers: F.K., D. S., Rick Porter

Date MST/OT: 1/4/02

Dec offset:

Tailpiece: 37

Balance:

Temp @/I:

| Exp # | Object | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set     | Dec set  | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|--------|----------|-------------|-------------------|---------------|------------|----------|----------------------|---|
| 001   | Ven    | 0.05     | OI          | 200               |               |            |          | 4:10                 | 2.12 clear                                  |
| 002   | "      | 0.04     | 7810        | 11000             |               |            |          | 5:20                 | 2.64 "marked"                               |
| 003   | "      | 0.1      | 7800        |                   |               |            |          | 5:27                 | 2.81  |
| 004   | "      | "        | "           |                   |               |            |          | 5:32                 | 2.94  |
| 005   | air    | "        | 7993        | 1600              |               |            |          |                      |   |
| 006   | "      | "        | "           | 2700              |               |            |          | 5:44                 | 3.15 W (3.10)                               |
| 007   | "      | "        | "           | 1600              | 4:04          |            |          | 5:51                 | 3.15 E                                      |
| 008   | "      | "        | "           | 3700              |               |            |          |                      | 3.15 E                                      |
| 009   | "      | "        | "           | 2900              | 4:17          |            |          | 4:14                 | 3.15 E                                      |
| 010   | "      | "        | "           | 2600              |               |            |          |                      | 3.15 E                                      |
| 011   | "      | "        | 7810        | 13700             |               |            |          |                      | 3.15 E                                      |
| 012   | "      | "        | "           | 11700             |               |            |          |                      | 3.15 E                                      |
| 013   | "      | "        | "           | 6600              |               |            |          |                      | 3.15 E                                      |
| 014   | Plate  | 2m       | 4-0-        | 2200/1600         | 8:20:18       | 14:15:19.7 | 10:38:52 | 10:44                | 1-20 drifted                                |
| 15    | "      | 2m       | "           | 2300/1600         | 8:40:18       | 14:16      |          | 1:12                 | 1-24 (we first to vent (-0.0003 W) this is) |



Telescope: 61"

Frame prefix #: FR88F

Day of Week: MON/TUE

RA offset:

Focus:

Humidity: 10 Sheet # 13

Observers: FINIL, DISANT, PORTER

Date MST/OT: MAY 02/03

Dec offset:

Tailpiece: 37  
Balance:

Temp @ I: 41°/40°

HDKS say filter = 'R'

| Exp # | Object  | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set      | Dec set   | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.)            |
|-------|---|----------|-------------|-------------------|---------------|-------------|-----------|----------------------|--|
| ✓ 20  | VENUS   | 1.0      | 6300 + NE10 | 7700/90           |               |             |           |                      | no mark  |
| ✓ 19  | VENUS   | 1.0      | 6300 + NE10 | 1300/90           |               |             |           |                      | mark   |
| ✓ 21  | VENUS   | 0.05     | 7850/330    | 2200 mark         | 3:21          | 5:33:35     | +27:42:50 | +4:57                | WITH MASK IN Van turk                                  |
| ✓ 22  | VENUS   | 0.05     | 7850/330    | 2700 mark         | 3:26          | 5:33:37     | +27:42:53 | +5:02                | WITH MASK IN Van turk                                  |
| ✓ 23  | VENUS   | 0.05     | 7850/330    | 2800 2700         | 3:28          | 5:33:38     | +27:42:55 | +5:07                | WITH MASK IN <u>but</u>                                |
| ✓ 24  | VENUS   | 0.05     | 7850/330    |                   | 3:34          | 5:33:39     | +27:42:58 | +5:11                | WITH MASK IN   |
| NOTE  | EXP # 21 TO # 24 TAKEN MOVING TELESCOPE WEST ONLY FEW ARC SEC. EACH FRAME |          |             |                   |               |             |           |                      |  |
| ✓ 25  | VENUS   | 1.0      | 6300 + NE10 | 1400              | 3:38          | 5:33:34     | +27:43:00 | +5:15                | WITH MASK OUT  |
| ✓ 26  | VENUS   | 15.0     | 6300 + NE10 | 1700              | 3:40          | 5:33:39     | +27:43:02 | +5:17                | WITH MASK IN (FRISON TO SHOW FIBRE (POSITION OF MASK)) |
| ✓ 27  | VENUS   | 15.0     | 6300 + NE10 | 1600              | 3:50          | 5:33:42     | +27:43:08 | +5:27                | WITH MASK IN (REMOVED ALL ILLUMINATED VENUS)           |
| ✓ 28  | VENUS   | 0.05     | 7850/330    |                   | 3:54          | 5:33:43     | +27:43:15 | +5:31                | WITH MASK IN not well foc                              |
| ✓ 29  | VENUS   | 0.5      | 7860/80     | 500 1800          | 3:59          | 5:33:45     | +27:43:20 | +5:36                | WITH MASK IN   |
| ✓ 30  | SAD #   | 10s      | 1m          | 8000              | 8:51:20       | 14 59 57.11 | 0 46 8.0  | 0 247.0              | 1.20   |
| ✓ 31  | "   | 10s      | "           | 7800              | ~ 8:51:23     |             |           | 0 252                | 1.21   |
| ✓ 32  | PR  | 2m       | "           | 250/130           | 8:58:28       | 14:55:10    | 0:39:25   | 1:15W                | 1.24   |

