

Spectrograph ECHELLE Intensified Reticon TO CAM 12/5  
 Grating 5000 Log Sheet RAW/RET 14  
 Telescope 61" WYLLI Date 12/5-6/86 Observer RJD  
 Disk ORO 1318

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	S1277
		2	SKYEVEN	17A=0	+30	2 <sup>m</sup>	
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	SKYEVEN	4 1/2 HRW	+30	2 <sup>m</sup>	
		6	TH-AR		↑	90 <sup>s</sup>	
		7	Th Ar		↓	90 <sup>s</sup>	
H8779		8	<del>TH-AR</del>	02:23:53.6	-00:31:29	2 <sup>m</sup>	JAU Red Vet STD.
		9	Th Ar		↑	90 <sup>s</sup>	
		10	Th Ar		↓	90 <sup>s</sup>	
		11	(4)	00:25:45.9	-6:50:21	2 <sup>m</sup>	Asteroid
		12	Th Ar		↑	90 <sup>s</sup>	
		13	Th Ar		↓	90 <sup>s</sup>	
		14	G25-15	21:01:37	02:48:00	2 <sup>m</sup>	Halo Binaries
		15	Th Ar		↑	90 <sup>s</sup>	
		16	Th Ar		↓	90 <sup>s</sup>	
		17	S127141	21:51:28	06:37:42	2 <sup>m</sup>	
		18	Th Ar		↑	90 <sup>s</sup>	
		19	Th Ar		↓	90 <sup>s</sup>	
		20	S191333	22:39:17	-21:02:48	6 <sup>m</sup>	
		21	Th Ar		↑	90 <sup>s</sup>	
		22	Th Ar		↓	90 <sup>s</sup>	
		23	S165532	23:07:48	-13:34:54	6 <sup>m</sup>	
		24	Th Ar		↑	90 <sup>s</sup>	
		25	Th Ar		↓	90 <sup>s</sup>	
		26	G157-21	13:06:29	-2:49:18	2 <sup>m</sup>	
		27	Th Ar		↑	90 <sup>s</sup>	
		28	Th Ar		↓	90 <sup>s</sup>	
		29	G18-55	22:30:20	10:09:00	2 <sup>m</sup>	
		30	Th Ar		↑	90 <sup>s</sup>	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 12/15  
 Grating 3002 Log Sheet RAW RET 14  
 Telescope 61" Wyoth Date 12/5-6/86 Observer RJD  
 Disk ORO 1319

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	G190-10	23:05:39 41:35:12		7 <sup>m</sup>	Halo Binaries
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	G262-14	20:27:35 61:50:54		8 <sup>m</sup>	
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	G262-32	20:58:10 64:51:00		6 <sup>m</sup>	
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	G15725A	18:42:18.5 59:34:22		6 <sup>m</sup>	M Stars
		12			↑↓	90 <sup>s</sup>	
		13	G15725B	18:42:19.3 59:34:05		9 <sup>m</sup>	
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
		16	G1s 2	00:02:35 45:30:30		7 <sup>m</sup>	
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	H8779	01:23:53.6 -0:39:29		2 <sup>m</sup>	IAU Rad Vel Std
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	(9)	04:09:17.2 20:58:58		4 <sup>m</sup>	Asteroid
		23			↑↓	90 <sup>s</sup>	
		24	H26162	04:06:14.9 19:28:43		2 <sup>m</sup>	IAU Rad Vel Std
		25			↑	90 <sup>s</sup>	
		26		03:05:28	↓	90 <sup>s</sup>	
G37-26		27	<del>G191-55</del>	<del>05:53:04</del> 26:09:06		4 <sup>m</sup>	Halo Binaries
		28			↑	90 <sup>s</sup>	
		29			↓	90 <sup>s</sup>	
		30	G191-55	05:53:04 58:40:24		9 <sup>m</sup>	
		31			↑	90 <sup>s</sup>	
		32					



Intensified      Reticon TO CAM 12/5

Spectrograph ECHELLE      Log Sheet      RAW RET 14

Grating 3002      Observer RJD

Telescope 61" Wyeth      Date 12/5-6/86      Disk ORO 1321

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
	G79-63	03:41:21	09:47:00			10 <sup>m</sup>	Halos Binaries
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G7-20	04:02:47	10:54:54			11 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G171-58	00:22:26	47:46:12			2 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G216-45	23:25:02	49:59:12			7 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G171-3	23:30:57	42:34:06			2 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G172-38	01:02:41	49:11:18			7 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	G172-46	01:13:37	51:35:48			10 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	G172-49	01:17:59	51:43:24			2 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	G173-2	01:27:49	52:29:18			3 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G172-61	01:31:18	48:29:06			7 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	G172-58	01:28:13	47:44:54			5 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G243-6	01:06:30	61:16:48			2 <sup>1/2</sup> <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	

Intensified      Reticon  
TO CAM 12/5

Spectrograph ECHELLE      Log Sheet      RAW/RET 14

Grating 300l      Observer RJD

Telescope 61" Wyeth      Date 12/5-6/86      Disk ORO 1322

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
	G220-13	02:31:47	59:34:30			2 <sup>m</sup>	Halo Binaries
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	H037148	05:34:00.7	09:51:21			4 <sup>m</sup>	2 Ori
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G103-58	06:43:09	35:55:48			2 <sup>m</sup>	Halo Binaries
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G112-54	07:52:02	-1:16:54			2 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	G112-43	07:41:11	00:03:18			6 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G89-14	07:19:48	08:55:12			7 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G88-5	07:03:12	18:42:54			4 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	H26162	04:06:14.9	19:28:43			2 <sup>m</sup>	IAU Rad Vel Std
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	<del>IAU</del>
	H89449	10:17:01	19:43:51			2 <sup>m</sup>	IAU Rad Vel Std
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G1268	07:06:37	38:36:48			15 <sup>m</sup>	M Stars
	ThAr				↑	90 <sup>s</sup>	
	ThAr				↓	90 <sup>s</sup>	
	G1301	08:10:50	-13:45:48			10 <sup>m</sup>	
	ThAr				↑	90 <sup>s</sup>	

Intensified      Reticon

TO CAM 12/5

Spectrograph ECHELLE      Log Sheet      RAW/RET 14

Grating 3002      Observer RJD

Telescope 61" Wyeth      Date 12/5-6/86      Disk ORO 1323

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	G15319	08:40:02	09:44:18	9 <sup>m</sup>	M Stars
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	G15334	09:04:19	-8:36:20	10 <sup>m</sup>	
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	H74000	08:38:31	-16:09:35	8 <sup>m</sup>	Halo Binaries
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	G114-26	08:58:39	-3:49:36	5 <sup>m</sup>	
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	
		14	G114-48	09:11:32	-3:41:18	4 <sup>m</sup>	
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
		17	G16-73	09:43:07	-4:26:30	10 <sup>m</sup>	
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20	G41-34	09:20:06	11:29:06	2 <sup>m</sup>	
		21			↑	90 <sup>s</sup>	
		22			↓	90 <sup>s</sup>	
		23	G43-3	09:46:12	13:59:18	2 <sup>m</sup>	
		24			↑	90 <sup>s</sup>	
		25			↓	90 <sup>s</sup>	
		26	H89449	10:17:01	19:42:31	2 <sup>m</sup>	NO 0.5 IAU Rad Vel Std.
		27			↑	90 <sup>s</sup>	
		28			↓	90 <sup>s</sup>	
		29	+222411	11:48:59	22:23:36	5 <sup>h</sup> 1 <sup>m</sup>	Halo Binaries
		30			↑	90 <sup>s</sup>	
		31					
		32					



