```
INT OBSERVING LOG (ISAAC NEWTON GROUP, LA PALMA)

TELESCOPE:             INT
DATE:                  1999 Sep 09/10
INT TAPE NR:           INTD 4175
OBSERVER:              M. Irwin + SNe
PROGRAMME:             WFS + M31
PATT/CAT:              WFS09
TELESCOPE OPERATOR:    M. Irwin
SUPPORT ASTRONOMER:

FOCUS:                 Prime
INSTRUMENT:            WFC
FILTER WHEEL (PF):     KP,g,r,i,z,U
CAMERA (IDS):          -
COLLIMATOR (IDS):      -
COLL. FOCUS (IDS):     -
GRATING (IDS):         -
DETECTOR:              EEV
PIXELS:                2048x4200
PIXEL SIZE (microns): 13.5
WINDOW:                Xstart=0, Xsize=2048, Ystart=0, Ysize=4200
BINNING:               in X=1, in Y=1

WEATHER:               Photometric and good seeing

OUTSIDE TEMP (deg C):   15              (FIRST HALF)
OUTSIDE TEMP (deg C):   15              (SECOND HALF)
HUMIDITY (%):           20              (FIRST HALF)
HUMIDITY (%):           33              (SECOND HALF)
CLOUD COVER (%):         0              (FIRST HALF)
CLOUD COVER (%):         0              (SECOND HALF)
DUST (0 - 2):            0              (FIRST HALF)
DUST (0 - 2):            0              (SECOND HALF)
SEEING (arcsec):        0.9             (FIRST HALF)
SEEING (arcsec):        0.9             (SECOND HALF)
AV. SEEING (arcsec):    0.9
NO. SEEING MEASURES:    15

UTC    TELESCOPE                 CASELLA OUT   CASELLA IN    SEEING
       AZ   ZD  Focus  TubeTemp  Temp   Humid  Temp   Humid  Det./TV  Comments

DARK HOURS:            08:49
DOME OPEN (UTC):       20:00
MOON PHASE (D/G/B):        D
DK HRS LOST (WEATHER):00:00
DK HRS LOST (TELESC): 00:00
DK HRS LOST (DOME):   00:00
DK HRS LOST (INSTR.): 00:00
DK HRS LOST (DET.):   00:00
DK HRS LOST (COMPS.): 00:00
DK HRS LOST (A&G):    00:00
DK HRS LOST (OTHER):  00:00

COMMENTS:

Good seeing and photometric all night

----

Run no. Object name              RA         Dec.     Equinox    AM    PA     UT       Exp. T.   Filter      Psys Channel  Binning Comments
```

194853	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:15:10.9	0.0	z	Gunn
194854	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:15:58.5	0.0	z	Gunn
194855	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:16:46.3	0.0	z	Gunn
194856	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:17:33.7	0.0	z	Gunn
194857	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:18:21.1	0.0	z	Gunn
194858	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:19:08.6	0.0	z	Gunn
194859	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:19:57.0	0.0	z	Gunn
194860	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	1.000	180.0	16:20:48.3	0.0	z	Gunn
194862	Flat field	15:55:00.00	+35:00:00.0	J2000.00	1.097	180.0	19:44:02.5	3.8	U	RGO
194863	Flat field	15:55:02.85	+35:00:35.0	J2000.00	1.100	180.0	19:45:24.7	5.3	U	RGO
194864	Flat field	15:55:02.84	+35:00:35.0	J2000.00	1.103	180.0	19:47:03.5	11.0	z	Gunn
194865	Flat field	15:55:01.22	+35:00:15.0	J2000.00	1.106	180.0	19:49:05.8	4.3	r	Sloan
