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JUPITER
CENTRAL MERIDIAN TRANSIT OBSERVATIONS

VOLUME I

JUNE 5, 1959
SEPTEMBER 8, 1961

PRO FORMA:

DATE

~~PERIOD OF OBSERVATION~~

TELESCOPE / POWER

SEEING / TRANSPARENCY

SERIAL NUMBER	DESCRIPTION OF FEATURE	TIME	C.M. I	C.M. II

Dec		transits
−18° 28′	OPPOSITION: MAY 18, 1959	149
−23° 07′	OPPOSITION: JUNE 20, 1960 (7.1 transits per hour)	157
−20° 16′	OPPOSITION: JULY 25, 1961 (7.7 t/h)	514

PLANETARY OBSERVATIONS

JUPITER
C.M. TRANSITS
1959-1

MO.	DY	TEL.	MAG.	S.	T.	SERIAL #	DESCRIPTION	U.T.	λ_1	λ_2
6	5	8L	240	2-3	3	1	Large w. sp. S of SEB (in STrop Z)	03:08	—	321
						2	Hump on S edge of NEB	03:39	324	—
						3	P. end of broadening of SEB	03:47	329	—
6	10	8L	240	3-4	3	4	Hollow in N edge of SEB	02:35	355	—
						5	p. edge ft dark proj on N edge SEB	02:42	359	—
						6	dark proj on N edge STB	02:50	—	342
						7	c dark proj on N edge SEB	02:52	5	—
						8	f. end proj on N edge SEB	03:00	10	—
						9	p. end white area in EZ	03:11	17	—
						10	dark hump on N edge SEB	03:27	26	—
7	1	8L	240	3	4	11	Large dk area in NEB	01:37	36	214
						12	f. end hump on N edge SEB	01:41	38	—
						13	c hump on S edge STB	01:44	—	218
						14	w spot in S half of EZ	01:49	43	—
						15	f. end hump on S edge STB	01:52	—	223
						16	STB becomes narrower and fainter	02:14	—	236
						17	p. end dk hump on S edge NEB	02:19	62	—
						18	c dk hump on S edge NEB	02:29	68	—
						19	f. end dk hump on S edge NEB	02:37	73	—
						20	p. end white oval in STr Z	03:00	—	264
						21	w spot on S edge NEB	03:08	92	—
						22	c w oval in STr Z	03:17	—	274
						23	w spot on S edge NEB	03:23	101	—
						24	f. end w oval in STr Z	03:24	—	279
7	4	8L	240	2-3	3	25	f. end dk proj on S edge SEB	01:36	—	304
						26	p. end dk proj on S edge NEB	01:42	153	—
						27	p. end ft dk proj on N edge STB	01:47	—	311
						28	c dk proj on S edge NEB	01:52	159	—
						29	c ft dk proj on N edge STB	01:58	—	318
						30	p. end elong. w oval on S edge NEB	01:59	163	—
						31	f. end ft dk proj on N edge STB	02:04	—	321
						32	f. end dk proj on S edge NEB	02:08	169	—
						33	c elong w oval on S edg NEB	02:18	175	—
						34	f. end indef w area in STr Z (RSH?)	02:20	—	331
						35	p. end dk proj on S edge NEB	02:33	184	—
						36	f. end elong w oval on S edge NEB	02:38	187	—
						37	c dk proj on S edge NEB	02:42	189	—
						38	f. end dk proj on S edge NEB	02:51	195	—
						39	c w bay in S edge NEB	02:56	198	—

PLANETARY OBSERVATIONS

JUPITER
C.M. TRANSITS
1959-2

MO.	DY	TEL	MAG	S.	T.	SERIAL #	DESCRIPTION	U.T.	λ_1	λ_2
7	4	8L	240	2-3	3	40	p end dk hump on S edge NEB	03:01	201	—
						41	c dk hump on S edge NEB	03:14	209	—
~~15~~ 7	15	8L	240	2-3	3	42	p end dk proj on S edge NEB	02:02	101	—
						43	c dk proj on S edge NEB	02:18	111	—
						44	f end dk proj on S edge NEB, NEB now broader	02:28	117	—
7	17	8L	240	3	3	45	p end ft dk proj on S edge STB	02:05	—	115
						46	c ft dk proj on S edge STB	02:10	—	118
						47	f end ft dk proj on S edge STB	02:15	—	121
						48	c w bay on S edge NEB	02:16	66	—
						49	p end ft dk proj on S edge NEB	02:21	69	—
						50	c ft dk proj on S edge NEB	02:25	71	—
						51	f end ft dk proj on S edge NEB	02:29	74	—
						52	p end large dk spot in NEBn	02:29	—	129
						53	c large dk spot in NEBn	02:34	—	132
						54	f end large dk spot in NEBn	02:40	—	136
7	20	8L	240	6-7	3	55	c dk proj on S edge NEB	00:59	132	—
						56	f end dk proj on S edge NEB	01:03	135	—
						57	c w bay on S edge NEB	01:12	140	—
						58	p end NTB (much darker)	01:27	—	182
						59	c indef dk hump on S edge NEB	01:45	160	—
						60	p end indef ~~dk hump~~ w oval on S edge NEB	01:54	166	—
						61	c indef w oval on S edge NEB	02:09	175	—
						62	p end dk hump on S edge NEB	02:20	182	—
						63	f end indef w oval on S edge NEB	02:24	184	—
						64	f end STB (becomes much fainter)	02:34	—	223
						65	c dk hump on S edge NEB	02:36	191	—
						66	f end dk hump on S edge NEB	02:51	200	—
7	22	8L	240	5	3	67	p end dk hump on S edge ~~NEB~~ STB	01:00	—	106
						68	f end dk hump on N edge SEB	01:09	94	—
						69	c dk hump on S edge STB. No definite f end	01:10	—	112
						70	c w spot on S edge NEB	01:20	101	—
						71	p end dk proj on S edge NEB	01:21	101	—
						72	c dk proj on S edge NEB	01:27	105	—
						73	f end dk proj on S edge NEB	01:34	109	—
						74	p end dk oval in NEBn	01:35	—	128
						75	c dk oval in NEBn	01:41	—	131
						76	f end dk oval in NEBn	01:48	—	135
						77	p end dk proj on S edge NEB	02:00	125	—

PLANETARY OBSERVATIONS

JUPITER
C.M. TRANSITS
1959-3

MO.	DY	TEL	MAG	S	T	SERIAL #	DESCRIPTION	U.T.	λ_1	λ_2
7	22	8L	240	5	3	78	f end break in NEBn	02:06	—	146
						79	c dk proj on S edge NEB	02:08	130	—
						80	f end dk proj on S edge NEB	02:15	134	—
						81	c break in NEBn	02:15	—	152
						82	c w spot on S edge NEB	02:21	138	—
						83	f end break in NEBn	02:23	—	156
						84	f end dk proj on S edge NEB	02:43	151	—
						85	c dk proj on S edge NEB	02:54	158	—
						86	f end NEBn	02:55	—	176
						87	f end NTB	03:02	—	180
						88	f end dk proj on S edge NEB	03:07	166	—
7	28	8L	240	3	3	89	c dk hump on S edge NEB	00:39	302	—
						90	f end dk hump on S edge NEB	00:47	307	—
						91	SEB becomes darker	00:50	309	~~281~~
						92	f end dk hump on S edge NEB	01:15	324	—
						93	c indef small elong dk spot in STrZ (1/3 SEB-STB)	01:22	—	301
						94	c dk hump on S edge NEB	01:28	332	—
						95	f end dk hump on S edge NEB	01:38	338	—
						96	c indef dk hump on N edge STB	01:50	—	318
						97	f end indef dk hump on S edge SEB	02:03	—	326
						98	c indef dk hump on S edge SEB	02:18	—	335
						99	f end indef dk hump on S edge SEB	02:33	—	344
(100)	7	29	8L	240	3	3	100	c w bay on S edge NEB	00:30	95	—
						101	f end indef dk proj on S edge NEB	00:41	102	—
						102	c indef dk proj on S edge NEB	00:48	106	—
						103	f end indef dk proj on S edge NEB	00:59	112	—
						104	f end dk proj on S edge NEB	01:21	126	—
						105	c dk proj on S edge NEB	01:27	130	—
						106	f end dk proj on S edge NEB	01:31	132	—
						107	c small w oval on S edge NEB	01:34	134	—
						108	f end broadening on S edge STB	01:36	—	99
						109	c indef dk proj on S edge NEB	02:14	158	—
						110	f end indef dk proj on S edge NEB	02:26	166	—
						111	c elong w bay on S edge NEB	02:38	173	—
8	4	8L	240	2-1	3	112	f end dk hump on S edge NEB	00:34	324	—
						113	c irreg w area in N part of EZ	00:39	327	—
						114	c dk hump on S edge NEB	00:48	332	—
						115	f end irregular w area in N part of EZ	00:49	333	—