Telescope:   
 Frame prefix #: **FR88F** Day of Week: **Monday** RA offset:   
 Observers: **FINK, Porter, Deyant** Date MST/OT: **May 02/03** Dec offset:   
 R = 5670 Focus: **I = 285** Humidity: **Sheet # 4**   
 Tailpiece: **34** Balance: Temp @/I:

| Exp # | Object  | Exp time | Filter Slit       | Counts Object/Sky | Exp start MST | RA set                           | Dec set  | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|---------|----------|-------------------|-------------------|---------------|----------------------------------|----------|----------------------|---|
| ✓ 033 | Pluto   | 600      | 1.0 <sup>nm</sup> | 600/2400          | 9:03:45       | 14:55:10                         | +0:39:36 | 1:20                 | 1.25 $\mu$ drilled in $\mu$                 |
| ✓ 034 | "       | "        | "                 |                   | 9:20:38       |                                  |          | 1:36                 | 1.29 $\mu$ $\mu$ - .09                      |
| ✓ 035 | BS 1511 | 0.1      |                   | 6800              | 9:43:11       | 14:45:57                         | +0:55:57 | 2:09                 | 1.37  |
| ✓ 36  | "       | 0.15     |                   | 7200              | 9:44          |                                  |          | 2:10                 | 1.37 $\mu$                                  |
| ✓ 37  | "       | 0.15     |                   | 6400              | 9:46:52       |                                  |          | 2:13                 | 1.38  |
| ✓ 38  | BS 1868 | 0.30     |                   | 1260              | 9:58:42       | 15:45:50                         | +7:22:96 | 1:29W                | 1.18 $\mu$ Comp $\mu$                       |
| ✓ 39  | "       | 0.20     |                   | 7760              | 10:16:10      |                                  |          | 1:25                 | 1.18  |
| ✓ 40  | "       | 0.20     |                   | 9600              | 10:06         |                                  |          | 1:32                 | 1.19  |
| ✓ 41  | "       | "        |                   | 9000              | 10:18:20      |                                  |          | 1:44                 | 1.22  |
| ✓ 42  | "       | "        |                   | 8000              | 10:20:20      |                                  |          | 1:46                 | 1.22  |
| ✓ 43  | "       | "        | ✓                 | 8600              | 22:00         |                                  |          | 1:47                 | 1.23  |
| ✓ 44  | Temp 2  | 60       | R                 | ?                 | 11:00:35      | 16:10:49                         | +2:18:57 | 2:02                 | 1.34  |
| ✓ 45  |         | 300      | "                 | sluggish          | 11:05:20      |                                  |          | 2:06                 | 1.35 forgot comet rates                     |
| ✓ 46  |         | "        | "                 | 15000             | 11:14:20      | Bad readout / horizontal streaks |          | 2:15                 | 1.39 $\mu$ = -.016 $\mu$ = +.005            |
| ✓ 46  |         | "        | "                 | ✓                 | 11:24         |                                  |          | 2:25                 | 1.43  |