Intensified Reticon

TO CAM 1216

Spectrograph ECHELLE

Log Sheet

RAWRET 14

Grating 300 l

Observer RJD

Telescope 61" Wyeth

Date 12/5-6/86

Disk OR01325

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Change....	File	ID	1950.0 RA	Dec	L/R	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2				4 <sup>m</sup>	+30° Meridian
		3			↑	90 <sup>s</sup>	
		4				120 <sup>m</sup>	
		5				120 <sup>m</sup>	
		6				32 <sup>m</sup>	
Dec 5-7		7			↓	90s	5187A -clear-
		8		φ hours +30°		2m	
		9			↑	90s	
		10			↓	90s	
		11		4.5 West +30°		2m	
		12			↓	90s	
		13		4.5 West +30°		2 1/2 m	
		14			↑	90s	
		15			↓	90s	
		16	H 213014	22:25:46 17:00:28		3 1/4 m	IAU standard
		17			↑	90s	
		18	213014B	22:25:46 17:00:28		6m	IAU standard Binary
		19			↑	90s	
		20			↓	90s	
		21	G18-28	22:03:14 12:08:18		5 1/4 m	9.6/30 <del>HALO</del> HALO
		22			↑	90s	
		23			↓	90s	
		24	G188-30	21:53:03 32:24:24		11m	11.1/30    -clouds-
		25			↑	90s	-overcast-
		26			↓	90s	
		27	H4128	φφ:41:05 -18:15:39		2m	2.0 IAU standard
		28			↑	90s	-slipped for clouds-
		29			↓	90s	
		30	H4128			3m	2.0 IAU standard 3.0ND
		31			↑	90s	
		32					



Intensified Reticon

TO CAM 1216

Spectrograph ECHELLE

Log Sheet

RAW RET 14Grating 300RObserver RPSTelescope 61" WyethDate 12/6-7/86Disk ORO 1326

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	-cloudy-
	G130-32	2	23:57:31	+33:54:42		2.5m	8.5/20 HALOS
		3			↑	90s	
		4			↓	90s	
	G68-31	5	23:33:33	18:09:48		3.5m	7.7/20 "
		6			↑	90s	
		7			↓	90s	
	G129-42	8	23:52:30	20:06:24		3m	9.0/20 "
		9			↑	90s	
		10			↓	90s	
	G130-10	11	23:43:38	34:58:12		3m	9.1/30 " -clear-
		12			↑	90s	
		13			↓	90s	
	(4)	14	φφ: 26:09	-φ6:43.16		2m	8.3 Asteroid
		15			↑	90s	
		16			↓	90s	
	G128-45	17	23:15:33	31:15:30		15m	11.7/15 HALOS
		18			↑	90s	
		19			↓	90s	
	G29-25	20	23:19:46	11:53:06		16m	10.8/15 "
		21			↑	90s	
		22			↓	90s	
	GR5 908	23	23:46:38	02:07:37		9m	9.0/50 Mstars
		24			↑	90s	
		25			↓	90s	
	S128+27	26	23 49:24	02:39:09		2m	5.9/100
		27			↑	90s	
		28			↓	90s	
	GR5 4A	29	φφ: φ3: φ5	45:32:06		7.4m	8.9/40
		30			↑	90s	
		31					
		32					

Intensified Reticon

TO CAM 12/6

Spectrograph ECHELLE

Log Sheet

RAW RET 14

Grating 300R

Observer RPS

Telescope 61" Ulysses

Date 12/6-7/1986

Disk ORO 1327

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	GRS 4B	2	03:05	45:32		13m	9.0/40 M-stars - cloudy -
	TR-AR	3			↑	90s	
	TR-AR	4			↓	90s	
	SΦ 36250	5	15:41	14:16:52		3 1/2 m	7.6/100 "
	TR-AR	6			↓	90s	
	GRS 15A	7	15:41	43:44:37		6.5m	8.1/50 "
	TR-AR	8			↑	90s	
	TR-AR	9			↓	90s	
	GRS 14	10	14:28	40:40:18		5m	9.0/40 "
	TR-AR	11			↑	90s	
	TR-AR	12			↓	90s	
	SΦ 21738	13	04:46:19	56:48:10		8m	7.1/100 "
	TR-AR	14			↑	90s	
	TR-AR	15			↓	90s	
	GRS 34B	16	04:46:09	57:33:00		6.5m	7.5/100 "
	TR-AR	17			↑	90s	- stopped by clouds -
	TR-AR	18			↓	90s	
	H448	19	04:26:08	16:03:00		4 1/2 m	6.6 Hyades Binary
	TR-AR	20			↑	90s	
	TR-AR	21			↓	90s	
	VB 24	22	04:15:25	21:29:31		4m	5.7 "
	TR-AR	23			↑	90s	
	TR-AR	24			↓	90s	
	L81	25	04:37:22	12:29:04		20m	11.2 " - clear -
	TR-AR	26			↑	90s	
	TR-AR	27			↓	90s	
	G7-227	28	04:25:00	18:56:00		11m	" - cut short by clouds -
	TR-AR	29			↑	90s	
	/	30					
	/	31					
	/	32					



Intensified      Reticon  
TO CAM 12/8  
RAW RET 15

Spectrograph ECHELLE      Log Sheet

Grating 300R      Observer RPS

Telescope 61" Wyeth      Date 12/6-7/1986      Disk ORO 1329

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H100018	11:28:07	41:33:50	6m	7.0 <del>Handwritten</del> M stars
		3			↑	90s	
		4			↓	90s	
		5	H97916	11:13:19	02:21:36	9m	9.3/100 HALOS
		6			↑	90s	
		7			↓	90s	
		8	S138815	12:27:14	-03:02:57	2m	9.0/15 II
		9			↑	90s	
		10			↓	90s	
		11	SKY-DWN	4 hrs EAST	+10°	2 1/2 m	SKY
		12			↑	90s	
		13			↓	90s	
		14	SKY-DWN	φ Hours	+10°	2.0m	II
		15			↑	90s	
		16	INCAAD			120 <sup>MIN</sup>	
		17	INCAAD			120 <sup>MIN</sup>	
		18	INCAAD			64 <sup>MIN</sup>	
7-8 DEC 1986		19			↓	90s	5187 A - overcast -
		20	SKY-EVE	φ hours	+20°	2m	
		21			↑	90s	
		22			↓	90s	
		23	SKY-EVE	4.5 hrs W	+20°	2m	
		24			↑	90s	
2-9 DEC		25			↓	90s	
		26	SKYEVE	0h	+15	2m	
		27			↑	90s	
		28			↓	90s	
		29	SKYEVE	4.5 W	+15	2m	
		30				90s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 12/8  
 Grating 3000 Log Sheet RAW/RET 15  
 Telescope SH Date 12/8-9/86 Observer RM  
 Disk ORU 1330

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	65.63A <sup>o</sup>
		2	B AGR 21 22 56	-05 48		2 1/2 <sup>m</sup>	ND = 0.3 FILTER SALLY
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	L AGR 22 03 13	-00 34		2 1/2 <sup>m</sup>	" " "
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	FF AGR 21 58 01	-02 59		30 <sup>m</sup>	
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	λ AND 23 35 06	46 11		2 <sup>m</sup>	
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	6520 A 80μ SLIT
		14	α AURIGA 5 <sup>h</sup> 15.6	45 <sup>o</sup> 59		15 <sup>m</sup> IN	0.5 / 2.0 ND FILT KAROUSKA
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	6563A 80μ SLIT
		17	α AURIGA 5 <sup>h</sup> 15.6	45 <sup>o</sup> 59		8 <sup>m</sup> IN	0.5 / 2.0 ND FILT
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	5187A <sup>o</sup>
		20	S031092 18 38 37	59 29		4.5 <sup>m</sup>	MSTARS
		21			↑↓	90 <sup>s</sup>	
		22	G15 725A 18 42 18	59 34		10 <sup>m</sup>	
		23			↑↓	90 <sup>s</sup>	
		24	G15 726B 18 42 19	59 34		8 <sup>m</sup>	
		25			↑	90 <sup>s</sup>	
		26			↓	90 <sup>s</sup>	5293 A
		27	H200776 21 02 09	46 08		20 <sup>m</sup>	φ = 75 <sup>o</sup> M'CIROSKY
		28			↑	90 <sup>s</sup>	
		29	H200776 " "	" "		20 <sup>m</sup>	φ = 79 <sup>o</sup> CLDS + MOON ! BEWARE!
		30			↑	90 <sup>s</sup>	
		31					
		32					