PLANETARY OBSERVATIONS

JUPITER
C.M. TRANSITS
1959-4

Mo.	DY	TEL.	MAG.	S.	T.	SERIAL #	DESCRIPTION	U.T.	λ_1	λ_2
8	4	8L	240	2-1	3	116	f end dk hump on S edge NEB	01:02	341	—
						117	c indef dk proj on S edge STB	01:14	—	267
8	8	8L	240	3	3	118	c irregular w area in N part of EZ	00:26	230	—
						119	c dk proj on S edge NEB	00:28	231	—
						120	f end dk oval in NEBn	00:33	—	123
						121	c long narrow section of SEB	00:35	236	124
						122	f end w oval on S edge NEB enclosed by grey loop	00:36	236	—
						123	f end dk proj on S edge NEB	00:38	238	—
						124	c dk oval in NEBn	00:40	—	127
						125	c w oval on S edge NEB enclosed by grey loop	00:44	241	—
						126	f end dk oval in NEBn	00:46	—	131
						127	c dk proj on S edge NEB	01:02	252	—
						128	f end dk proj on S edge NEB	01:09	256	—
						129	c w spot in NEBn	01:11	—	146
						130	c indef broadening of SEB	01:13	259	147
						131	c dk part of NEBn	01:36	—	161
						132	f end dk hump on S edge NEB	01:41	276	—
8	12	8L	240	1-0	3	133	c w bay on S edge NEB	00:38	148	—
						134	c dk hump on S edge NEB	00:58	161	—
8	14	8L	240	2-1	4	135	c dk proj on S edge NEB	00:23	95	—
						136	f end dk proj on S edge NEB	00:29	98	—
						137	c small elong dk spot in STrZ	00:32	—	303
						138	f end dk proj on S edge NEB	01:09	123	—
						139	c dk proj on S edge NEB	01:16	127	—
						140	f end dk proj on S edge NEB	01:28	134	—
9	7	8L	240	2-1	3	141	f end indef dk hump on S edge SEB	00:07	—	290
						142	c indef dk hump on S edge SEB	00:22	—	299
9	11	8L	240	3-0	4	143	f end w bay on S edge NEB	23:48	327	—
						144	f end ft dk proj on S edge SEB	23:50	—	310
						145	f end dk hump on S edge NEB	23:53	330	—
						146	c w bay on S edge NEB	23:59	334	—
9	13	8L	240	2	4	147	c w bay on S edge NEB	23:45	281	—
						148	f end dk hump on S edge NEB	23:55	287	—
	14					149	c dk hump on S edge NEB	00:06	294	—

SPR	5
~~SPR~~ STB	~~4~~
STRZ - SEBZ	8
SEBR	4
EZ	6
NEB	3
NTRZ - NTRZ	~~6~~ 7
NNTB - NPR	~~0~~ 6

MAY 5/6, 1960
8" REFL. 180×
S-2. T-4

		U.T.	E.D.T.	I	II
	Observations commenced.	~~05:~~	~~01:20~~	~~13~~	—
√1	Df tall proj S edge NEB	05:	01:22	123	—
√2	Dc tall proj S edge NEB	05:	01:31	128	—
√3	Df tall proj. S edge NEB	05:	01:39	133	—
←	Intensity estimate	05:55	~~01:50 02:00~~	143	114
√4	Df selv. SSTB	06:	02:07	—	122
√5	Dc cond. SSTB	06:	02:23	—	131
√6	Df low proj S edge NEB	06:	02:30	164	—
	Observation discontinued due to continuing bad seeing.	06:	02:35	—	—
			1 h 15 m		

I believe these should be STB

MAY 19/20, 1960
8" RFL. 180×
S-1 T-~~B~~ 3-1 (patchy clouds 6:30-7:00)

		UT		
—	Obs. commenced	06:00	—	—
✓7	D f ~~S~~ low proj S edge NE~~B~~B	06:13	206	—
✓8	D ~~p~~c low proj S edge NE~~B~~	06:30	217	—
✓9	D f low proj S edge NEB	06:45	226	—
✓10	W c bay S edge NE B	06:53	231	—
—	Just noticed that SEB s is faintly visible!	07:05	—	—
✓11	D f low proj S edge ~~N~~EB	07:08	240	—
✓12	D c low proj S edge NEB	07:15	244	—
✓13	D f low proj S edge NEB	07:26	251	—
✓14	W c spot on S edge ~~N~~EB	07:43	261	—
—	Obs. discontinued	07:47	—	—
		(1h 47m)		

S-3 T-04

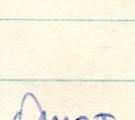
240x

05:25 - 05:40

mean 05:30

$\lambda_1 = 30°$

$\lambda_2 = 141°$



NPR = SPR = 4.0

EZD = 4.0 ✓

STrZ = 8.5 ✓✓

SEBZ = 6.5 ✓

NEB = 2.0 ✓

STB = 2.5 ✓

SEBn = 3.0 ✓

NTrZ - NTeZ = 6.0 ✓

STeZ = 6.5 ✓

NNTB = 3.5 ✓

SEBD = 4.0 ✓

EZn = 6.0 ✓

mean devn from Reese = 0.5

max devn " " = 2.1

JUNE 3/4, 1960

8" REF 180X

S-1-3 T-3-4 (Clouds near 04:30)

		U.T.	I	II
—	Obs. commenced	03:~~50~~	~~330~~	~~80~~
15	Wc bay S edge NEB	03:55	333 ✓	—
16	Df proj. S edge NEB (festoons in E2 in this longitude?)	04:03	338 ✓	—
17	Dc proj S edge NEB	04:11	342 ✓	—
—	Obs Disc	04:15	345	95
—	" Comm.	04:47	4	115
—	Switched to 240x shadow on disk	04:~~58~~	—	—
—	1st contact sat. trans. ingress	05:02:40	—	—
18	Wf ~~Obs~~ spot on S edge NEB	05:0~~5~~	15 ✓	—
—	2nd contact sat trans. ingress	05:0~~7~~:45	—	—
19	Dc ~~Obs~~ patch in S part of NEB	05:11	19 ✓	—
20	Wc spot on S edge NEB	05:12	20 ✓	—
21	Df proj on S edge NEB	05:~~18~~	23 ✓	—
22	Wf spot on S edge NEB	05:20	24 ✓	—
23	Dc proj on S edge NEB	05:26	28 ✓	—
24	Df proj on S edge NEB	05:35	34 ✓	—
25	Wc bay on S edge NEB	05:49	42 ✓	—
—	Sat. shadow on C.M	05:50	—	—
—	Obs. disc.	05:50	43	153

~~2h 00m~~

1h 28m

JUNE 6/7, 1960

8" REFL. 240x

S-4-5 T-5

		U.T.	I	II
—	Obs. comp. RS on f side of disk?	4:50	120	208
26	Dc ~~f~~ proj in double proj ^ S edge NEB	4:55	123	—
27	Wc notch in double proj on S edge NEB	5:03	128	—
28	Dc low proj on S edge STB	5:06	—	217
29	Dc f proj in double proj on S edge NEB	5:11	133	—
30	Wf oval on S edge NEB	5:20	138	—
31	Df low proj on S edge STB	5:23	—	228
32	Wf ~~hollow~~ bay in S edge STB	5:25	—	229
33	Wc oval on S edge NEB	5:28	143	—
34	Wf oval on S edge NEB	5:34	147	—
35	Wc ~~oval on S hollow~~ bay in S edge STB	5:36	—	236
36	Df ~~f~~ proj on S edge STB	5:43	—	240
37	Df ~~loop~~ festoon on S edge SEBn	5:46	154	242
38	Wf ~~oval hollow~~ bay in S edge STB	5:50	—	244
39	Df small ~~oval~~ cond ~~f~~ in SEBs (f end fest 37)	5:57	—	248
40	Dc proj on S edge STB	5:58	—	249
41	Dc small ~~oval~~ cond in SEBs	6:01	—	251
42	Df small ~~oval~~ cond in SEBs	6:05	—	253
43	Wc oval enclosed by loop festoon in SEB	6:13	171	258
44	Df tall proj on S edge NEB	6:16	173	—
45	Df ~~festoon~~ loop on S edge SEBN	6:25	178	—
46	Dc tall proj on S edge NEB	6:32	182	—