AXIS 2/3 full



Telescope:

Frame prefix #: FR88F Day of Week: Tues/Wed RA offset: Focus: 2934 Humidity: 18 Sheet #: 5-1  
 Observers: Emily, Peter, Disha Date MST/UT: May 03/04 Dec offset: Tailpiece: Balance: Temp @ I: 52/55

New tape

| Exp # | Object | Exp time | Filter Slit | Counts Object/Sky | Exp start MST UT | RA set | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|--------|----------|-------------|-------------------|------------------|--------|---------|----------------------|---|
| 047   | Ves    | 1.0      | OI + ND10   | 16000             | ~ 2:10           | Bias   |         |                      |   |
| 48    | "      | 0.1      | 110         |                   | 2:18             | +0.180 | +0.005  | 2:58                 | 1.93 tracking not dead                      |
| 49    | "      | "        | POF         |                   | ~ 2:28           |        |         | 4:15                 | 1.92  |
| 50    | "      | "        | "           | 270               | 3:29             |        |         | 5:07                 | 2:39 no E 0.15                              |
| 51    | "      | "        | "           | 200               | 3:31             |        |         | 5:09                 | 2:42 E ~ 0.25                               |
| 52    | "      | 0.2      | "           | 370               | 3:32             |        |         | 5:10                 | 2:44 <u>no noise</u>                        |
| 53    | "      | "        | "           | 570               | 3:33             |        |         |                      | 2:46 E ~ 0.2                                |
| 54    | "      | "        | "           |                   | 3:34             |        |         | 5:13                 | 2:48 E ~ 0.2                                |
| 55    | "      | 0.1      | "           | 2000              | 3:35             |        |         |                      | 2:17 <u>no noise</u>                        |
| 56    | "      | "        | "           |                   | 3:37             |        |         |                      | 2:14 ?                                      |
| 57    | "      | "        | "           | 2000              | 3:38             |        |         | 5:16                 | 2:15  |
| 58    | "      | "        | "           |                   | 3:39             |        |         | 5:17                 | 2:18 E 0.10                                 |
| 59    | "      | "        | "           |                   | 3:40             |        |         |                      | 2:60 E ~ 0.2 S                              |
| 60    | "      | "        | "           |                   | 3:41             |        |         | 5:19                 | 2:62 E ~ 0.2                                |
| 61    | "      | "        | "           |                   | 3:42             |        |         | 5:                   | 2:65  |

(1)

Telescope:

Frame prefix #: *FR88F* Day of Week: *Tues/Wed* RA offset: Focus: Humidity: Sheet #: *6*  
 Observers: *Frank Porter DiSanto* Date MST/OT: *May 03/04* Dec offset: Tailpiece: Balance: Temp @/I:

| Exp # | Object     | Exp time | Filter Slit    | Counts Object/Sky | Exp start MST | RA set                       | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|------------|----------|----------------|-------------------|---------------|------------------------------|---------|----------------------|---|
| ✓ 62  | <i>Yma</i> | 0.2      | <i>red HUA</i> |                   | 2:44          |                              |         | 5:22                 | 2.69  |
| ✓ 63  | "          | 0.2      | "              |                   | 3:45          | <i>flat field calcs</i>      |         | 5:28                 | 2.71 <i>write to tape</i>                   |
| ✓ 64  | "          | 0.2      |                |                   | ~3:17         | <i>in beam - removed it!</i> |         |                      | <i>2nd grad is very yell!</i>               |
| ✓ 65  | "          | 0.2      |                |                   | 5:16          |                              |         | 5:54                 | 2.99  |
| ✓ 66  | "          | "        | "              |                   | 3:17          |                              |         |                      | 3.01  |
| ✓ 67  | "          | "        | "              |                   | 5:18          |                              |         |                      |   |
| ✓ 68  | "          | "        |                |                   | 5:19          |                              |         | 5:54                 | 2.09  |
| ✓ 69  | "          | "        |                |                   | 4:16:32       |                              |         |                      |   |
| ✓ 70  | "          | "        | "              |                   | 4:01          |                              |         |                      |   |
| ✓ 71  | "          | "        | "              | <i>2200-300</i>   | 4:02          |                              |         | 5:40                 | 3.20  |
| ✓ 72  | "          | "        | "              |                   | 4:03          |                              |         |                      |   |
| ✓ 73  | "          | 0.5      | "              | <i>~5000</i>      | 4:04          |                              |         | ~5:43                | 3.27  |
| ✓ 74  | "          | "        | "              |                   | 4:06          |                              |         |                      |   |
| ✓ 75  | "          | "        | "              | <i>~5000</i>      | 4:07          |                              |         |                      |   |
| ✓ 76  | <i>y</i>   | "        | "              |                   | 4:08          |                              |         |                      | 3.40  |



Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humidity:

Sheet #: 8

Observers:

Date MST/OT:

Dec offset:

Tailpiece:

Balance:

Temp @/I:

| Exp #   | Object                 | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|---------|------------------------|----------|-------------|-------------------|---------------|--------|---------|----------------------|---|
| ✓ 92    | RS <sup>str</sup> 5711 | 0.08     | 1m          | 6500              | 01:13:27      |        |         | -0:17                | 1.23  |
| ✓ 93    | "                      | 0.10     | "           | 7000              | 01:14         |        |         |                      | 1   |
| 12 ✓ 94 | "                      | "        | "           | 8700              | 01:16         |        |         | -0:14                | 1.22 drift a little to edge                 |
| ✓ 95    | RS <sup>cap</sup> 1868 | 0.15     | "           | 8400              | 01:22         |        |         | -2:08                | 1.24  |
| ✓ 96    | "                      | "        | "           | 9400              | 01:23         |        |         | -2:08                | 1.28  |
| ✓ 97    | "                      | "        | "           | 9300              | 01:25         |        |         |                      | 1   |
| ✓ 98    | "                      | "        | "           | 10000             | 01:26         |        |         |                      | 1.27  |
| ✓ 99    | "                      | "        | "           | 9100              | 01:27         |        |         | 2:05                 | 1 hole to the                               |
| ✓ 100   | Photo                  | 10m      | "           | 8000              | 01:40:50      |        |         | -1:0                 | 1.22  |
| ✓ 101   | "                      | "        | "           | 8300              | 6:52:40       |        |         | -0:27                | 1.20 sl. W <sup>2"</sup> guide              |
| ✓ 102   | "                      | "        | "           | 8200              | 7:03:38       |        |         | -0:30                | 1.19 1" W                                   |
| ✓ 103   | "                      | "        | "           | 7700              | 7:11:48       |        |         | -0:29                | 1.18 ~3" w (0.15)                           |
| ✓ 104   | "                      | "        | "           | 8200              | 7:27:30       |        |         | -0:13                | 1.18 Mike amp. h?                           |
| ✓ 105   | "                      | "        | "           | 7200              | 7:39:32       |        |         | 0:00                 | 1.18 E ~2"                                  |
| ✓ 106   | "                      | "        | "           | 8000              | 7:50:08       |        |         | +0:11                | 1   |

Moon ~ 45° E of E

Telescope: \_\_\_\_\_ RA offset: \_\_\_\_\_ Focus: \_\_\_\_\_ Humidity: \_\_\_\_\_ Sheet #: 9

Frame prefix #: \_\_\_\_\_ Day of Week: \_\_\_\_\_ Tailpiece: \_\_\_\_\_ Balance: \_\_\_\_\_ Temp @/I: \_\_\_\_\_