194866	Flat field	15:55:03.66	+35:00:45.0	J2000.00	1.110	180.0	19:50:55.6	7.4	r	Sloan
194870	Flat field	15:55:05.29	+35:01:04.9	J2000.00	1.137	180.0	20:03:44.7	76.6	g	Sloan
194871	Focus run	18:42:44.99	+00:10:03.9	J2000.00	1.146	180.0	20:15:50.9	10.1	g	Sloan
194872	sa110-361 U	18:42:45.00	+00:08:03.9	J2000.00	1.143	180.0	20:20:11.1	30.1	U	RGO
194873	sa110-361 g	18:42:45.00	+00:08:03.9	J2000.00	1.143	180.0	20:21:43.4	10.1	g	Sloan
194874	sa110-361 i	18:42:45.00	+00:08:03.9	J2000.00	1.142	180.0	20:23:01.3	10.1	i	Sloan
194875	sa110-361 r	18:42:44.99	+00:08:04.0	J2000.00	1.142	180.0	20:24:23.4	10.1	r	Sloan
194876	sa110-361 Z	18:42:45.00	+00:08:04.0	J2000.00	1.141	180.0	20:25:35.5	8.3	z	Gunn
194877	wfsj1610+5430_044	16:15:39.00	+55:29:59.9	J2000.00	1.251	180.0	20:31:36.3	599.5	U	RGO
194878	wfsj1610+5430_046	16:18:53.80	+53:10:00.0	J2000.00	1.255	180.0	20:45:27.6	599.4	U	RGO
194879	wfsj1610+5430_047	16:18:58.00	+53:29:59.9	J2000.00	1.288	180.0	20:58:18.5	598.9	U	RGO
194880	wfsj1610+5430_045	16:15:41.90	+55:50:00.0	J2000.00	1.345	180.0	21:10:33.7	599.4	U	RGO
194881	wfsj1610+5430_019	16:08:13.19	+53:09:59.8	J2000.00	1.388	180.0	21:22:28.0	598.0	U	RGO
194882	wfsj1610+5430_028	16:11:46.79	+53:09:59.9	J2000.00	1.417	180.0	21:34:15.4	599.6	U	RGO
194883	wfsj1610+5430_036	16:11:53.98	+55:50:00.1	J2000.00	1.475	180.0	21:46:08.1	599.6	U	RGO
194884	sa113-163 U	21:42:35.00	+00:16:46.0	J2000.00	1.257	180.0	21:58:48.3	30.0	U	RGO
194885	sa113-163 g	21:42:34.99	+00:16:46.0	J2000.00	1.253	180.0	22:00:28.6	10.1	g	Sloan
194886	sa113-163 i	21:42:35.00	+00:16:46.0	J2000.00	1.250	180.0	22:01:44.5	10.1	i	Sloan
194887	sa113-163 r	21:42:35.00	+00:16:46.0	J2000.00	1.247	180.0	22:02:57.3	10.1	r	Sloan
194888	sa113-163 Z	21:42:35.00	+00:16:46.0	J2000.00	1.244	180.0	22:04:13.8	10.1	z	Gunn
194889	wfssgc031	23:00:00.00	-00:00:00.0	J2000.00	1.512	180.0	22:08:01.3	599.5	g	Sloan
194890	wfssgc031	23:00:00.00	-00:00:00.0	J2000.00	1.451	180.0	22:19:31.4	599.2	r	Sloan
194891	wfssgc050 g	23:38:00.00	+00:00:00.0	J2000.00	1.596	180.0	22:32:31.1	599.6	g	Sloan
194892	wfssgc050 r	23:38:00.00	-00:00:00.0	J2000.00	1.524	180.0	22:43:51.9	599.3	r	Sloan
194893	wfssgc047	23:31:59.99	+00:00:00.0	J2000.00	1.430	180.0	22:55:38.0	599.4	g	Sloan
194894	wfssgc049	23:36:00.00	+00:00:00.0	J2000.00	1.392	180.0	23:08:11.2	599.5	g	Sloan
194895	wfssgc053 g	23:44:00.00	+00:00:00.1	J2000.00	1.374	180.0	23:20:35.2	599.5	g	Sloan
194896	wfssgc053 r	23:44:00.00	-00:00:00.0	J2000.00	1.331	180.0	23:31:55.6	599.4	r	Sloan
194897	wfssgc058 g	23:54:00.00	+00:00:00.0	J2000.00	1.323	180.0	23:44:12.1	599.5	g	Sloan
194898	wfssgc058 r	23:53:59.99	-00:00:00.0	J2000.00	1.287	180.0	23:55:31.2	599.4	r	Sloan
194899	wfssgc068	0:14:00.00	+00:00:00.0	J2000.00	1.311	180.0	00:07:39.6	599.5	g	Sloan
194900	wfssgc070	0:18:00.00	+00:00:00.0	J2000.00	1.282	180.0	00:21:13.3	599.4	g	Sloan
194901	wfssgc076 g	0:29:59.99	-00:00:00.1	J2000.00	1.248	180.0	00:46:08.4	599.5	g	Sloan