CONTINUED

CONTINUED:
JUNE 6/7, 1960
8" RFL. 240X
S-4-5 T-5

			U.T.	I	II
47	D f	tall proj on S edge NEB	06:42	188	—
48	W c	deep ~~bay~~ notch in S edge NEB	06:48	192	—
—	Obs. Disc.		06:50	193	280

(2h 00m)

JUNE 7/8, 1960
8" RFL. 180x
S-2-3 T-4

		U.T.	I	II
—	Obs comm.	04:04	250	330
49	Dc (proj.) S edge NEB	04:05	251 ✓	—
50	Dh (RS) ST↔Z	04:07	—	332 ✓
200 51	Df (proj) S edge NEB	04:10	254 ✓	—
52	Dc (RS) ST↔Z (R.I. = ~~3.5~~ 4.0)	04:23	—	342 ✓
53	Df (RS) ST↔Z (f end = ~~2.5~~ 3.0)	04:41	—	353 ✓
—	Obs. disc.	04:44	275	354
				0h 40m

4:12 Much detail on N edge NEB
STeZ & SSTB visible in this long.
4:25 I suspect the SSTZ on preceding half of disk
NNTZ visible.
4:32 RS visible on f limb?
5:17-5:21 Scope switched to E side of pier.
5:35 RS has decided pinkish tint. It appears broader & more elliptical than on Jun. 8. Has a very narrow dark border all around
5:50 RSH faintly visible.
06:15 SAT. FADING (~ half way gone) } eclipse disappearance
6:16:30 SAT. GONE

R.S. f edd 329°.1
τ 342°.4
f end 352°.1
mean D 341°.2
length 23°.0

JUNE 9/10, 1960
8" RFL. ~~180~~ x 240 X
S-5 T-3

		U.T.	I	II
—	Obs. comm	4:07	208	273
54	D h (large proj) S edge NEB	4:11	210	—
55	D c (large proj.) S edge NEB	4:19	215	—
56	D f (indef. proj.) N edge SEB	4:21	217	—
57	D f (large proj) S edge NEB	~~4:27~~ 4:27	220	—
58	W h (spot) NT n Z	4:40	—	293
59	W c (spot) NT n Z	4:47	—	297
60	W f (spot) NT n Z	4:52	—	300
61	D c (proj) S edge STB	4:56	—	302
62	W h (bay) S edge STB	4:59	—	304
63	D f S STB (indef)	5:02	—	306
64	W c (oval) E Z n	5:05	244	—
65	D h (proj.) S edge NEB (base fest.)	5:07	245	—
66	D c (proj) S edge NEB (base fest)	5:15	250	—
67	W c (bay) S edge STB (f edge indef)	5:16	—	315
68	D f (proj) S edge NEB (base fest.)	5:23	254	—
69	D c (cond.) STB	5:25	—	320
70	D c (cond) N edge NNTB	5:26	—	321
71	D f (cond) N edge NNTB	5:30	—	323
72	D h (indef. veil) S t e Z	5:32	—	324
73	W c (oval enfoxedly loop fest) S edge NEB	5:39	264	—
74	D h (RS) ST n Z	5:40	—	329

CONTINUED
JUNE 9/10, 1960
8" RFL. 240X
S- T-

		U.T.	I	II
75	Dc (RS) ST~2	Ø6:02	—	342 ✓
76	Df (RS) ST~2	Ø6:18	—	352 ✓
77	Wf (bay) S edge NEB	6:23	291 ✓	—
78	Wf (RSH) SEBs	6:25	—	356 ✓
—	Obs. disc.	6:27	293	358

(2h 20m)

Transit estimated as ~5 min before 03:57

04:00 RS just past C.M. when obs. comm. Looks very much like when last seen. Image boiling — combination of Vaughn's types II & III.

04:07 Seeing is fascinating. Image becomes blurred & enlarged, pulsating. Pulsations become sharp waves. Then cycle repeats.

04:15 Red colour of RS very plain.

04:45 RS still plain. Loop fest. on S edge NEB is not visible over its full length, fading out ℘ centre of enclosed oval.

04:52 Fest in STeZ: Oriented in NE-SW direction. STeZ ℘ fed much darker than STeZ ℘ fest.

05:03 Obs. disc. due to continuing bad seeing.

JUNE 12/13, 1960

8" RFL 240x

S-0-2 T-4

		U.T.	I	II
—	Obs comm.	3:55	315	357
79	Df (RS) ST n Z	3:52 [e]	—	355 ✓
80	Dp (proj) S edge NEB (p base loop fest.)	4:09	325 ✓	—
81	Dc (proj) S edge NEB (base loop fest.)	4:18	329 ✓	—
82	Df (proj) S edge NEB (p base loop fest)	4:26	334 ✓	—
83	Wc (oval) S edge NEB (enclosed by loop fest)	4:35	339 ✓	—
84	Dp (low proj) S edge NEB	4:45	345 ✓	—
85	Dc (p base fest STeZ) S edge STB	4:48	—	29 ✓
86	Dc (low proj) S edge NEB	4:51	349 ✓	—
87	Wp (patch) STeZ	4:56	—	34 ✓
88	Df (low proj) S edge NEB	4:58	353 ✓	—
89	Dc (p base fest. STeZ) N edge SSTB	5:00	—	36 ✓
—	Obs disc.	5:03	356	38

1h 08m

3:53 Seeing absolutely hopeless

3:57 Switching to 180x does not help.

3:58 Obs. Disc.

JUNE 16/17, 1960

6" REFL 240X

S÷1-0 T÷3

		U. T.	I	II
—	Obs comm.	3:48		
90	Df (proj) S edge NEB	3:49	223	—
—	Obs. disc.	3:58		

10 m

R.S. f end 333.3

c 341.1

f end 350.2

mean d = 341.5 (II)

length = 16.9

JUNE 21/22, 1960.

8" REFLECTOR 240X

S-1-0 T-3

		U.T	I	II
—	Obs. comm.	04:50		
91	Dc (proj) S edge NEB (Phase lock fest)	04:51	331	—
92	Wc (bay) S edge STB	04:54	—	306
93	Wf (notch) S edge NEB	04:57	335	—
94	Wf (bay) S edge STB	05:00	—	310
95	Df (veil) STrZ	05:00	—	310
96	Wc (notch) S edge NEB	05:02	338	—
97	Wf (notch) S edge NEB	05:10	343	—
98	Df (RS) STrZ	05:39	—	333
99	Dc (RS) STrZ	05:52	—	341
100	Df (RS) STrZ	06:07	—	350
—	Obs. disc.	06:08		

12 18m

3:20 – 3:35 S:4 T:4 at 3:28 $\lambda_1 = 17°$

$\lambda_2 = 259°$

NPR = 4.2

SPR = 3.8

BELTS: NEB = 2.0

STB = 2.6

SEB$_N$ = 2.8

SSTB = 3.4

EB = 3.8

NNTB = 3.8

SEB$_S$ = 4.0

ZONES: STrZ = 8.2

STeZ = 7.5

SEBZ = 7.0

EZ$_D$ = 4.5

EZ$_m$ = 7.0

NTrZ - NTeZ = 5.5

JULY 3/4, 1962
8" REFL. 240 x
S: 4-2 T: 4

		U.T.	I	II
—	Obs. comm	02:55	—	—
101	D c (proj) S edge NEB	02:57	358 ✓	—
102	D f (proj) S edge NEB	03:06	3 ✓	—
103	D f (cond) SEB Δ (f end fest SEB2)	03:10	—	248 ✓
104	D c (cond) SEB Δ	03:14	—	250 ✓
105	D f (cond) SEB Δ	03:19	—	253 ✓
106	D c (proj.) S edge NEB	03:42	25 ✓	—
107	D f (proj) S edge NEB	03:49	28 ✓	—
—	Obs. disc.	03:50	—	—
—	Obs. comm	04:02	—	—
108	W f (bay) S edge STB	04:12	—	285 ✓
—	Obs. disc.	04:25	—	—

1h 30m

03:08 – 03:44 S-3 T-3 [03:26 – $\omega_1 = 302°$ $\omega_2 = 230°$

NPR = 3.8 SPR = 4.2

BELTS: NEB = 2.5
STB = ~~3.0~~ 2.8
SEBn = 3.2
SSTB = 3.4
SEBo = 4.5
NNTB = 3.7
EB = 3.4

ZONES: STn2 = ~~8.0~~ 7.5
STe2 = 7.2
EZo = 4.2
EZn = 6.0
NTn2 – NTe2 = 6.5
SEB2 = 5.5