Observers: \_\_\_\_\_ Date MST/OT: \_\_\_\_\_ Dec offset: \_\_\_\_\_

| Exp #          | Object     | Exp time | Filter Slit | Counts Object/Sky   | Exp start MST     | RA set | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|----------------|------------|----------|-------------|---------------------|-------------------|--------|---------|----------------------|---|
| 8 ✓ 107        | R          | 60s      | 1m          | 700                 | 8:02:31           |        |         | +0:22                | 1.18  |
| ✓ 108          | "          | "        | "           | 700                 | 8:14:20           |        |         | 0:34                 | 1.19 guide? "w 3" X 1.5                     |
| ✓ 109          | "          | "        | "           | 700 <sup>1/2m</sup> | 8:26:09           |        |         | 0:46                 | 1.20 no guide                               |
| ✓ 110          | "          | "        | "           | 750                 | 8:47              |        |         | 0:58                 | 1.21 ~ 3" w                                 |
| 12 ✓ 111       | "          | "        | "           | 800                 | 49:50             |        |         | 1:10                 | 1.23 ~ 2" w                                 |
| ✓ 112          | "          | "        | "           | 750                 | 9:00:50           |        |         | 1:21                 | 1.25 no guide                               |
| <del>113</del> |            |          |             |                     |                   |        |         | top of column        | with to eye                                 |
| ✓ 113          | "          | "        | "           | 780                 | 9:20:43           |        |         | 1:41                 | 1.28  |
| ✓ 114          | "          | "        | "           | 730                 | 9:32              |        |         | 1:53                 | 1.33 wa 2" X 3"                             |
| ✓ 115          | "          | "        | "           | 2900/2200           | 9:44:27           |        |         | 2:05                 | 1.37 E ~ 4"                                 |
| ✓ 116          | "          | "        | "           | 7400/2200           | 9:56:25           |        |         | 2:17                 | 1.42 E ~ 2" N ~ 5"                          |
| ✓ 117          | "          | "        | "           | 8200/2200           | 10:08:35          |        |         | 2:29                 | 1.47 E ~ 2"                                 |
| ✓ 118          | "          | "        | "           | 8550/2200           | 10:20:05          |        |         | 2:40                 | 1.54 E ~ 4"                                 |
| 12 ✓ 119       | "          | "        | "           | 7600/2200           | 10:31:20          |        |         | 2:52                 | 1.60 E ~ 5"                                 |
| ✓ 120          | SAO CMP 50 | 50       | "           | 590                 | 47:49<br>10:46:08 |        |         | 3:08                 | 1.74  |

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humidity:

Sheet #: 10 - 1

Observers:

Date MST/OT:

Dec offset:

Tailpiece:

Balance:

Temp @/I: 40/46

| Exp #     | Object   | Exp time | Filter Slit | Counts Object/Sky | Exp start MST           | RA set                          | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-----------|----------|----------|-------------|-------------------|-------------------------|---------------------------------|---------|----------------------|---|
| ✓ 101 121 | SAD      | 8.0      | 10          | 9900              | 10:48:16                |                                 |         | 3:09                 | 1.73  |
| ✓ 122     | "        | "        | "           | 9200              | 10:50                   |                                 |         | 3:10                 | 1.74  |
| ✓ 123     | "        | "        | "           | 9000              | 10:51:05                |                                 |         | 3:11                 | 1.74  |
| ✓ 124     | PLUTO    | 600      | "           | 8600/2400         | 10:55:08                |                                 |         | 3:16                 | 1.78  |
| ✓ 125     | "        | "        | "           | 7300              | 11:06:25                | Reduped out of slit             |         | 3:27                 | 1.89 <sup>EST. 1822</sup> 14H E=2H          |
| ✓ 126     | "        | "        | "           | 8900/2900         | 11:27:32 <sup>end</sup> | check his for - mag (for - red) |         | ~2.0                 | E=9H  |
| ✓ 127     | "        | "        | "           |                   | 11:28:15                | take his out                    |         |                      | done in last E=8H                           |
| ✓ 128     | SAD      | 8.0      | "           | 9500              | 11:45:47                | .                               |         | 4:06                 | 2.43  |
| ✓ 129     | "        | "        | "           | 9300              |                         |                                 |         |                      |   |
| ✓ 130     | "        | "        | "           | 10000             | 46:57                   |                                 |         | 4:07                 | 2.47  |
| ✓ 131     | "        | "        | "           |                   | 47:13                   |                                 |         | 4:08                 | 2.49  |
| ✓ 132     | 1865 Cap | 0.2      |             | 9700              | 11:52:22                |                                 |         | 3:22                 | 6.67  |
| ✓ 133     | "        | "        |             | 12000             | 13:47                   |                                 |         | .                    | "   |
| ✓ 134     | "        | 0.15     |             |                   | 54:16                   |                                 |         | 3:24                 | 1.68  |
| ✓ 135     | "        | "        |             | 8600              |                         |                                 |         |                      | 1.69  |