Intensified Reticon

TO CAM 12/12

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 3600

Observer 12

Telescope 61" WYETH

Date 12/7-9/76

Disk ORO 1331

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	6563 Å
		2	L ORI 05:52:28	07:24		7 <sup>m</sup>	NO = 2.0 FILTER SALLY
		3			↑	90 <sup>s</sup>	
		4				120 <sup>m</sup>	5187
		5				120	
		6				120	
DEC 10/11		7				150 <sup>s</sup>	5187A 80 μ SLIT
		8	SKYEVEN 0 <sup>h</sup>	+15		120 <sup>m</sup>	
		9				90 <sup>m</sup> MIN	
		10				90 <sup>s</sup>	
		11	SKYEVEN 4 HRW	+15		2 <sup>m</sup>	
		12				90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	
		14	43705 06:15:21	09:20:24		20 <sup>MIN</sup>	8.0/500 (HYCCDS) F STARS
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
		17	HD 37148 05:34:00	09:51:21		6 <sup>MIN</sup>	8.5/ LAM ORI
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20	5076588 04:20:44	22:50:59		5 <sup>MIN</sup>	7.2/100 M STARS
		21			↑	90 <sup>s</sup>	
		22	GLS 169 04:26:02	21:48:47		7 <sup>MIN</sup>	8.3/40
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	GLS 176 04:40:00	18:52:06		13 <sup>MIN</sup>	9.9/40 (END IN OVERCAST)
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	H 26162 04:06:14	19:28:43		3 <sup>MIN</sup>	5.5/ IAU STND STAR
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
		31	H 81797 09:25:07	-08:26:28		2 <sup>MIN</sup>	2.0/ IAU STND STAR
		32			↑	90 <sup>s</sup>	

12/12

TO CAM

RAW RET 15

Intensified Reticon

Spectrograph ECHELLE

Log Sheet

Grating 700L

Observer GS

Telescope 6"

WYDR

Date Dec 10-11 1986

Disk ORO 1332

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
4 Inrands	1	INRANDS				120"19	5187A SPM SLIT	
	2	"				120	"	
	3	"				120	"	
12-13 Dec. 1986	4	Th-Ar			↓	90s	-overcast-	
	5	SKY-EVE	1hrs West	+20°		3m	Late sky = low cls ≈ 100	
	6	Th-Ar			↑	90s		
	7	Th-Ar			↓	90s		
	8	H 4128	φφ: 41:05	-18:15:39		3m	IAU standard 3.0ND	
	9	Th-Ar			↑	90s		
	10	Th-Ar			↓	90s		
	11	(4)	φφ: 28:48	-φ6: φ1:41		4m	Asteroid	
	12	Th-Ar			↑	90s		
	13	Th-Ar			↓	90s		
	14	S φ 76206	φ3:45:07	24:50:08		2 1/2 m	6.8/100 M-stars	
	15	Th-Ar			↑	90s		
	16	Th-Ar			↓	90s		
	17	G 25154	φ3:43:19	26:03:42		10m	9.6/40 "	
	18	Th-Ar			↑	90s		
	19	Th-Ar			↓	90s		
	20	S 56455	φ3:23:53	34:15:18		3 1/2 m	6.7/50 HALOS	
	21	Th-Ar			↑	90s		
	22	Th-Ar			↓	90s		
	23	G 217-8	φ3:24:15	60:21:06		21m	10.5/60 "	
	24	Th-Ar			↑	90s		
	25	G 217-8	"	"		10m	"	
	26	Th-Ar			↑	90s		
	27	Th-Ar			↓	90s		
	28	DI CAS	φφ: 27:11	59:56:12		10m	Cepheids	
	29	Th-Ar			↑	90s		
	30							
	31							
	32							

12/12

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 300L

Observer RPS

Telescope 61" Wyeth

Date 12-13 Dec. 1986

Disk ORO 1333

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	RX AUR	04:57:55	39:53:17	↓	4 1/2 m 9.2 Cepheids
		3			↑	90s	
		4			↓	90s	
		5	H448	04:26:08	16:03:00	↓	5m Hyades Binary
		6			↑	90s	
		7			↓	90s	
		8	UB24	04:15:25	21:27:31	↓	5m "
		9			↑	90s	
		10			↓	90s	
		11	H246	04:18:45	14:17:34	↓	4m "
		12			↑	90s	
		13			↓	90s	
		14	H411	04:24:36	14:09:00	↓	8m "
		15			↑	90s	
		16			↓	90s	
		17	S130860	03:56:24	-05:36:46	↓	2m 6.0/100 Mstars
		18			↑	90s	
		19			↓	90s	
		20	GRS 156	03:52:09	-06:58:24	↓	6.5 9.0/40 "
		21			↑	90s	
		22			↓	90s	
		23	S011983	01:44:10	63:36:14	↓	4.5m 5.7/100 " cooked!!
		24			↑	90s	
		25			↓	90s	
		26	GRS 69	01:40:10	63:34:24	↓	5m 8.4/40 "
		27			↑	90s	
		28			↓	90s	
		29	VX PER	02:04:18	58:12:22	↓	5.5m Cepheids
		30					
		31					
		32					



12/12

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET 15  
 Telescope 61" Wyeth Date 12-13 Dec. 1986 Observer RPS  
 Disk ORO 1334

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	G7-227	2	04:25:00	18:52:00		12m	Hyads
	TA-Ar	3			↑	90s	
	TA-Ar	4			↓	90s	
	HD37148	5	05:34 01	09:51 21		4.5m	8.5 λ Ori
	TA-Ar	6			↑	90s	- stopped by clouds -
	TA-Ar	7			↓	90s	
	H66141	8	07:59:40	02:28:24		3m	4.4 IAU standard
	TA-Ar	9			↑	90s	
	TA-Ar	10			↓	90s	
	T MON	11	06:22:31	07:06:53		2m	cephoids
	TA-Ar	12			↑	90s	
	TA-Ar	13			↓	90s	
	SU MON	14	06:18:45	06:29:41		5m	"
	TA-Ar	15			↑	90s	
	TA-Ar	16			↓	90s	
	Grs 234	17	06:26:52	-02:46:42		17.80m	11.5/20 M stars
	TA-Ar	18			↑	90s	
	TA-Ar	19			↓	90s	
	S173424	20	06:31:51	-03:02:03		3 1/2 m	7.1/100 "
	TA-Ar	21			↑	90s	
	TA-Ar	22			↓	90s	- stopped by clouds -
	G41-34	23	09:20:06	11:29:06		3m	<del>10.5/15</del> 9.7/15 HALOS
	TA-Ar	24			↑	90s	
	TA-Ar	25			↓	90s	
	G59-32	26	12:37:37	21:05:12		4.5m	9.0/60 "
	TA-Ar	27			↑	90s	
	TA-Ar	28			↓	90s	
	G61-24	29	12:55:04	18:57:48		3.5m	8.9/50 "
	TA-Ar	30			↑	90s	
	/	31					
	/	32					

Spectrograph ECHELLE

Intensified Reticon

TO CAM 12/13

Log Sheet

RAW RET 15

Grating 300LObserver RPSTelescope 61" WyethDate 12-13 Dec. 1986Disk ORO 1335

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	G60-47	2	12:52:44	08:06:12		5m	9.9/20 HALOS
	Th-Ar	3			↑	90s	
	Th-Ar	4			↓	90s	
	Sφ43285	5	10:16:21	48:38:21		2m	6.1/100 M stars
	Th-Ar	6			↑	90s	
	Th-Ar	7			↓	90s	
	GDS380	8	10:08:13	49:42:09		2 1/4 m	6.6/100 " - clear -
	Th-Ar	9			↑	90s	
	Th-Ar	10			↓	90s	
	GDS 397	11	10:28:25	45:47:06		4m	8.9/40 "
	Th-Ar	12			↑	90s	
	Th-Ar	13			↓	90s	
	Sφ43396	14	10:32:32	45:54:46		2m	7.5/100 "
	Th-Ar	15			↑	90s	
	Th-Ar	16			↓	90s	
	H89449	17	10:17:01	19:43:31		2m	1A standard
	Th-Ar	18			↑	90s	
	Th-Ar	19			↓	90s	
	SKY-DWN	20	4hrs East	+10°		2m	sky
	Th-Ar	21			↑	90s	
	Th-Ar	22			↓	90s	
	SKY-DWN	23	φ hours	+10°		2m	sky
	Th-Ar	24			↑	90s	
	SKY-DWN	25	φ hours	+10°		2m	sky
	Th-Ar	26			↑	90s	
	INCLAND	27				120 min	???
	INCLAND	28				120 "	
	INCLAND	29				120 "	
	INCLAND	30				35M	
		31					
		32					