JULY 10/11, 1960

8" REFLECTOR ~~180×~~ 240 ×

5÷2-3 T: 3

		U.T.	I	II
—	Obs. comm.	02:50	—	—
109	Dc (proj) S edge NEB (p base loop fest)	02:54	22°	—
110	Wc (bay) S edge STB	02:59	—	214
111	Df (proj) S edge NEB	03:03	28	—
112	Wf (bay) S edge STB	03:10	—	220
113	Wc (nodule) S edge NEB	03:12	33	—
114	Dp (proj) S edge NEB	03:16	35	—
115	Dc (proj) S edge NEB	03:23	40	—
116	Df (proj) S edge NEB	03:32	45	—
117	Dc (proj) S edge SEB n (base fest)	03:46	~~out~~ 54	242
—	Obs. disc. due to boiling.	03:55	—	—

1h 05m

04:37 – 04:45 S-2 T-4 [at 04:36
$\omega_1 = 356°$
$\omega_2 = 154°$

NER = 3.8 SPR = 4.2

DELTS: NEB = 2.0
SEBn = 3.0
STB = 3.0
SSTB = 3.3
SEBD = 4.5
EB = 3.5
NNTB = —

BONES: STn2 = 8.0
SEB2 = 8.0
STe2 = 7.0
EZD = 5.0
EZn = 5.5
NTn2 – NTe2 = 5.5

307 JULY 14/15, 1960
8" REFL. 240x
S: 2 T: 5-4

		U.T.	I	II
—	Obs comm	04:08	—	—
118	Dp (proj) S edge NEB	04:12	341	—
119	Dwf (oval) S edge NEB	04:17	344	—
120	Dc (proj.) S edge NEB	04:26	350	—
121	Df (proj.) S edge NEB	04:38	357	—
122	Dc (indef cond) EZm	04:57	9	—
123	Dp (indef cond) N edge NNTB	04:59	—	168
124	Dc (indef. cond.) N edge NNTB	05:05	—	171
125	Dp (tail proj.) S edge NEB	05:09	16	—
126	Dc (tail proj) S edge NEB	05:16	20	—
—	Image boiling; obs. close.	05:17	—	—

1h 09m

4:25.5 Satellite shadow on C.M. II
4:26 1st contact sat. trans. egress II
4:29:15 2nd contact sat. trans egress II
4:32.5 1st cont. sat occ egress I
4:33:50 2nd cont sat occ egress I

308

JULY 20/21, 1960
8" REFL. 180×
S-2-0 T-5

		U.T.	I	II
—	Obs. comm.	04:15	—	—
127	D c (proj) S edge NEB	04:18	213	—
128	D p (RS) ST n Z	04:36	—	336
129	D c (RS) ST n Z	(E) 04:53	—	346
—	Obs. disc. due to absolutely hopeless seeing.	04:53	—	—

38m

01:57 Much detail on S edge NEB but impossible to time because of poor seeing and tube vibrations.

~~02:02 RS/ near CM.~~

309 JULY 23/24, 1960 WEIR
8" REFL. 180X
S-2 T-4

		U.T.	I	II
—	Obs. comm	01:50	—	—
130	RSp	02:03	—	334
131	D< (proj.) S edge NEB	02:18	253	—
132	RS<	02:24	—	347
—	Obs. disc.	02:26	—	—

36m

310 JULY 25/26, 1969
8" REFL 180 X
S-4~~0~~ T-2-0

		U.T.	I	II
—	Obs comm	02:40	—	—
—	Obs. disc	02:45	—	—

5m ~~EXPOR~~

3:38 1st contact SH. EG.
3:45 2nd " " "

311 JULY 28/29, 1960

8" REFL. ~~184~~ x 249 x

S-3 T:3

		U.T.	I	II
—	Obs. comm	03:30	—	—
133	D f (proj.) S edge NEB	03:40	13	—
134	D τ (proj.) S edge NEB (f base lost fet)	03:48	18	—
135	D f (proj.) S edge NEB	03:58	24	—
—	Obs. disc.	04:02	—	—

32 m

01:17 – 01:44 S:3 T:3 01:30

NPR = SPR = 4.0

BELTS: SSTB = 3.8 ZONES: STrZ = 7.5
STB = 3.5 STeZ = 5.8
SEBn = 3.2 SEBZ = 7.0
SEBD = 4.2 EZD = ~~5.0~~ 3.8
NEB = 2.2 EZn = 4.5
NNTB = 3.8 NTeZ – NTrZ = 6.5

01:58 RS. on f limb.
02:15 veil in EZs looks purplish.
02:23 RS has intensity = 4.5

312 AUG 11/12, 1960

8" REFL. 189X

S-2-4-2 T-4-3

		UT	I	II
—	Obs comm	00:42	—	—
136	D f (proj) S edge NEB	00:44	316	—
137	D c (proj) S edge NEB (f base lost fest)	00:55	323	—
138	D f (veil) ST ε Z	(E) 00:55	—	268
139	D f (proj) S edge NEB	01:06	329	—
140	W c (oval) S edge NEB (enclosed by lost fest)	01:13	334	—
	~~Switched to 240x~~	~~01:16~~	~~—~~	~~—~~
141	D f (proj) S edge NEB	01:24	340	—
142	D c (proj) S edge NEB (f base lost fest)	01:31	345	—
143	D f (proj) S edge NEB	01:40	350	—
—	Obs disc.	01:47	—	—
—	Obs comm	01:53	—	—
144	D c (veil) EZ Δ	02:15	12	—
145	D c (proj) N edge NEB	02:29	—	325
146	D f (RS) ST ε Z	02:38	—	330
147	D f (veil) EZ Δ	02:40	27	—
148	D c (RS) ST ε Z	03:03	—	345
149	D f (proj) S edge NEB	03:10	45	—
150	W f (oval) ST ε Z (S edge STB)	03:17	—	354
300 151	D c (proj) S edge NEB	03:23	53	—
152	D f (RS) ST ε Z	03:27	—	0
—	Obs disc.	03:31	—	—

2 h 43 m

313 SEPTEMBER 15/16, 1960

8" REFL. 180x

S-1 T-3

			U.T.	I	II
—		Obs comm.	23:24	—	—
~~444~~	153	Dτ (proj) S edge NEB	23:28	33	—
	154	Dh (proj) S edge NEB	00:20	64	—
	155	Dτ (proj) S edge NEB	00:29	70	—
—	~~E6~~	Obs. disc.	00:30	—	—

$1^h 6^m$

314 OCT. 17/18, 1960

8" RFL 180×

S: 1-2 T: 3

		U.T.	I	II
—	Obs comm	23:05	—	—
156	D c (proj: if base lock fest) S edge NEB	23:13	30°	—
157	D f (proj: if base lock fest) S edge NEB	(E) 23:25	37°	—
—	Obs. disc.	23:30	—	—

25 m

SUMMARY:

157 transits in 21h 55m or an average of 7.1 transits per hour.

Satellite first noted off f limb at 07:45 approx.

Most striking change from last year is the extreme duskiness of the EZ which makes NEB & SEBn look like one broad belt at first glance. NNTB is quite definite at these longitudes. My eye is not yet sufficiently trained to detect NTB and SEBA if they are present.

When observations were discontinued there was an intensely dark feature on the ~~f face~~ NEB close to the f limb, but conditions would not allow me to see ~~what~~ it was.

Temperature = 38°

315 MAY 16/17, 1961

8" REFL / ~~180~~, 240X

S-3-0 / T-3-~~4~~0

			UT.	I	II
—	Obs. comm		07:40	—	—
1	D/h (proj) S edge NEB		08:01	156 ✓	—
2	D/f (proj) S edge SEB n		08:04	158 ✓	139 ✓
—	~~Lt~~ Lt cloud over Jupiter		08:06	—	—
~~3~~ —	Clear		08:15	—	—
3	D/f (proj) S edge NEB	(E)	08:15	164 ✓	—
—	Obs. disc as conditions ~~are~~ have disintegrated with little hope of improvement.		08:23	—	—

(0h 43m)

05:23 RS on f side of disk.
STB ovals on p and f sides of disk*

05:30 SEBn proj ~~very~~ quite dark. Is this the promised SEB dist.?

05:55 I suspect a delicate festoon from SEBn proj to ~~f~~ p and RS.

06:40 RS has definite pink colour. It has the shape of an ellipse slightly elongated along the major axis.

SEBs was much more conspicuous of RS. No belts north of NEB could be definitely seen.

* Tentatively identified as BC and DE_A respectively. It would appear from this that BC was greatly affected by its conjunction with the RS.