Telescope: 61"

Frame prefix #: FR28F

Day of Week: Wed/Th

RA offset: 10<sup>h</sup> 42<sup>m</sup> 5<sup>s</sup>

Focus: 3920

Humidity:

Sheet #: 12-1

Observers: Fink / Porter

Date MST/OT: 12/04/05

Dec offset:

Tailpiece: 37

Balance: 370

Temp @/I:

| Exp # | Object | Exp time | Filter Slit    | Counts Object/Sky | Exp start MST | RA set               | Dec set | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|--------|----------|----------------|-------------------|---------------|----------------------|---------|----------------------|---|
| 142   | Yes    | 1.0      | OT<br>+ filter | ~1300             | 22:17         | +0.160 <sup>hr</sup> | 0.0     | 29:38                | 1.87  |
| 143   | "      | 10.0     | "              | ~400<br>370       | 3:02          |                      | turn    | 4:34                 | 1.91  |
| 144   | "      | "        | "              | ~90               | 3:05          |                      | ↑       | 4:36                 | 1.94 0.35 G                                 |
| 145   | "      | 0.2      | POA            | ?                 | 3:08          |                      |         | 4:40                 | 1.98  |
| 146   | "      | 0.5      | "              | 400               | 3:10          |                      |         |                      |   |
| 147   | "      | 0.5      | "              | 500               | 3:12          |                      |         |                      | 2.02  |
| 148   | "      | 0.5      | "              | ~600              |               |                      |         |                      | End 1.5                                     |
| 149   | "      | 0.5      | "              | ~400              | 3:15          |                      |         |                      | End 2.5                                     |
| 150   | "      | "        | "              | ~400              | 3:17          |                      |         | 4:42                 | 2.04 End 2                                  |
| 151   | "      | "        | "              | ~300              | 3:18          |                      |         |                      | End 2.5                                     |
| 152   | "      | "        | "              | ~340              | 3:20          |                      |         | 4:42                 | 2.13  |
| 153   | "      | "        | "              | ~1000             |               |                      |         |                      |   |
| 154   | "      | "        | "              | ~1000             | 3:28          |                      |         | 4:59                 | 2.25 No pm                                  |
| 155   | "      | "        | "              | ~                 | 3:29          |                      |         | 5:01                 | 2.27  |
| 156   | "      | 0.2      | "              | ~300              | 3:30          |                      |         | 5:02                 | E 0.2                                       |

Telescope  
 12 m  
 18 m  
 18 m  
 18 m

Telescope: 6"

Frame prefix #: J8F Day of Week: RA offset: Focus: Humidity: Sheet #: 13  
 Observers: Fik/Pate Date MST/OT: 12/24/05 Dec offset: Tailpiece: Balance: Temp @I: 40/45