Intensified      Reticon

TO CAM 12/13

Spectrograph ECHELLE      Log Sheet      RAW/RET 15

Grating 500P      Observer RJD

Telescope 6"      Date DEC 13-14 1986      Disk ORO 1336

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
	1	TH-AR			↓	90"	5187A 80μ slit
	2	SKyEvEM				3"	
	3	ThAr			↑	90°	0" +30°
	4	ThAr			↓	90°	
	5	SKyEvew				3"	3" W, -5°
	6	ThAr			↑	90°	
	7	ThAr			↓	90°	
	8	H8119	01:23:52.6	-0:39:29		2"	IAU Rad Vel Std
	9	ThAr			↑	90°	
	10	ThAr			↓	90°	
	11	S25-15	21:01:37	02:48:00		2"	HALO Binaries
	12	ThAr			↑	90°	
	13	TH-AR			↓	90°	
	14	S V VUL	19:52:20	29:20		2"	CEPH
	15	TH-AR			↑	90°	
	16	TH-AR			↓	90°	
	17	X CYG	20:41:27	35:24		2 1/2"	
	18	TH-AR			↑	90°	
	19	ThAr			↓	90°	
	20	VX Per	02:04:18	58:12:22		8"	
	21	ThAr			↑	90°	
	22	ThAr			↓	90°	
	23	(4)	00:29:16.9	-5:54:49		2"	Asteroid
	24	ThAr			↑	90°	
	25	TH-AR			↓	90°	
	26	G190-10	23:05:39	41:35		13"	HALO
	27	ThAr			↑	90°	
	28	ThAr			↓	90°	
	29	U006	00:15:40.5	43:44:40		5"	Uppgren Stars - also Kenyon
	30	ThAr			↓	90°	
	31	U007	00:15:54	43:44:42		20"	
	32	ThAr			↑	90°	

Spectrograph ECHELLE Intensified Reticon TO CAM 12/13  
 Grating 300 l Log Sheet RAW/RET 15  
 Telescope 61" Wyeth Date 12/13-14/86 Observer RJD  
 Disk ORO 1337

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	Sls 2	00:02:35	45:30:30	11 <sup>m</sup>	M Stars Mazeh
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	Sls 820A	21:04:54	38:32:06	2 <sup>m</sup>	
		6			↑↓	90 <sup>s</sup>	
		7	Sls 820B	21:04:54	38:32:06	2 <sup>m</sup>	
		8			↑	90 <sup>s</sup>	
		9			↓	90 <sup>s</sup>	
		10	G37-26	03:05:28	26:09:06	8 <sup>m</sup>	7° from Moon
		11			↑	90 <sup>s</sup>	Italo Binaries
		12			↓	90 <sup>s</sup>	
		13	RX Aur	04:57:55	39:53:17	3 <sup>m</sup>	Cepheids
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
		16	Z Lac	22:38:53	56:34:05	5 <sup>m</sup>	
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	Lφ81	04:38:40.9	13:07:34	20 <sup>m</sup>	Moon 20" away. Hyades
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	G191-55	05:53:04	58:40:24	14 <sup>m</sup>	Italo Binaries
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	G82-5	04:12:29	-5:45:24	8 <sup>m</sup>	
		26			↑↓	90 <sup>s</sup>	
		27	G1166a	04:12:58	-7:43:48	2 <sup>m</sup>	Nearby
		28			↑↓	90 <sup>s</sup>	
		29	G1166c	04:12:58	-7:43:48	20 <sup>m</sup>	
		30			↑	90 <sup>s</sup>	
		31					
		32					

Intensified      Reticon  
TO CAM 12/13

Spectrograph ECHELLE      Log Sheet      RAW RET 15

Grating 3002      Observer RJD

Telescope 61" Wyeth      Date 12/13-14/86      Disk ORO 1338

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	90 <sup>s</sup>	
						15 <sup>m</sup>	Nearby Stars / Upper
					↑↓	90 <sup>s</sup>	
						12 <sup>m</sup>	
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						7 <sup>m</sup>	Cepheid
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						9 <sup>m</sup>	
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						3 <sup>m</sup>	
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						2 <sup>m</sup>	IAU Rad Vel Std
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						6 <sup>m</sup>	λ Ori
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						2 <sup>m</sup>	Cepheid
					↑↓	90 <sup>s</sup>	
						4 <sup>1/2</sup> <sup>m</sup>	
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						18 <sup>m</sup>	Halo Binaries
					↑	90 <sup>s</sup>	
					↓	90 <sup>s</sup>	
						20 <sup>m</sup>	M Stars
					↑	90 <sup>s</sup>	

Spectrograph ECHELLE Intensified Reticon TO CAM 12/14  
 Grating 300 l Log Sheet RAW RET 15  
 Telescope 61" Wyeth Date 12/13-14/86 Observer RJD  
 Disk ORO 1339

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	G15319	08:40:02	09:44:18		10 <sup>m</sup> M Stars
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	G15301	08:10:50	-13:45:48		12 <sup>m</sup>
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	G15334	09:04:19	-8:36:20		12 <sup>m</sup>
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	H81797	09:25:07.8	-8:26:28		2 <sup>m</sup> IAU RV STD NO1
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	
		14	S615472	11:16:06.7	62:27:22		2 <sup>m</sup> M Stars
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
		17	G15430	11:28:22	63:26:00		13 <sup>m</sup>
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20	60063	07 31 24	48 47 24		2 <sup>m</sup> F Stars
		21			↑	90 <sup>s</sup>	
		22			↓	90 <sup>s</sup>	
		23	84709	09:44:07	-27:02:37		3 <sup>m</sup>
		24			↑↓	90 <sup>s</sup>	
		25	84566	09:43:14	-28:10:24		10 <sup>m</sup>
		26			↑↓	90 <sup>s</sup>	
		27	85693	09:50:40	-26:31:06		5 <sup>m</sup>
		28			↑	90 <sup>s</sup>	
		29			↓	90 <sup>s</sup>	
		30	87827	10:04:55	-15:12:31		4 <sup>m</sup>
		31			↑	90 <sup>s</sup>	
		32					

Intensified      Reticon  
TO CAM 12/14

Spectrograph ECHELLE      Log Sheet      RAW/RET 15

Grating 300 l      Observer RVD

Telescope 61" Wyeth      Date 12/13-14/1986      Disk ORO 1340

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	88788	10:11:53	-12:20:06	6 <sup>m</sup>	F Stars
		3			↑↓	90 <sup>s</sup>	
		4	88972	10:13:10	-10:56:12	4 <sup>m</sup>	
		5			↑	90 <sup>s</sup>	
		6			↓	90 <sup>s</sup>	
		7	87810	10:04:46	-21:00:37	2 <sup>m</sup>	
		8			↑↓	90 <sup>s</sup>	
		9	88991	10:13:10	-15:41:06	5 <sup>m</sup>	
		10			↑	90 <sup>s</sup>	
		11			↓	90 <sup>s</sup>	
		12	89101	10:13:57	-27:27:30	8 <sup>m</sup>	
		13			↑↓	90 <sup>s</sup>	
		14	89117	10:14:02	-28:43:43	5 <sup>m</sup>	
		15			↑↓	90 <sup>s</sup>	
		16	89439	10:16:35	-28:11:12	11 <sup>m</sup>	EST 5:00 AM
		17			↑	90 <sup>s</sup>	Computer Malfunction
		18	INCANDS			90 <sup>m</sup>	Times recorded since
		19	INCANDS			90 <sup>m</sup>	??? are unreliable.
		20	INCANDS			37 <sup>m</sup>	Cannot access SAO
2/14-15		21	TH-AR		↓	90 <sup>s</sup>	catalog or receive
		22	SKYEVEN	21N	±30	2 <sup>m</sup>	reliable information
		23	TH-AR		↑	90 <sup>s</sup>	about system clock.
		24	TH-AR		↓	90 <sup>s</sup>	STOP & CLOSE
		25	SKYEVEN	42 <sup>m</sup> W	+30	2 <sup>m</sup>	DOWN
		26	TH-AR		↑	90 <sup>s</sup>	
		27	TH-AR		↓	90 <sup>s</sup>	6563 A <sup>o</sup>
		28	3 AVR	21 28 56	-05 48	3 <sup>m</sup>	NO-1 FILTER SALLY Hx
		29	TH-AR		↑	90	
		30	TH-AR		↓	90	
		31	2 AVR	22 02 13	-00 22	3 <sup>m</sup>	NO-1 FILTER
		32	TH-AR		↑	90	