316 JUNE 6/7, 1961
8" REFL / 180X
S-2-4 T-4

		UT.	I	II
—	Obs comm.	05:04	—	—
4	D h (low proj) S edge SEB n	05:26	139° V	321 V
5	W c (oval) S edge NEB	05:36	145 V	—
6	W h (oval) S edge STB ["DE"]	05:39	—	329 V
7	D c (low proj) S edge SEB n	05:45	150 V	332 V
8	D h (tall proj) S edge NEB	05:52	154 V	—
9	W h (RSH) SEB ▵	05:53	—	337 V
10	D f (low proj) S edge SEB n	05:58	158 V	340 V
11	D c (tall proj) S edge NEB	05:59	159 V	—
12	W c (oval) S edge STB (f end uncertain, near conj with RS c) [DE]	06:01	—	342 V
13	RS h	06:06	—	345 V
14	D f (tall proj) S edge NEB	06:09	165 V	—
15	RS c	06:29	—	359 V
16	D h (tall proj) S edge NEB	06:36	181 V	—
17	RS f	06:51	—	12°
18	D c (tall proj) S edge NEB	06:55	193 V	—
19	D f (tall proj) S edge NEB	07:06	200 V	—
20	W f (RSH) SEB ▵	07:07	—	22 V
—	Obs. disc.	07:08	—	—

(2h 04m)

05:39 STZ2 has peculiar mottled appearance – nothing definite enough to time.

NNTB visible.

317 JUNE 7/8, 1961
8" REFL / 180X
S: 1–43 T: 3

		U.T.	I	II
—	Obs. comm.	05:08	—	—
21	Wc (oval) S edge NEB	05:14	289	—
22	Dh (tall proj) S edge NEB	05:25	296	—
23	Dc (tall proj) S edge NEB	05:33	301	—
24	Df (tall proj) S edge NEB	05:43	307	—
25	Dh (low proj) S edge SEBn	06:02	319	133
26	Wc (oval) S edge NEB	06:10	324	—
27	Dc (low proj) S edge SEBn	06:15	326	141
28	Dh (tall proj) S edge NEB	06:18	328	—
29	Dc (tall proj) S edge NEB	06:31	336	—
30	Wh (oval) STeZ [BC]	06:41	—	157
31	Df (tall proj) S edge NEB	06:43	344	—
32	Wc (oval) STeZ [BC]	06:57	—	166
33	Dh (low proj) S edge SEBn	07:04	356	171
34	Wh (oval) S edge NEB	07:06	358	—
35	Dh (sect) STB	07:10	—	174
36	Dc (low proj) S edge SEBn	07:15	3	177
37	Wf (oval) STeZ [BC]	07:17	—	178
—	Obs. disc.	07:20	—	—

$2^h 12^m$

05:19 - 05:30 Disk drawing ($\lambda_1 = 207°$, $\lambda_2 = 352°$)

05:48 I suspect the NTB — very faint.

05:55 EZ feat (47, 51) curved ~~=~~ slightly concave on N side.

318 JUNE 11/12, 1961

8" REFL. ~~180x~~ 240x

S: 03-4-3T: 4~~-10~~

		U.T.	I	II
—	Obs. comm	04:39	—	—
38	W h (oval) S edge STB	04:42	—	326
39	D c (lg proj) S edge NEB	04:56	190	—
—	Switched to 180x	05:02	—	—
40	W c (oval) S edge STB	05:03	—	339
41	D f (lg proj) S edge NEB	05:08	198	—
42	R S h	05:10	—	343
43	W f (oval) S edge STB	05:16	—	347
* 44	R S c	05:35	—	358
45	D c (small proj) S edge SEB n	05:39	217	1
46	D f (small proj) S edge SEB n	05:43	219	3
47	D ~~X~~ c (~~fest~~ h base fest) S edge NEB	05:51	224	—
48	R S f base	05:52	—	8
49	D h (f shoulder RSH) SEB n	05:57	228	12
50	W h (oval) S edge NEB	05:59	229	—
51	D f (f base fest) N edge SEB n	06:05	232	—
52	W c (oval) S edge NEB	06:14	238	—
53	W f (RSH) SEB ~~S SEB~~	06:15	—	22
54	D f (sect) STB	06:17	—	24
55	D h (proj h base fest) S edge NEB	06:19	241	—
56	W f (oval) S edge NEB	06:27	246	—
57	D c (proj h base fest) S edge NEB	06:30	248	—

06:39 RS ~~was~~ appears clearly foreshortened.

JUNE 11/12, 1961 – CONT.

		U.T.	I	II
58	W h (oval) S edge NEB	06:38	253	—
59	W h S S Tail	06:43	—	39
60	D f (proj h base fest) S edge NEB	06:45	257	—
61	D h (cond f base fest) SEB n	06:52	261	—
62	W c (oval) S edge NEB	06:53	262	—
—	Obs. disc.	06:54	—	—

2h 15m

05:01.4 1st contact sat ~~0~~ trans. ingr. S-2½ } times uncertain due
05:05.6 2nd contact sat trans ingr. S-2 } to poor seeing T-4
Satellite invisible almost immediately on entering disk of planet.

05:21 ~~Sat. sh~~. D h Sat. sh transit.

E 05:26 D c Sat sh ~~E~~ transit (probably late)

Satellite sh appeared to have shape sketched — possibly caused by being superimposed over festoon?

SEBm
NEB

~~S E I~~ Satellite is I TI: T_c = 05:05

Se: T_c = 6:29
Si: T_c = 4:12
Intermediate time: 5h:20.5

T_1 = 4:12
T_2 = 6:29
$\bar{x}$ = +7.6
x = .1225 137
C = 4:12 + $\frac{(2.17)(1.122)}{2}$

= 4:12 + 77 m
= 5:29
O - C = -3m

319 JUNE 15/16, 1961
8" REFL. 189x
S-1-3-0 T-4

		U.T.	I	II
—	Obs. comm.	04:47	—	—
63	Dc (tall proj) S edge NEB	04:56	102°	—
64	Df (tall proj) S edge NEB	05:04	107°	—
—	Obs. disc. as seeing hopeless.	05:28	—	—

41m

320 JUNE 17/18, 1961
6" REFR 150x
S-3 T-3

		U.T.	I	II
—	Obs. comm.	05:20	—	— ✓
.65	D/h (sect) STB	05:21	—	172°
—	Obs. disc.	05:25	—	—

5m

321 JUNE 18/19, 1961

8" REFL 180x

S-1 T-3

		U.T.	I	II
—	Obs. comm.	04:47	—	—
66	W f (oval) STeZ	05:19	—	321
67	D f (sect) STB	05:25	—	325
68	D f (tall proj) S edge NEB	05:32	238	—
69	W c (oval) STeZ	05:35	—	331
70	D c (tall proj) S edge NEB	05:42	244	—
71	W f (oval) STeZ	05:51	—	340
72	W f (oval) S edge NEB	05:53	251	—
73	D f (tall proj) S edge NEB	05:56	253	—
74	R S f	04:59	—	345
75	W c (oval) S edge NEB	06:04	258	—
—	Obs. disc. due to clouds	06:05	—	—

1h 18m

322 JUNE 22/23, 1961

8" REFL. 180X

S-1 T-2

		U.T.	I	II
—	Obs comm.	04:10	—	—
76	Dp (sect) STB ?	E04:14	—	164
78	Df (proj) S edge NEB	04:17	105	—
—	Obs disc. due to hopeless seeing	04:31	—	—

21 m

323

JUNE 27/28, 1961
8" REFL 180×
S-1-2 T-2-3

		U.T.	I	II
—	Obs. comm.	03:45	—	—
78	D h (lgt proj) S edge NEB	04:07	169	—
79	D c (lg proj) S edge NEB	04:23	178	—
80	D h (det) STB	04:26	—	203
81	D f (lg proj) S edge NEB	04:37	187	—
—	Switched to 240×	04:44	—	—
—	Obs. disc.	04:50	—	—

1h 5m

324 JULY 6/7, 1961
8" REFL 180x
S-13 T-2

		U.T.	I	II
—	Obs. comm.	03:41	—	—
82	D W < (oval) S edge NEB	03:46	138	—
83	D ∧ (tall proj) S edge NEB	03:58	146	—
84	W ∧ (oval) S edge NEB	04:01	147	—
85	D < (tall proj) S edge NEB	E 04:06	150	—
—	Obs disc due to clouds	04:05	—	—

24m

for VIC
05:35 Echo on line bet. Jup. & altar m = altar

05:15 Sat. III on CM.