| Exp #         | Object | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set                     | Dec set   | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|---------------|--------|----------|-------------|-------------------|---------------|----------------------------|-----------|----------------------|---|
| ✓ 157         | Ven    | 0.2      | 330A        | ~700              | 3:30          |                            |           | 1:02 2.40            |   |
| ✓ 158         | "      | 0.2      | 110         | ~650              | 5:39          |                            |           |                      |   |
| ✓ 159         | RS Cen | 0.1c     | OI          | 19270             | 6:08          |                            |           | W 1:31 1.13          | 1.5" seeing<br>Cuz hub 4<br>427.8, 409.5    |
| ✓ 160         | "      | 30s      | "           | set.              | 6:28          |                            |           |                      | 427.8, 409.5                                |
| ✓ 161         | "      | 10s      | "           |                   |               |                            |           | ~2:30 ~1:30          | best  |
| ✓ 162         | "      | 10s      |             |                   | 7:20          | touch out on right<br>mark |           | ~2:45 1.33           | best  |
| ✓ 163         | "      | 0.1c     | R           |                   | 7:20          |                            |           | 5:15 1.47            | well centered                               |
| 5" mark ✓ 164 | S Her  | 1.0      | OI          |                   | 9:36          | - good                     | - 1" mark | +0:05 1.6            | 5" an hr<br>427 403                         |
| ✓ 165         | S Her  | 10.0     | "           |                   | 9:37          | - good                     | - 1" mark | +0:06 1.6            | 427 403                                     |
| ✓ 166         | "      | "        | "           |                   |               | - good                     | - 1" mark | +0:10 1.6            |   |
| ✓ 167         | "      | "        | "           |                   |               | - good                     | - 1" mark |                      | 427 401<br>best hub                         |
| ✓ 168         | "      | 30.0     | "           |                   | 9:45          | vg good!                   |           |                      |   |
| ✓ 169         | "      | 1.0      | R           |                   |               | good                       |           |                      |   |
| ✓ 170         | "      | 1.0      | R           |                   | 10:00         | good                       |           | +0:39 1.01           | WOW a ridge                                 |
| ✓ 171         | "      | 5.0      | "           |                   |               | vg good                    | ~         | 1.01                 | superb                                      |

TAPE 4

5" mark

5" mark



Telescope: 61"

Frame prefix #: 88F

Day of Week: Th/Fri.

RA offset:

Focus:

Humidity: 50 Sheet #: 15

Observers: Fink/Pate

Date MST/OT: Mar 05/06

Dec offset:

Tailpiece:

Temp @I: 36/40

Balance:

| Exp # | Object   | Exp time | Filter Slit | Counts Object/Sky | Exp start<br>MOT VT | RA set     | Dec set    | Hour-Angle<br>exp-start | Comments<br>(P.A., seeing, Moon, clouds, etc.) |
|-------|----------|----------|-------------|-------------------|---------------------|------------|------------|-------------------------|--|
| ✓ 175 | FF       | 0.5      | R           | 15700             |                     |            | 45° el.    | 0                       | 2 75W pairs<br>Faded                           |
| ✓ 176 | "        | "        | "           | 15700             | 3:11                |            | "          | "                       |  |
| ✓ 177 | "        | 1.0      | V           | 14100             |                     |            | "          | "                       |  |
| ✓ 178 | "        | "        | "           | 14220             | 5:19                |            |            |                         |  |
| ✓ 179 | "        | 10.0     | B           | 16800             | 3:17                |            |            |                         |  |
| ✓ 180 | "        | "        | "           | 17000             | 3:18                |            | "          | "                       |  |
| ✓ 181 | "        | 100s     | OI          | 12700             |                     |            |            |                         |  |
| ✓ 182 | "        | "        | "           | 12800             | 3:27                |            |            |                         | Munk slide at                                  |
| ✓ 183 | Frond    | 300s     | R           |                   |                     |            |            |                         |  |
| ✓ 184 | Can Sols | 5W       | R           | 4200/200          | 5:20:34             | 12:24:20.5 | +8:59:46.1 | +0:24                   | 1-11   |
| ✓ 185 | "        | 600      | R           | 7000              |                     |            |            | 1:38                    | 1-14   |
| ✓ 186 | "        | 600      | 0.5mm       |                   | 6:41:38             |            |            | 1:35                    | 1-18 edge of                                   |
| ✓ 187 | "        | "        | "           |                   | 7:15:00             |            |            |                         | edge of  |
| ✓ 188 | "        | 300s     | R           |                   | 7:24                |            |            |                         |  |
| ✓ 189 | P/West   | 300      | R           |                   | 7:36:24             | 13:01:28   | 35:11:08   | 2:09                    | 1-12   |

1-11 to 1-18 pairs  
 1-14 to 1-18 pairs  
 1-18 to 1-12 pairs

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humidity:

Sheet

116

Observers:

Date MST/OT:

Dec offset:

Tailpiece:

Balance:

Temp @ I: 29/35

| Exp # | Object              | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set     | Dec set   | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|---------------------|----------|-------------|-------------------|---------------|------------|-----------|----------------------|---|
| ✓ 190 | West KI             | 120      | 1.0         | 4200              | 7:54:35       | 13:02:01   | +35:51:23 | 2:27                 | 1.16 (Probably a star)                      |
| ✓ 191 | "                   | 300      | 0.25        |                   | 8:00:50       |            |           | 2:33                 | 1.18 (Star)                                 |
| ✓ 192 | FK4 scale test star | 0.2      | 1.0         | 5500              |               | 13:19:20   | 37:14:51  | 3:05                 | very humbly                                 |
| ✓ 193 | "                   | 0.2      | 1.0         | "                 |               |            | 37:16:00  | 4:00                 | moved tel. N                                |
| ✓ 194 | "                   | 0.2      | 1.0         | "                 |               |            | 14:35:19  | 3:05 ✓               | (South) back to center of slit              |
| ✓ 195 | "                   | 0.2      | 1.0         |                   |               |            | 37:13:10  | 3:20 ✓               | move tel. S                                 |
| ✓ 196 | West K-I            | 300      | R           |                   | 9:25:06       | 13:01:59.9 | +35:51:15 | 3:25                 | 1.24 mic 3" in 1800                         |
| ✓ 197 | Shoulder            | "        | "           |                   | 7:47          | 14:52:36   | 37:53:15  | 2:20                 | 1.14  |
| ✓ 198 | "                   | "        | "           |                   | 10:00:40      | "          | "         | 2:43                 | 1:20 west 15"                               |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |
|       |                     |          |             |                   |               |            |           |                      |   |

Top  
40  
(40%  
used)

1.452" / pixel



Telescope:

Frame prefix #: F188F Day of Week: Fri/Sat RA offset:  
 Observers: Porter D Santa Date MST/OT: M06/07 Dec offset:

seeing 4-5" (marginal)  
 Focus: 3610 Humidity: Sheet #: 1  
 Tailpiece: Balance: Temp @/I:

| Exp # | Object      | Exp time | Filter Slit | Counts Object/Sky | Exp start MST | RA set     | Dec set   | Hour-Angle exp-start | Comments (P.A., seeing, Moon, clouds, etc.) |
|-------|-------------|----------|-------------|-------------------|---------------|------------|-----------|----------------------|---|
| ✓ 199 | FR Leo Neb. | 5 sec    | R           | 22000             | 3:24:32       | 9:39:14    | +12:02:12 | 1:20 W               | 1.13 (425, 401)                             |
| ✓ 200 | "           | 15       | R           | 12000             | 3:43:30       |            |           |                      | 1.16 <i>part in</i>                         |
| ✓ 201 | "           | 30       | R           | Sat               | 3:45:05       |            |           | 1:44                 | 1.17 south on West side                     |
| ✓ 202 | Longmore    | 300      | R           |                   | 3:59:45       | 10:08:28   | 26:07:22  | 1:29 W               | 1.07 forgot to pull mask                    |
| ✓ 204 | "           | "        | R           | 6000/3400         | 4:07:05       |            |           | 1:37                 | 1.08 (418, 358)                             |
| ✓ 205 | "           | "        | R           | 5900/3400         | 4:35:45       |            | 26:07:03  | 2:05                 | 1.13 (413, 358)                             |
| ✓ 206 | Coma Sola   | 300      | R           |                   | 5:5:49        | 12:40:39   | 8:53:36   | 0:03 W               | 1.09  |
| ✓ 207 |             | 600      | 1.0mm       |                   | 5:26:20       |            |           | 0:24 W               | 1.10 may see NH2 0, b, 0.                   |
| ✓ 208 |             | 1800     | "           |                   | 42:15         | 12:40:38.3 | 8:53:30   | 0:40 W               | 1.11 no seeing but shy!                     |
| ✓ 209 | XENON       | 0.05     | 0.25        |                   |               |            |           |                      |   |
| ✓ 210 | "           | 0.20     |             |                   |               |            |           |                      |   |
| ✓ 211 | He          | "        |             |                   |               |            |           |                      |   |
| ✓ 212 | "           | 0.05     |             |                   |               |            |           |                      |   |

Skipped #203

New tape Spec ↓

-1

4

5