ZAM  
12-14  
86

Intensified Reticon  
Spectrograph ECHELLE Log Sheet  
Grating 1000 Observer DL/LAM  
Telescope SH Date 12/14-15/76 Disk ORU 1341

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	711-AR	<del>215801</del> -02 59	↓	90	6563
		2	FFAQR	215801 -02 59		20 <sup>m</sup>	SALLY H
		3	Th-Ar		↑	90 <sup>s</sup>	
		4	Th-Ar		↓	90 <sup>s</sup>	
		5	Lam And	23 35 06.0 46 11 14			Sally H
		6	Th-Ar		↑	90 <sup>s</sup>	Faded to measure ND 1.5
		7	Th-Ar		↓	90 <sup>s</sup>	5187A Clouds Come in!
		8	EG And	00 41 53.0 40 24 20		6 <sup>m</sup>	KENYON SYMBIOTICS
		9	Th-Ar		↑	90 <sup>s</sup>	
		10	Th-Ar		↓	90 <sup>s</sup>	
		11	Z And	23 31 50.0 48 32 32		20 <sup>m</sup>	
		12	Th-Ar		↑	90 <sup>s</sup>	
		13	Th-Ar		↓	90 <sup>s</sup>	
		14	2 Lnc	01 38 53.0 56 31 05		4 <sup>m</sup>	CEPHLEIDS
		15	Th-Ar		↑	90 <sup>s</sup>	
		16	Th-Ar		↓	90 <sup>s</sup>	
		17	218427	220513.0 48 46 24		3 <sup>m</sup>	F STARS
		18	Th-Ar		↑	90 <sup>s</sup>	
		19	Th-Ar		↓	90 <sup>s</sup>	
		20	W3148	05 34 00.7 69 51 21		5 <sup>m</sup>	LAM ORI - MAIN SECTS
		21	Th-Ar		↑	90 <sup>s</sup>	
		22	Th-Ar		↓	90 <sup>s</sup>	6563 A
		23	Mph Ori	05 52 28.0 67 29 58		5 <sup>m</sup>	Sally H
		24	Th-Ar		↑	90 <sup>s</sup>	
		25	Th-Ar		↓	90 <sup>s</sup>	
		26	Alph Aur	05 15 36 45 59 00		4 <sup>m</sup>	6563 KAROVSKA
		27	Th-Ar		↑	90 <sup>s</sup>	Input to remove ND2 filter
		28	Th-Ar		↓	90 <sup>s</sup>	6520A
		29	Alph Aur	05 15 36 45 59 00		5 <sup>m</sup>	KAROVSKA
		30	Th-Ar		↑	90 <sup>s</sup>	
		31					
		32					



LAM  
12-14

TO CAM

RAWRET 15

Intensified Reticon

Spectrograph ECHELLE

Log Sheet

Grating 300L

Observer LAM

Telescope 61" Wyeth

Date 12-14/12-15 86

Disk 020 1392

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↑	90 <sup>s</sup>	5187.9	
		2	U042	05 25 09	04 12 20		6 <sup>m</sup>	V green
		3	TR-Ar		↑	90 <sup>s</sup>		
		4	TR-Ar		↓	90 <sup>s</sup>		
		5	U040	02 00 43	28 32 00	↓	5 <sup>m</sup>	
		6	TR-Ar		↕	90 <sup>s</sup>		
		7	U041	02 22 50	28 36 06		8 <sup>m</sup>	no ending TR-Ar - forget.
		8	TR-Ar		↓	90 <sup>s</sup>		
		9	U048	02 43 20	25 26 25		2 <sup>m</sup>	
		10	TR-Ar		↑	90 <sup>s</sup>		
		11	TR-Ar		↓	90 <sup>s</sup>		
		12	U066	03 47 15	26 03 44		8	
		13	TR-Ar		↑	90 <sup>s</sup>		
		14	TR-Ar		↓	90 <sup>s</sup>		
		15	U0103	05 28 33.9	-05 21 31		6 <sup>m</sup>	
		16	TR-Ar		↑	90 <sup>s</sup>		
		17	TR-Ar		↓	90 <sup>s</sup>		
		18	P0445	05 34 22.8	-05 01 20		20 <sup>m</sup>	WATCH MOON ON THIS!
		19	TR-Ar		↑	90 <sup>s</sup>		
		20	TR-Ar		↓	90 <sup>s</sup>		
		21	P0247	05 33 23.1	-05 30 20		10 <sup>m</sup>	
		22	TR-Ar		↑	90 <sup>s</sup>		
		23	TR-Ar		↓	90 <sup>s</sup>		
		24	P1391	05 31 42.6	-05 13 45		8 <sup>m</sup>	Stopped by Cloud
		25	TR-Ar		↑	90 <sup>s</sup>	↓ ↓ ↓ ↓	
		26	TR-Ar		↓	90 <sup>s</sup>		
		27	DWISKYK	H <sup>+</sup> E	0° Decl		2 <sup>m</sup>	4 <sup>h</sup> 0° Decl
		28	TR-Ar		↑	90 <sup>s</sup>		
		29	TR-Ar		↓	90 <sup>s</sup>		
		30	DWISKYK	Meredian	+30°		2 <sup>m</sup>	0 <sup>h</sup> 30° Decl
		31	TR-Ar	Mered	+30°		90 <sup>s</sup>	
		32						

TO CAM 12/19

RAW RET 15

Spectrograph ECHELLE

Intensified Reticon

Log Sheet

Grating 300

Observer LAM

Telescope 61" Wye 16

Date 12/14/12-58

Disk ORA 1343

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1				120 MIN	5187A 80μ SLIT
		2				120 MIN	
12/15 12/15-16		3			↓	90°	
		4	SKYEVE M	0 HA	+30	2"	
		5	TH-AR		↑	90°	
		6	TH-AR		↓	90°	
		7	SKYEVE W	42 H W	+30	2"	
		8	TH-AR		↑	90°	
		9	TH-AR		↓	90°	
		10	SV VUL	19 49 28	27 20	2"	CERN
		11	TH-AR		↑	90°	
		12	TH-AR		↓	90°	6563A 80μ SLIT
		13	FU ORI	05:42:38	09:03:02	8"	8.9/ PAS STARS
		14	TH-AR		↑	90°	
		15	TH-AR		↓	90°	
		16	T TAU	04:19:04	09:25:05	4 MIN	8.9/ 25%? LUNAR CONTAMINATION
		17	TH-AR		↑	90°	
		18	TH-AR		↓	90°	
		19	Z CHA	07:01:22	-11:28:36	4 MIN	8.3/ MANY HOLDS FOR CLDS FOR ABOVE 3 OBJECTS
		20	TH-AR		↑	90°	
		21	INCANDS			120 MIN	
		22	INCANDS			120 MIN	
		23	INCANDS			120 MIN	
1/19-20		24	TH-AR		↓	90°	
		25	SKYEVE M	0 HA	+26	2"	Cloudy
		26	TH-AR		↑	90°	
		27	TH-AR		↓	90°	
		28	SKYEVE W	4 HA	+26	2"	Cloudy
		29	TH-AR		↑	90°	
		30	TH-AR		↓	90°	
		31	H8779	01:22:53.6	-0:39:29	2"	Clearing at 6 P.M. LAUR
		32	TH-AR		↑	90°	