05:36 $\omega_1 = 144°$ $\omega_2 = 13°$

05:24 — 05:47 S: 4 T: 4

✓ NPR: ~~4~~ 3.8
✓ SPR: 4.2
✓ Sh III: 0.0
✓ NEB: ~~3.0~~ 2.5
✓ III: 1.5
✓ SEBn: 3.0
✓ STBn: 3.3
✓ SSTB: 3.6
✓ STBf: 5.0
✓ SEBs: 5.0
✓ NNTB: 3.7
✓ RS: 3.8
✓ SEB2: 6.0
✓ STn2: 6.5
✓ E2: 5.5
✓ NTn2: 6.2
✓ NTe2: 6.0
✓ NTBs: ~~5.2~~ 5.2
✓ STe2n: 6.0
✓ STe2f: 5.5
✓ SSTe2f: 5.9
✓ SSTe2n: 4.2

E2 fest missed while estimating intensities

06:19.6 Sh III half off planet

Sat. C.M. transit

$T_1 = 3:30$ ✓

$T_2 = 7:05$ ✓

$i = 1.55$

$x = +.0259$

$$C = T_1 + \frac{(T_2 - T_1)(1 + x)}{2}$$

$$= 3:30 + \frac{(180+35)1.0259}{2}$$

$= 3:30 + 107.73$

$= 5:17.7$

$\therefore O - C = -5^m$

1.0258 × 210 = 215.418 ; 215.418 / 2 = 107.7090

1.026 × 210 = 215.460

325 JULY 17/18, 1961

8" REFL 240x

S-4 T-3-4

		U.T.	I	II
—	Obs. comm.	05:14	—	—
86	RSe	05:22	—	5° ✓
87	Df (sect) STB	05:28	—	8° ✓
88	RSf	05:39	—	15° ✓
89	Df (cond) NEBn	05:52	—	23 ✓
90	Dh (base indef fest) S edge NEB	05:54	155 ✓	—
91	Dc (base indef fest) S edge NEB	06:00	158 ✓	—
92	Wh (sect) SSTeZ	06:02	—	29
93	Df (base indef fest) S edge NEB	06:06	162 ✓	—
* —	Obs. disc.	06:30	—	—

1h 16m

05:35 Aurora streamer overhead?
05:55 Aurora definite overhead

05:25 Detail in E2 seems ill-defined.
06:30 I have a strong suspicion of detail within the RS; ~~but~~ perhaps a light cloud near its centre?

326 JULY 19/20, 1961
8" REFL. 240x
S-5 T-4

		U.T.	a	I	II
—	Obs. com. ~~& SEB2~~	04:55	—	—	
700 94	D c (p base ~~STB~~ fest) ~~SEB2~~ SEB n	04:58	77		~~291~~
95	D c (proj) S edge STB	05:02	—	293	
96	D p (small cond) SEB D	05:05	—	295	
97	D c (small cond, f base ~~STE2~~ SEB2 fest) SEB D	05:10	—	298	
98	W p (oval) STB. S edge	05:13	—	300	
99	D f (small cond) SEB D	05:16	—	302	
100	D f (proj) S edge STB	05:23	—	306	
101	W c (oval) S edge STB	05:29	—	310	
~~102~~	D p (~~fest~~ E ~~fest~~ EZ fest) S edge NEB	05:40	102	—	
103	W f (oval) S edge STB	05:45	—	319	
104	W p (oval) S edge NEB	05:52	110	—	
~~105~~	D f (~~fest~~ EZ fest) ~~N~~ edge SEB n	05:58	113	—	
106	D p (proj) N edge S STB	06:06	—	332	
107	W c (oval) S edge NEB	06:09	120	—	
108	D c (proj) N edge S STB	06:14	—	337	
109	D f (proj) N edge S STB	06:21	—	341	
110	RS p	06:37	—	351	
111	D f (sect) NEB n	06:42	—	~~354~~	
112	D c (p base EZ fest) S edge NEB	06:49	144	—	
113	W c (gap) NEB n	06:52	—	0°	
114	D f (sect) STB	06:53	—	0	

JULY 19/20, 1961 — CONT.

	O.T.	I	II
115 RSC	06:57	—	3 oV
— Obs. disc.	06:58	—	—

2 h 3 m

04:35 There is a duskiness in the S part of the STrZ and the STeZ at this long. which gives a vague ~~suspicion~~ suggestion of a faint "pseudo-red-spot" although colourless and too far ~~so~~ south.

04:40 RS pretty well invisible ~~on~~ on p limb

05:10 Conspicuousness:

to

05:18

mean 05:09

ω_1 =

ω_2 =

BELTS: √NEB
√SSTB
√SEBa
√STB
√SEBp
√SSSTB
√NNTB

ZONES: √STrZ
√NTeZ-NTrZ
√EZ
√SSTeZ
√SEBZ
√STeZ

2 & 3 m

327 JULY 20/21, 1961
8" REFL 240x
S-2-4 T-2-3-1

		U.T.	I	II
—	Obs comm.	02:40	—	—
116	Df (sect) STB	02:43	—	0
117	RSc	02:50	—	4
118	Dp (base fest) S edge NEB	02:55	160	—
119	Dc (base fest) S edge NEB	03:00	163	—
120	Df (base fest) S edge NEB	03:05	166	—
121	RSf	03:07	—	14
122	Wc (oval) S edge NEB	03:14	171	—
123	Dp (lg proj) S edge NEB	03:22	176	—
124	Dc (lg proj) S edge NEB	03:32	182	—
125	Wp (sect) S STR2	03:34	—	31
126	Df (lg proj) S edge NEB	03:40	187	—
—	Obs. disc.	03:41	—	—
—	Obs. comm.	03:55	—	—
—	Obs disc	04:02	—	—
—	Obs comm.	04:19	—	—
127	Dp (base fest) S edge NEB	04:30	218	—
128	Dc (base fest) S edge NEB	04:37	222	—
129	Df (base fest) S edge NEB	04:46	227	—
130	Wc (oval) S edge NEB	04:59	235	—
131	Dp (proj) S edge NEB	05:08	241	—
132	Dc (proj) S edge NEB	05:19	247	—
—	Obs disc. due to haze	05:25	—	—

Image drifts up using, down setting

04:13 STB is ~~much darker~~ definitely more intense than NEB in these longitudes.

04:56 NEB now appears more or less double. ~~NEB~~ NEB2 difficult.

PEN OVERBOARD!

05:52 RS on f limb. No unusual appearances noted during conjunction of satellites I & II

2h 8m

~~JULY 20/21, 1961 — CONT.~~

JULY 26/27, 1961

8" REFL. 240X

S-2-3 T-3-4

		U.T.	I	II
—	Obs. comm.	04:13	—	—
133	D f (fest) EZ ▵	04:18	78	—
134	W h (gap) NEB n	04:31	—	248
135	W c (gap) NEB n	04:39	—	252
136	W f (gap) NEB n	04:47	—	257
137	D h (lg. proj) S edge NEB	04:48	97	—
138	W h NEB Z (rift) NEB	04:56	102	263
139	D c (lg proj) S edge NEB	04:59	103	—
140	D c (small proj) S edge STB	05:02	—	266
141	D f (lg proj) S edge NEB	05:05	107	—
142	D c (h base EZ fest) S edge NEB	05:19	116	—
143	D c (f base EZ fest) N edge SEB n	05:26	120	—
~~144~~	Obs. disc. (Coke break)	05:32	—	—
—	Obs. comm.	05:36	—	—
144	W h (oval) S edge STB	05:48	—	294
145	D f (sect) STB	05:51	—	296
146	W c (oval) S edge STB	06:04	—	304
147	D h (base fest) S edge NEB	06:07	145	—
—	Telescope switched to FE of pier	06:14	—	—
148	D c (base fest) S edge NEB	06:18	152	—
149	W f (oval) S edge STB	06:20	—	313
—	Obs disc. due to continuous boiling.	06:25	—	—

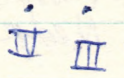
(notch) N edge NEB

04:00 RS on p limb

I ec. r.

contact		04:00+	
✓1	8:30 + 10 =	8m.5	ecl. reap. S-2 T-5
2	9:36 + 10 =	9m.8	

disk obviously larger than other 3 satellites



(not to scale)

04:54 "Pseudo RS" is again apparent. It is an indistinct grey shading in the STeZ (sic) which gives impression of a large grey oval too indefinite to time.