194902	wfssgc076 r	0:30:00.00	-00:00:00.1	J2000.00	1.222	180.0	00:57:56.1	599.0	r	Sloan
194903	wfssgc078 g	0:34:00.00	-00:00:00.1	J2000.00	1.206	180.0	01:10:05.8	599.4	g	Sloan
194904	wfssgc078 r	0:34:00.00	+00:00:00.0	J2000.00	1.187	180.0	01:21:34.0	599.5	r	Sloan
194905	sa113-163 U	21:42:35.00	+00:16:46.0	J2000.00	1.295	180.0	01:33:56.8	30.0	U	RGO
194906	sa113-163 g	21:42:35.00	+00:16:46.0	J2000.00	1.300	180.0	01:35:28.9	10.1	g	Sloan
194907	sa113-163 i	21:42:35.00	+00:16:45.9	J2000.00	1.304	180.0	01:36:43.3	10.1	i	Sloan
194908	sa113-163 r	21:42:35.00	+00:16:46.0	J2000.00	1.308	180.0	01:38:00.9	10.1	r	Sloan
194909	sa113-163 Z	21:42:35.00	+00:16:46.0	J2000.00	1.312	180.0	01:39:13.6	9.6	z	Gunn
194910	wfssgc084 g	0:45:59.99	+00:00:00.1	J2000.00	1.175	180.0	01:42:19.3	599.6	g	Sloan
194911	wfssgc084 r	0:46:00.00	+00:00:00.0	J2000.00	1.162	180.0	01:53:27.1	599.5	r	Sloan
194912	wfssgc095 g	1:08:00.00	+00:00:00.1	J2000.00	1.173	180.0	02:05:21.9	599.5	g	Sloan
194913	wfssgc095 r	1:08:00.00	+00:00:00.0	J2000.00	1.161	180.0	02:16:32.4	599.4	r	Sloan
194914	wfssgc096 g	1:10:00.00	+00:00:00.0	J2000.00	1.152	180.0	02:28:44.4	599.5	g	Sloan
194915	wfssgc096 r	1:10:00.00	-00:00:00.0	J2000.00	1.146	180.0	02:40:16.0	429.6	r	Sloan
194916	wfssgc096 rep	1:10:00.00	-00:00:00.0	J2000.00	1.142	180.0	02:48:51.2	599.5	r	Sloan
194917	wfssgc103 g	1:23:59.99	-00:00:00.1	J2000.00	1.143	180.0	03:01:22.6	599.0	g	Sloan
194918	wfssgc103 r	1:24:00.00	+00:00:00.0	J2000.00	1.141	180.0	03:12:30.5	599.5	r	Sloan

194919	wfssgc115 g	1:47:59.99	+00:00:00.2	J2000.00	1.143	180.0	03:24:51.7	599.5	g	Sloan
194920	wfssgc115 r	1:48:00.00	+00:00:00.0	J2000.00	1.141	180.0	03:36:02.8	599.4	r	Sloan
194921	wfssgc133 g	2:24:00.00	+00:00:00.1	J2000.00	1.148	180.0	03:48:30.3	599.0	g	Sloan
194922	wfssgc133 r	2:24:00.00	+00:00:00.0	J2000.00	1.143	180.0	03:59:43.4	599.5	r	Sloan
194923	wfssgc096 g	1:09:59.99	+00:00:00.1	J2000.00	1.197	180.0	04:12:22.3	599.5	g	Sloan
194924	wfssgc098 g	1:14:00.00	+00:00:00.1	J2000.00	1.212	180.0	04:24:36.9	599.6	g	Sloan
194925	wfssgc108 g	1:33:59.99	+00:00:00.1	J2000.00	1.198	180.0	04:36:39.9	599.5	g	Sloan
194926	wfssgc109 g	1:35:59.99	-00:00:00.0	J2000.00	1.216	180.0	04:48:46.9	599.4	g	Sloan
194927	wfssgc110 g	1:38:00.00	-00:00:00.1	J2000.00	1.238	180.0	05:00:56.1	599.4	g	Sloan
194928	wfssgc122 g	2:02:00.00	+00:00:00.0	J2000.00	1.213	180.0	05:12:53.6	599.4	g	Sloan
194929	wfssgc123 g	2:03:59.99	-00:00:00.1	J2000.00	1.234	180.0	05:25:04.1	599.5	g	Sloan
194930	wfssgc124 g	2:06:00.00	-00:00:00.1	J2000.00	1.258	180.0	05:37:04.0	599.6	g	Sloan
194931	sa92-335 U	0:54:59.99	+00:44:12.9	J2000.00	1.577	180.0	05:48:20.7	30.0	U	RGO
194932	sa92-335 g	0:55:00.00	+00:44:13.0	J2000.00	1.587	180.0	05:49:54.1	10.0	g	Sloan
194933	sa92-335 i	0:55:00.00	+00:44:12.9	J2000.00	1.595	180.0	05:51:08.7	10.1	i	Sloan
194934	sa92-335 r	0:55:00.00	+00:44:13.0	J2000.00	1.603	180.0	05:52:20.9	10.1	r	Sloan
194935	sa92-335 Z	0:55:00.00	+00:44:12.9	J2000.00	1.612	180.0	05:53:32.5	10.1	z	Gunn