Intensified      Reticon  
TO CAM 12/19  
Spectrograph ECHELLE      Log Sheet      RAW/RET 15  
Grating 300 l      Observer RJD  
Telescope 61" Wyeth      Date 12/19-20/86      Disk OR 01344

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	After another wait for clouds
		2	H8779 01:23:52.6	-0:39:29		2 <sup>m</sup>	<del>Asteroid</del> IAU Std. *
		3	ThAr		↑	90 <sup>s</sup>	Time out to fix computer
		4	ThAr		↓	90 <sup>s</sup>	
		5	H26162 04:06:14.9	19:28:43		2 <sup>m</sup>	IAU Rad Vel Std.
		6	ThAr		↑	90 <sup>s</sup>	
		7	ThAr		↓	90 <sup>s</sup>	
		8	(4) 00:32:52.3	-5:07:44		3 <sup>m</sup>	Asteroid
		9	ThAr		↑	90 <sup>s</sup>	
		10	ThAr		↓	90 <sup>s</sup>	
		11	Z Lac 22:35:53	56:34:05		7 <sup>m</sup>	Cepheid
		12	ThAr		↑	90 <sup>s</sup>	
		13	ThAr		↓	90 <sup>s</sup>	
		14	AXPer 01:33:06	54:00:19		20 <sup>m</sup>	Symbiotic
		15	ThAr		↑	90 <sup>s</sup>	
		16	ThAr		↓	90 <sup>s</sup>	
		17	G171-58 00:22:26	47:46:12		2 <sup>m</sup>	Italo Binaries
		18	ThAr		↑	90 <sup>s</sup>	
		19	ThAr		↓	90 <sup>s</sup>	
		20	G190-10 23:05:39	41:35:12		17 <sup>m</sup>	
		21	ThAr		↑	90 <sup>s</sup>	
		22	ThAr		↓	90 <sup>s</sup>	
		23	G34-16 01:13:55	18:15:30		2 1/2 <sup>m</sup>	
		24	ThAr		↑	90 <sup>s</sup>	
		25	ThAr		↓	90 <sup>s</sup>	
		26	G37-26 03:05:28	26:09:06		7 1/2 <sup>m</sup>	
		27	ThAr		↑	90 <sup>s</sup>	
		28	ThAr		↓	90 <sup>s</sup>	
		29	P2445 05:34:22.8	-5:01:20		20 <sup>m</sup>	Trapezium Binary Marshall
		30	ThAr		↑	90 <sup>s</sup>	
		31					
		32					

12/20

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300 l Log Sheet RAW RET 15  
 Telescope 61" Wyeth Date 12/19-20/86 Observer RJD  
 Disk ORO 1345

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	UV Aur	2	05:18:33	32:27:48		20m	Symbiotics (quite cloudy)
	TH-Ar	3			↑	90s	
	TH-Ar	4			↓	90s	
	G112-54	5	07:52:02	-1:16:54		2m	Italo Binaries
	TH-Ar	6			↑	90s	
	TH-Ar	7			↓	90s	
	H66141	8	07:59:399	02:28:24		2m	TAU Rad Vel Std.
	TH-Ar	9			↑	90s	
	TH-Ar	10			↓	90s	
	U118	11	06:38:12.5	24:00:26		2m	Uppgren
	TH-Ar	12			↑	90s	
	<del>TH-Ar</del> INCANDS	13			↔	120m	Cloudy Again
	INCANDS	14				120m	Clouded out
	INCANDS	15				120m	
20-21 Dec 1986	TH-Ar	16			↓	90s	5187A -cloudy-
	SKY-EVE	17	φ hours	+20°		2m	
	TH-Ar	18			↔	90s	
	SKY-EVE	19	φ hours	+20°		2m	
	TH-Ar	20			↑	90s	
	TH-Ar	21			↓	90s	
	SKY-EVE	22	4½ hrs W	+20°		2.5m	
	TH-Ar	23			↑	90s	
	TH-Ar	24			↓	90s	
	H8779	25	01:23:54	-04:39:29		5.5m	6.4 IAU standard -cloudy-
	TH-Ar	26			↑	90s	(not 100% sure of ID)
	TH-Ar	27			↓	90s	
	H26162	28	04:06:15	19:28:43		2.5m	5.5 IAU standard
	TH-Ar	29			↑	90s	
	/	30					
	/	31					
	/	32					



12/20

TO CAM

Intensified Reticon

Spectrograph ECHELLE

Log Sheet

RAW/RET 15

Grating 3002

Observer RPS

Telescope 61" Wyoth

Date 20-21 Dec. 1986

Disk ORO 1347

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	90s	
	G175-39		04:31:59	55:18:52		2.5m	53/20 HALOS (No chart)
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	T MON		06:22:31	07:46:53		2m	6.6 Cepheids
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G05269		07:06:37	38:36:48		20m	11.5/20 M-stars
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G05301		08:10:50	13:45:48		9m	9.4/40 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G05319		08:40:02	09:44:18		14.5m	<del>9.7/20</del> 9.7/20 " (G05319)
		Th-Ar			↑	90s	(too much moon for 319C)
		Th-Ar			↓	90s	
	G041-34		09:20:46	11:29:06		3m	9.7/15 HALOS
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G191-55		05:53:04	58:40:24		10m	10.5/40 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G09-47		09:03:52	20:42:36		2m	7.7/15 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	U175		08:58:30	15:27:54		6m	9.4/30 Northern Component - Space Mot.
		Th-Ar			↑	90s	
	U174		08:58:30	15:27:49		7m	9.5 Southern Component
		Th-Ar			↑	90s	
	/						
	/						
	/						
	/						

14/LO

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW RET 15  
 Telescope 61" Wyeth Date 20-21 Dec. 1986 Observer RPS  
 Disk ORO 1348

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	+ 222411		11:48:59	22:23:36		6m	9.3/30 HALOS
		3			↑	90s	
		4			↓	90s	
	G121-12		11:42:01	25:48:54		6m	10.4/30 " -
		6			↑	90s	
		7			↓	90s	- clouds -
	G2s 338A		09:10:52	52:53:43		6m	7.6/100 M-stars
		9			↓	90s	
	G2s 338B		09:10:54	52:53:46		5m	9.7/100 " (E. compound)
		11			↑	90s	
		12			↓	90s	
	G59-5		12:10:56	23:32:36		4m	9.4/15 HALOS
		14			↑	90s	
		15			↓	90s	
	863020		12:26:38	31:40:00		2m	7.9/50 "
		17			↑	90s	
		18			↓	90s	
	H114762		13:09:55	17:46:55		2m	7.3 IAU standard
		20			↑	90s	
		21			↓	90s	
	H106516		12:12:36	10:01:14		2m	6.1/20 HALOS
		23			↑	90s	
		24			↓	90s	
	G12-22		12:10:24	10:19:12		2m	7.9/15 (watch for sky) "
		26			↑	90s	
		27			↓	90s	
	SKV-DW		4 1/2 hrs E	+20°		2m	
		29			↑	90s	
		30					
		31					
		32					

LAM 21/86  
15 TO CAM  
RAW/RET 15

Spectrograph ECHELLE Intensified Reticon  
 Grating 3002 Log Sheet  
 Telescope 61" Wyeth Date 20-21 Dec 1986 Observer RPS 11 AM  
 Disk ORO 1349

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	SKY-DWN	4 1/2 hrs E	+20°	2m	
		3	Th-Ar		↑	90s	
		4	Th-Ar		↓	90s	
		5	SKY-DWN	φ hrs	+20°	2m	
		6	Th-Ar		↑	90s	
		7	Th-Ar		↓	30s	
		8	SKY-DWN	φ hrs	+20°	2m	Test of 30sec Th-Ar
		9	Th-Ar		↑	30s	
		10	INCANDS			120 MIN	
		11	INCANDS			120 MIN	
21/22		12	Th-Ar		↓	110s	LAM obs - g
		13	SKY-DSK	φ HRS	+20°	2m	
		14	Th-Ar		↑	90s	
		15	Th-Ar		↓	90s	
		16	SKY-DSK	4 HRS W	0°	2m	
		17	Th-Ar		↑	90s	
		18	Th-Ar		↓	90s	
		19	CHICK	19 23 14.0 50 02 31		4m	Kenyon Symbiotics
		20	Th-Ar		↑	90s	
		21	Th-Ar		↓	90s	
		22	V433Her	12 20 03.0 23 25 47		25m	
		23	Th-Ar		↑	90s	
		24	Th-Ar		↓	90s	
		25	CI-CYG	19 48 21.0 35 33 24		15m	
		26	Th-Ar		↑	90s	
		27	Th-Ar		↓	90s	
		28	AG PEG	21 48 30.12 23 22		3m	
		29	Th-Ar		↑	90s	
		30	Th-Ar				
		31	Th-Ar				
		32	Th-Ar				