04:43 SEBZ is quite dusky in these longitudes

329 AUGUST 1/2, 1961
8" REFL. 240x
S-3. T-B4

		U.T.	I	II
—	Obs. comm.	04:00	—	—
150	D/h (tall proj) S edge NEB	04:01	296	—
151	W/h (gap) NEB m	04:02	—	52
152	D/c (tall proj) S edge NEB	04:08	300	—
153	D/f (tall proj) S edge NEB	04:14	304	—
154	W/c (gap) NEB m (f end indef)	04:18	—	62
155	D/c (small proj) S edge NEB	04:33	316	—
156	D/h (tall proj) S edge NEB	04:58	331	—
—	Obs. disc.	05:00	—	—

1 2 00 m

01:29 EDT.
ECHO TRANS

04:21 NEB seems to be breaking up into two components on 1 side of disk.

04:53 I suspect that the "projection" on the S edge of the NEB is really a festoon making a rather small angle with the belt and appear as a large projection due to indifferent seeing.

MEMO — CLEAN EYEPIECES!!!

1h 5m

330 @ AUG 9/10, 1961
8" REFL 240x
S-2 T-2-1-3

		U.T.	I	II
—	Obs com (tel. E) & base feat	04:16	—	—
157	Df (proj) S edge NEB	04:17	130	—
158	Df (E2 feat) N edge SEB n	04:19	131	—
159	Wf (rift) NEB	04:20	132	186
160	Wr (oval) S edge NEB	04:31	138	—
161	Dr (indef loop proj) S edge STB	04:33	—	194
162	Dp (proj) S edge NEB	04:38	143	—
163	Dr (proj) S edge NEB	04:49	150	—
164	Df (proj) S edge NEB	04:58	155	—
—	Obs. disc.	05:07	—	—
—	Obs. com.	05:15	—	—
165	Dp (indef low proj) S edge SEB n	05:16	166	—
166	Dr (indef low proj) S edge SEB n	05:24	171	—
167	Dp (lg proj) S edge NEB	05:27	173	—
168	Df (indef low proj) S edge SEB n	05:32	176	—
169	Dr (lg proj) S edge NEB	05:44	183	—
170	Wp (notch) N edge NEB	05:52	—	242
171	Df (lg proj) S edge NEB	05:58	192	—
172	Wr (notch) N edge NEB	06:02	—	248
173	Wf (notch) N edge NEB	06:08	—	251
—	Obs. disc. due to low altitude of Jupiter, poor seeing, and mosquitoes (not necess. in that order). DE on f limb.	06:15	—	—

22:47 EDT
ECHO TRANSIT
MAG ÷ VEGA

331 AUG 10/11, 1961

8" REFL. 240x

S-3-2 T-1-2-1

		U.T.	I	II
—	Obs. comm.	01:59	—	—
174	W f (notch) S edge NEB	02:01	—	252 ✓
175	D f (lg proj) S edge NEB	02:11	211 ✓	—
176	D z (lg proj) S edge NEB	02:23	218 ✓	—
177	D f (lg proj) S edge NEB	02:34	225 ✓	—
178	W f (oval) S edge STB ("DE")	02:50	—	282 ✓
179	W z (oval) S edge STB	03:03	—	290 ✓
180	W f (oval) S edge STB	03:19	—	298 ✓
—	Obs. disc.	03:17	—	—

$1^{h}\,18^{m}$

04:34:9 1 contact sat eq. } S – 2
04:37:9 2 contact " " } T – 4
05:05:2 1 contact sh. eq } S – 1
05:09:1 2 contact sh eq } T – 4

332 AUG 16/17, 1961

8" REFL. 240 x

S-1 T-4

		U.T.	I	II
——	Obs com. (Tel. E)	04:34	—	—
181	W f (sect) S Tez	04:40	—	171 ✓
182	D f (proj) S edge NEB	04:53	178 ✓	—
183	D z (proj) S edge NEB (f base best)	05:00	182 ✓	—
184	D f (proj) S edge NEB	05:08	187 ✓	—
——	Obs. disc as seeing hopeless.	05:14	—	—

40m

22:24 E.D.T.
ECHO TRANSIT

22:26.0 1 cont } ~~stl.~~ r. { S - 1
22:28.4 2 cont } { T - 3
22:58 Much detail in E2 lost due to poor seeing

333 AUG 17/18, 1961
8" REFL. 240x
5-4 T-143

		V.T.	I	II
—	Obs. comm (Jel. W)	01:03	—	—
185	Dh (proj) S edge NEB	01:33	214	—
186	Dc (proj) S edge NEB (h base fest)	01:40	218	—
187	Df (proj) S edge NEB (~~h~~ f)	01:49	224	—
188	Dh (proj) S edge NEB	02:14	239	—
189	Dc (proj) S edge NEB	02:22	244	—
190	Df (proj) S edge NEB	02:30	249	—
191	Wc (notch) N edge NEB	02:33	—	244
192	Wf (notch) N edge NEB	02:38	—	247
—	Obs. disc. (coke break)	02:40	—	—
—	Obs. comm.	02:54	—	—
193	Wh (oval) S edge NEB	03:18	278	—
194	Wh (oval) STB	03:29	—	278
195	Wc (oval) S edge NEB	03:31	286	—
196	Dh (lg proj) S edge NEB	03:38	290	—
197	Wf (oval) S edge NEB	03:43	293	—
198	Wfc (oval) STB	03:47	—	289
199	Dc (lg proj) S edge NEB	03:52	298	—
200	Wf (oval) STB	04:03	—	299
201	Df (lg proj) S edge NEB	04:04	306	—
—	Obs disc.	04:06	—	—

2h 49m

01:28 - 01:38 Intensity est. S-2 T-3
(01:33)

$\omega_1 = 284°$ $\omega_2 = 240°$

✓ NPR 3.5
✓ SPR 4.5
✓ Sh 0.0
✓ NEBs 2.5
✓ STB ~~1.5~~ 2.0
✓ SEBn 2.8
✓ NNTB 2.8
✓ SSTB 4.0
✓ SEBs 5.5
✓ NTz-Tez 6.0
✓ SEBz 6.0
✓ Ez 5.0
✓ STz 7.0
✓ Stez 6.5
NEBn 2.8

✓ 02:15.7 1 cont.
02:21.1 2 cont. } sh. eq. S-3 (360x) T-3
02:56 Defect of illumination quite noticeable on f limb.

334 AUGUST 22/23, 1961

8" REFL 240x

5-1-2-0T-3-2

		U.T.	I	II
—	Obs. comm.	01:12	—	—
202	Dr (proj) S edge NEB	01:15	273	—
203	Df (proj) S edge NEB	01:24	278	—
204	Wh (gah) NEB n	01:34	—	239
205	Wr (oval) S edge NEB	01:40	288	—
206	Wr (gah) NEB n	01:42	—	245
207	Dh (proj) S edge NEB	01:46	292	—
208	Wf (gah) NEB n	01:49	—	249
209	Dh (proj) N edge SEB n	01:50	294	—
210	Wf (oval) S edge NEB	01:52	295	—
211	Dr (proj) S edge NEB (f base EZ feat)	01:58	299	—
212	Dr (proj) N edge SEB n (f base EZ feat)	02:07	304	—
213	Df (proj) S edge NEB	02:09	306	—
—	Switched to 360x	02:12	—	—
—	" back to 240x	02:22	—	—
214	Df (proj) N edge SEB n	02:23	314	—
215	Wh (oval) S edge STB (DE)	02:29	—	274
216	Df (sect) STB	02:37	—	278
217	Wr (oval) S edge STB	02:47	—	284
—	Obs. disc.	02:49	—	—
—	Obs comm.	02:58	—	—
218	Dh (proj) S edge NEB	03:03	338	—

4:43 sh II /rad.

✓ 03:19.6 1 cont } str. ing. S-1 T-2 (360x)
03:23.2 2 cont }

AUG 22/23, 1961 (CONT.)

		U.T.	I	II
220	Dc (proj) S edge NEB	03:04	—	295
219	Wf (oval) S edge STB	03:10	343	—
221	Df (proj) S edge NEB	03:18	348	—
—	Switched to 360x	03:19	—	—
—	" back to 240x	03:24	—	—
222	Wc (oval) S edge NEB	03:32	356	—
223	Dh (proj) S edge NEB	03:45	4	—
—	Telescope switched E of pier	03:50	—	—
224	Dc (proj) S edge NEB	03:54	10	—
225	Df (proj) S edge NEB	04:03	15	—
—	Obs. disc.	04:12	—	—

$2^h 53^m$

03:30 EZ detail cannot be made out under existing conditions.