LAM/12/21/86

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300L Log Sheet RAW RET 11  
 Telescope 61" Wyeth Date 21/22 Dec 1986 Observer LAM  
 Disk ORO 1350

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90s	
	U483		22 26 02.1	57 26 28		5m	KENYON NEARBY G1860A/UPGRN
		3			↑	90s	
		4			↓	90s	
	MVA 1459		21 36 49.0	36 53 11		20m	TR 37 - MARSHALL
		6			↑	90s	
		7			↓	90s	
	MVA 878		21 41 53.0	37 21 18		13m	" "
		9			↑	90s	
		10			↓	90s	
	U 066		00 15 40.5	43 44 40		3m	KENYON NEARBY G15A/UPGRN
	U 067		00 15 34.0	43 44 42		18m	FORO OT A1A G15B/UPGRN
		13			↑	90s	
		14			↓	90s	
	G34-16		01 13 55.0	19 15 30		3m	HALO BINARIES
		16			↑	90s	
		17			↓	90s	
	DL CAS		00 27 11.0	59 56 4		6m	CEPHEIDS
		19			↑	90s	
		20			↓	90s	
	Ax Aur		04 57 55.0	39 33 17		3m	"
		22			↑	90s	
		23			↓	90s	
	H2 6162		04 06 4.9	19 28 43		2m	IAU STD
		25			↑	90s	
		26			↓	90s	
	H D37148		05 34 00.7	09 51 21		4m	MATHIEU LAMORI
		28			↑	90s	
		29			↓	90s	UPGRN - SPACAMTN
	U105		05 33 44	11 17 52		5m	
		31					
		32					

forgot  
 Th-Ar  
 But Telescope  
 don't  
 Move  
 Significantly

Th-Ar

LAM 12/21/86

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW/RET  
 Grating 300 Observer LAM  
 Telescope 61" Wyoma Date 21/22 Dec '86 Disk ORA 1351

Change.... File ID RA Dec L/R Exposure Comments

Change....	File	ID	RA	Dec	L/R	Exposure	Comments
1					↓	90s	
2	TR-AR				↓	20m	TRAPEZIUM CLUSTER
3	P21115	05 24 22	05 21 2		↑	90s	
4	TR-AR				↓	90s	} COMBINE "
5	TR-AR				↓	20m	
6	P1540	05 32.13	05 26 23		↓	90s	
7	P1540	05 32.13	05 26 23		↓	20m	
8	TR-AR				↑	90s	
9	TR-AR				↓	90s	
10	SUMON	06 18 45.0	06 29 41			5m	CEPHAEIDS
11	TR-AR				↑	90s	
12	TR-AR				↓	90s	
13	TMON	06 22 31.0	07 06 53			2m	"
14	TR-AR				↑	90s	
15	TR-AR				↓	90s	
16	U111	06 04 51.9	04 31 20			20m	UPGREN ID NOT ABSOLUTELY CERTAIN
17	TR-AR				↑	90s	
18	TR-AR				↓	90s	
19	U135	07 24 44.5	05 24 54			10m	01 273 KENYON NEARBY - ALSO UPGREN
20	TR-AR				↑	90s	
21	TR-AR				↓	90s	
22	U132	07 16 16.1	32 55 31			12m	UPGREN
23	TR-AR				↑	90s	} MSTARS
24	TR-AR				↓	90s	
25	Gls 268	01 06 37.0	38 36 18			20m	
26	TR-AR				↓	90s	
27	Gls 268	01 06 37.0	38 36 18			20m	"
28	TR-AR				↑	90s	} 6363A
29	TR-AR				↓	90s	
30	Alpha	05 52 28.0	07 23 58			10m	SALLY HD NO 2 F1/R
31	TR-AR				↑	90s	
32							





Intensified      Reticon  
TO CAM 14/22

Spectrograph ECHELLE      Log Sheet      RAW RET 15

Grating 3000      Observer [Signature]

Telescope S41      Date 12/22-23/86      Disk ORU 1354

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	70 <sup>s</sup>	6363A <sup>o</sup> SALLY H <sub>2</sub>
		2	FF-AR	21 58 01	-02 59 00	20 <sup>m</sup>	
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	5187 <sup>o</sup> IAU STND
		5	H8779	01 23 54	-00 39	3 <sup>m</sup>	
		6	TH-AR		↑	90 <sup>s</sup>	
		7	TH-AR		↑	90 <sup>s</sup>	
		8	U012	06 17 36	17 31	3 <sup>m</sup>	UPPERN
		9	TH-AR		↑	90 <sup>s</sup>	
		10	TH-AR		↑	90 <sup>s</sup>	
		11	U013	00 48 43	18 22	6 <sup>m</sup>	
		12	TH-AR		↑	90 <sup>s</sup>	
		13	TH-AR		↓	90 <sup>s</sup>	
		14	U022	01 02 51	15 08	6 <sup>m</sup>	
		15	TH-AR		↑	90 <sup>s</sup>	
		16	U021	01 02 51	15 08	4 <sup>m</sup>	
		17	TH-AR		↑	90 <sup>s</sup>	
		18	TH-AR		↓	90 <sup>s</sup>	
		19	SU VUL	19 49 28	27 20	3 <sup>m</sup>	CEPH
		20	TH-AR		↑	90 <sup>s</sup>	
		21	TH-AR		↓	90 <sup>s</sup>	
		22	X CYG	20 41 27	35 24	2 <sup>m</sup>	
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	Z LAC	22 38 53	56 34	5 <sup>m</sup>	
		26	TH-AR		↑	90 <sup>s</sup>	
		27	TH-AR		↓	90 <sup>s</sup>	
		28	U091	22 32 00	42 45	6 <sup>m</sup>	
		29	TH-AR		↑	90 <sup>s</sup>	
		30	U492	22 44 18	44 02	8 <sup>1/2</sup> m	WRONG ID? NE of 2
		31	TH-AR		↑	90 <sup>s</sup>	
		32	U492	"	"	6 <sup>m</sup>	RIGHT ID? SW of 2

Intensified Reticon

TO CAM 12-22

Spectrograph ECHELLE

Log Sheet

RAW/RET 15

Grating 300P

Observer RM

Telescope SH

Date 12/22-3/86

Disk ORD 1355

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90"	
		2	U 493	22 44 43	44 05	8"	WPGREN
		3	TH-AR		↓	90"	
	TH-AR	<del>TH-AR</del>	<del>22 44 43</del>	<del>44 05</del>	↓	90"	
		5	DL CAS	00 27 11	59 56	17"	CLDS - CEPH
		6	TH-AR		↑	90"	
		7	TH-AR		↓	90"	
		8	VX IER	02 04 18	58 12	10"	
		9	TH-AR		↑	90"	
		10	TH-AR		↓	90"	
		11	RX AUK	04 57 55	39 53	6.2"	
		12	TH-AR		↑	90"	HOLD OVERCAST
		13	TH-AR		↓	90"	
		14	T MON	06:22:31	07:06:53	2 MIN	6.6/ CEPH
		15	TH-AR		↑	90"	
		16	TH-AR		↓	90"	
		17	SU MON	06:18:45	06:29:41	4 MIN	8.9/
		18	TH-AR		↑	90"	
		19	TH-AR		↓	90"	
		20	HD 37148	05:34:00	09:51:21	5 MIN	8.4/ LAM ORI
		21	TH-AR		↑	90"	
		22	TH-AR		↓	90"	
		23	GL 411	11:00:37	36:18:18	4 MIN	7.5/ NEARBY
		24	TH-AR		↑	90"	
		25	TH-AR		↓	90"	
		26	U 132	07:16:15	32:55:42	10 MIN	9.1/ SPACE MOTION
		27	TH-AR		↑	90"	
		28	TH-AR		↓	90"	
		29	U 136	07:25:49	32:05:42	3 MIN	7.7/
		30	TH-AR		↑	90"	
		31					
		32					

Intensified Reticon

TO CAM 12/26

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 3002

Observer GS

Telescope 6" WYETH

Date DEC 22-23 1996 Disk ORD 1356

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187 A. 80μ SLIT
		2	07:28:18	14:43:30		4 1/2 MIN	8.9/ SPACE MOTIONS
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	H66141 07:59:32	02:28:23		3 MIN	4.4/ (CLDS) 1 AU STD STAR
		6			↑	90 <sup>s</sup>	HOLD
		7			↓	90 <sup>s</sup>	
		8	U184 09:49:37	03:27:24		4 MIN	8.9/ SPACE MOTIONS
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	U224 11:48:33	35:32:48		5 MIN	7.8/
		12			↑	90 <sup>s</sup>	
		13	U226 11:49:02	35:28:06		8 MIN	9.2/ (SEVERAL HOLDS)
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
		16	SKYDWN 4 HR HA	+35°		3 MIN	OVERCAST
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	SKYDWN 0 HR HA	+35°		2 MIN	
		20			↑	90 <sup>s</sup>	
		21				120 MIN	
		22				120	
		23				60	
12/23-24		24			↓	90 <sup>s</sup>	
		25	P2445 05 34 23	-05 01		12 <sup>h</sup>	HYADES (MARK)
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	λ ORI (MATHIEU)
		28	H037118 05 34 01	09 51		3 <sup>h</sup>	
		29			↑	90 <sup>s</sup>	
		30			↑	90 <sup>s</sup>	
		31	DL CAS 00 27 11	59 56		6 <sup>h</sup>	
		32				90 <sup>s</sup>	

12/26  
TO CAM

RAW RET 15

Observer Jan

Disk ORU 1357

Intensified      Reticon

Spectrograph ECHELLE      Log Sheet

Grating 300L

Telescope SH      Date 12/23-24/86

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
	1	TH-AR			↓	90 <sup>s</sup>	5187A
	2	RX-AR	04 57 55	39 53		2 <sup>m</sup>	CEPH
	3	TH-AR			↑	90 <sup>s</sup>	
	4	TH-AR			↓	90 <sup>s</sup>	
	5	SV MON	06 18 45	06 27 31		5 <sup>m</sup>	
	6	TH-AR			↑	90 <sup>s</sup>	
	7	TH-AR			↑	90 <sup>s</sup>	
	8	T MON	06 22 31	07 07		2 <sup>m</sup>	
	9	TH-AR			↑	90 <sup>s</sup>	
	10	TH-AR			↓	90 <sup>s</sup>	UPGREN =
	11	U 135	07 24 43	05 23		6 <sup>m</sup>	NEARBY (KENYON)
	12	TH-AR			↑	90 <sup>s</sup>	
	13	TH-AR			↓	90 <sup>s</sup>	
	14	GL 380	10 08 19	47 42		2 <sup>m</sup>	NEARBY
	15	TH-AR			↑	90 <sup>s</sup>	
	16	TH-AR			↓	90 <sup>s</sup>	
	17	U 235	12 19 23	42 25		5 <sup>m</sup>	UPGREN
	18	TH-AR			↑	90 <sup>s</sup>	
	19	TH-AR			↓	90 <sup>s</sup>	
	20	U 106	05 37 27	53 22		7 <sup>m</sup>	"
	21	TH-AR			↑	90 <sup>s</sup>	
	22	TH-AR			↓	90 <sup>s</sup>	
	23	U 690	04 59 17	53 05		6 <sup>m</sup>	
	24	TH-AR			↑	90 <sup>s</sup>	
	25	TH-AR			↓	90 <sup>s</sup>	
	26	U 695	05 13 42	45 48		7 <sup>m</sup>	
	27	TH-AR			↑	90 <sup>s</sup>	
	28	TH-AR			↓	90 <sup>s</sup>	HALO
	29	G 192-23	06 11 57	56 57		2 <sup>m</sup>	
	30	TH-AR				90 <sup>s</sup>	
	31						
	32						



Spectrograph ECHELLE

Intensified Reticon

TO CAM 12/26Grating 30W

Log Sheet

RAW RET 15Telescope SHDate 12/23-24/86Observer RADisk ORD 1358

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↓	90 <sup>s</sup>	5127	
		2	U107	05 41 00	62 14		3 <sup>h</sup>	UP GREEN
		3	TH-AR			↑	90 <sup>s</sup>	
		4	TH-AR			↓	90 <sup>s</sup>	
		5	U121	06 45 28	60 23		4 <sup>h</sup>	"
		6	TH-AR			↓	90 <sup>s</sup>	
		7	U122	06 46 30	60 22		5 <sup>h</sup>	
		8	TH-AR			↑	90 <sup>s</sup>	
		9	U119	06 43 21	57 42		15 <sup>h</sup>	
		10	TH-AR				90 <sup>s</sup>	
		11	TH-AR			↓	90 <sup>s</sup>	
		12	G13-50F	12:36:09	-05:03:00		2 1/2 MIN	9.0/15 WEST HALOS
		13	TH-AR			↓	90 <sup>s</sup>	
		14	G13-50F	12:36:10	-05:03:12		4 1/2 MIN	9.6/15 EAST ONE ON TV SCREEN
		15	TH-AR			↑	90 <sup>s</sup>	
		16	TH-AR			↓	90 <sup>s</sup>	
		17	+102495	12:56:49	09:30:42		6 MIN	9.7/30
		18	TH-AR			↑	90 <sup>s</sup>	
		19	TH-AR			↓	90 <sup>s</sup>	
		20	+182757	13:34:07	18:24:24		4 1/2 MIN	9.8/20 NO CHART
		21	TH-AR			↑	90 <sup>s</sup>	
		22	TH-AR			↓	90 <sup>s</sup>	
		23	G65-22	13:59:16	09:10:18		20 MIN	11.6/20 SW STAR ON TV SCREEN
		24	TH-AR			↑	90 <sup>s</sup>	
		25	TH-AR			↓	90 <sup>s</sup>	
		26	+182890	14:29:53	17:38:12		6 MIN 10 <sup>s</sup>	9.8/30
		27	TH-AR			↑	90 <sup>s</sup>	
		28	TH-AR			↓	90 <sup>s</sup>	
		29	G135-1L	14:01:42	22:46:00		4 1/2 MIN	10.2/15
		30	TH-AR			↑	90 <sup>s</sup>	
		31						
		32						

TO CAM 12/26

RAW RET 15

Intensified Reticon

Spectrograph ECHELLE

Log Sheet

Grating 300l

Observer GS

Telescope 61" WYATI

Date DEC 23/24 1986

Disk ORO 1359

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90°	5187A 80μ SLIT
	5101380	2	15:05:06	17:38:30		4 MIN	9.2/15 HALOS
		3			↑	90°	
		4			↓	90°	
	H135148	5	15:10:55	12:38:36		3 1/2 MIN	9.5/15
		6			↑	90°	
		7			↓	90°	
	+013070	8	15:20:08	01:26:30		11 MIN	9.5/40 DAWN CREEPING
		9			↑	90°	
		10			↓	90°	
	H136202	11	15:16:45	01:57:11		2 MIN	5.1/ 1 AU STD STAR
		12			↑	90°	
		13			↓	90°	
	SKYDWN	14	4 HR HA	+20°		3 MIN	
		15			↑	90°	
		16			↓	90°	
	SKYDWN	17	0 HR HA	+20°		3 MIN	
		18			↑	90°	
	INCANDS	19				120 MIN	
	INCANDS	20				120 MIN	
		21					
		22					
		23					
		24					
		25					
		26					
		27					
		28					
		29					
		30					
		31					
		32					

MERRY XMAS