~~03:52 Seeing bad~~

335 AUG 27/28, 1961
8" REFL 240x
S -2 T -2

		U.T.	I	II
—	Obs comm	03:05	—	—
226	W p (oval?) S edge STB	03:21	—	336
227	W c (oval) S edge STB	03:34	—	344
228	R S p	03:45	—	351
229	W f (oval) S edge STB (indef).	03:53	—	356
230	R S c	04:06	—	4
—	Obs disc due to cloud.	04:17	—	—

1h12m

IIII 1

00:16 ½ end of BC practically invisible.

31
1 24
16
9
10
2 30

336 AUG 31/SEPT 1, 1961

8" REFL 240X

S-1-4-2 T-1-0-3-1

		U.T.	I	II
—	Cls comm	00:01	—	—
231	D h (proj) S edge NEB	00:10	214	
232	W f (oval) S edge NEB	00:13	216	
233	W h (oval) S edge STB (BE)	E 00:16	—	106
234	D c (proj) S edge NEB	00:23	222	
235	D f (proj) S edge NEB	00:31	227	
—	Clouds over 21	00:32	—	—
—	~~Clear~~ Slight improvement.	00:56	—	—
236	W f (oval) S edge STB	E 00:58	—	126
237	D c (proj) S edge NEB (h base fest)	01:02	246	
238	D h (low proj) S edge SEB n	01:06	248	
239	W h (oval) S edge NEB	01:08	250	
240	D c (~~low~~ proj) ~~S edge~~ N edge SEB n (f base fest)	01:11	252	
241	D f (proj) S edge NEB	01:12	252	
242	D f (rod) S edge NNTB	01:13	—	140
243	D c (low proj) S edge SEB n	01:19	256	
244	D f (proj) N edge SEB n	01:23	259	
245	W c (oval) S edge NEB	01:24	259	
246	D f (low proj) S edge SEB n	01:32	264	
247	D h (proj) S edge NEB	01:35	266	
248	W f (oval) S edge NEB	01:42	270	
249	D c (proj h base fest) S edge NEB	01:48	274	

02:29 This proj is the ~~for~~ base of a very long festoon making a very small angle with the equator.

~~02:33~~ Int. est. comm: (Trans fluctuating too much for int. est)

~~NPR = 4·2~~

~~SPR = 4·2~~

AUG 31/SEP 1, 1961, CONT.

		U.T.	I	II
—	Obs. disc (coke break)	01:50	—	—
—	Obs. comm.	01:53	—	—
250	W f (oval) S edge NEB	01:55	278	—
251	D f (proj) S edge NEB	02:00	281	—
252	D f (sect) NNTB	02:03	—	~~170~~
253	W r (oval) S edge NEB	02:07	286	—
—	Obs disc.	02:10	—	—
—	Obs. comm.	02:16	—	—
254	D f (proj) S edge NEB	02:17	292	—
255	W f (oval) S edge NEB	02:22	295	—
256	D r (proj) S edge NEB (base fest)	02:29	299	—
257	D f (proj) S edge NEB	02:39	305	—
—	Obs. disc.	02:40	—	—
—	Obs comm. 360x for sat phen.	02:48	—	—
258	D f (dusky area under fest) S edge NEB (240x)	03:01	319	—
—	Clouds	03:04	—	—
—	Clear (Sat phen missed) (back to 240x)	03:09	—	—
259	W r (oval) S edge NEB	03:17	328	—
—	Tel switched E of pier. Clouds	03:18	—	—
—	Clearing.	03:28	—	—
260	W f (oval) S edge NEB	03:32	338	—
—	Obs disc.	03:38	—	—

(2R30)

337 SEPT 3/4, 1961
8" REFL 240x
S-1 T-3-0

		U.T.	I	II
—	Obs comm	02:40	—	—
261	Wf (oval) S edge STB (DF)	02:45	—	287
262	Df (proj) S edge NEB	02:57	70	—
263	Dc (proj) S edge NEB	03:03	74	—
—	Cloudy	03:09	—	—
—	Clear	03:14	—	—
—	Cloudy. Obs. disc.	03:18	—	—

33m

338 SEPT 4/5, 1961
8" REFL 240x
S -1 T-3

		U.T.	I	II
—	Obs. ~~dis~~ comm.	0B:06	—	—
264	W f (oval) S edge STB (BC)	0B:07	—	126
265	D f (proj) S edge NEB	0B:21	279	—
266	W f (notch) N edge NEB (?)	0B:27	—	139
—	Obs. disc. due to hopeless seeing	0B:39	—	—

33m

1111 BRING REV. POP. AST. FOR BRYAN

23:45 f add of BC very indefinite.

00:14 Photo with ~~full~~ all extension tubes 1, 1/5, 1/25 Δ

00:16 " " no " " 1, 1/5, 1/25 Δ

Pentax, Orico barlow, Plus-X

01:01 ~~Objects in EZ just passing CM. have peculiar appearance~~ — possible satellite in transit amongst them. ?

01:25 EZ oval may be composed of two smaller ovals ~~with~~ separated by a delicate festoon.

01:28: Int. est. comm

√NPR = 3.8 √SPR = 4.2

BELTS:	ZONES:
√STB = 2.2	√STeZ = ~~7.0~~ 6.5
√NEBn = 2.5	√STrZ = 7.0
√SEBn: 2.8	√SEBZ = 7.0
√NEBn = ~~3~~ 3.0	√NTeTrZ = 6.5
√NNTB = 3.5	√EZ = 6.0
√SSTB = 3.~~7~~	√NEBZ = 4.0
√SEBn = ~~5~~ 5.0	

01:39 Int. est. finished 01:34 $\omega_1 = 335$

S-2 T-4 $\omega_2 = 184$

339 SEPT 5/6, 1961
8" REEL. 240X
5-2-1-3 T-34

		U.T.	I	II
—	Obs. comm.	23:45	—	—
267	D h (sect) NNTB	23:46	—	119
268	D c (proj) S edge NEB	23:48	270	—
269	D h (sect) STB	23:49	—	121
270	W h (oval) S edge NEB	23:53	273	—
271	W f (oval) S edge STB (BC)	23:54	—	124
272	D f (proj) S edge NEB	23:58	276	—
273	D f (sect) NEB n	00:03	—	129
—	Obs. disc.	00:06	—	—
—	Obs. cont.	00:20	—	—
274	D h (proj) S edge NEB	00:23	292	—
275	D h (sect) NEB n	00:28	—	144
276	W f (oval) S edge NEB	00:30	296	—
277	D c (proj) S edge NEB	00:37	300	—
278	D f (proj) S edge NEB	00:46	306	—
279	D c (proj) N edge SEB n	01:00	314	—
280	W h (oval) S edge NEB	01:06	318	—
281	D f (proj) N edge SEB n	01:14	323	—
282	D h (low proj) S edge SEB n	01:19	326	—
283	W c (oval) S edge NEB	01:25	330	—
284	D c (low proj) S edge SEB n	01:33	334	—
285	D h (proj) S edge NEB	01:40	339	—

2:56.0 1 cont } III sat ing. S - 1
3:01.6 2 cont } T - 5

C = 2:59

SEPT 5/6, 1961, CONT.

		U.T.	I	II
286	W f (oval) S edge NEB	01:42	340	—
287	D f (low proj) S edge SEB on	01:45	342	—
288	D r (proj base fest) S edge NEB	01:50	345	—
289	W h (oval) S edge NEB	01:57	349	—
290	D f (proj) S edge NEB	02:00	351	—
—	Obs. disc. (coke break	02:01	—	—
—	Obs comm (tel E of piers) seeing miserable.	02:11	—	—
—	Obs disc. due to absolutely hopeless seeing.	02:33	—	—
—	Obs comm.	02:52	—	—
—	Obs disc.	03:03	—	—

2 h 35 m

21
104
22
11
2 35

340 SEPT 7/8, 1961

8" REFL. 240x

S-3-2-0 T-2-0

		U.T.	I	II
—	Obs. comm.	03:10	—	—
291	Df (proj) S edge NEB	03:14	352 VV	—
292	Wz (lg nodule) EZ	03:20	355 VV	—
293	Dh (proj) S edge NEB	03:28	0 VV	—
600 294	Dz (proj) S edge NEB	03:34	4 VV	—
295	Wh (elong oval) S edge NEB	E 03:39	7 VV	—
296	Df (proj) S edge NEB	03:44	10 VV	—
—	Obs. disc due to cloud.	03:59	—	—
—	Clear	04:02	—	—
297	Wz (elong oval) S edge NEB	04:03	22 V	—
—	Obs. disc due to miserable S + T	04:19	—	—

(1h 6m)

49
17
66