

TABLE IX

WIND AT 21 h. - VELOCITY

(from estimates on Beaufort Scale)

		<u>SIDING SPRING</u>		<u>MT. SERLE</u>		
		m.p.h.	n	m.p.h.	n	
1964	May	7	31	5	18	
	June	5	30	11	26	
	July	7	28	10	20	
	Aug	9	27	8	22	
	Sept	12	26	10	9	
	Oct	8	19	12	29	
	Nov	10	18	14	27	
	Dec	14	24	-	-	
	1965	Jan	21	31	10	21
		Feb	22	28	10	14
		March	18	24	-	-
		April	20	25	-	-
May		17	24	5	5	
June		17	27	10	30	
MEAN OF (Months)		<u>14.4</u>		<u>9.5</u>		

TABLE X

WIND AT 21h. - DIRECTIONAL FREQUENCY (f) AND MEAN VELOCITY \bar{v} (m.p.h.)

Direction	<u>SIDING SPRING</u>		<u>MT. SERLE</u>	
	f%	\bar{v} m.p.h.	f%	\bar{v} m.p.h.
N	7.2	8	4.7	14
NE	9.0	15	6.0	12
E	16.9	15	14.0	8
SE	32.2	14	15.8	5
S	14.0	12	4.5	8
SW	10.6	9	16.8	11
W	5.5	12	19.9	10
NW	3.7	9	16.3	11
Calm	0.9	-	1.9	-

TABLE XI

WIND VELOCITY (m.p.h.) averaged over two-hourly periods

From Contact Cup Anemometers

(a) SIDING SPRING OBSERVATORY

<u>HOUR</u>	19	21	23	01	03	05	<u>MEAN</u>	<u>MEAN</u>	n
							18 ^h -06 ^h	00 ^h 02 ^h 3 ^h	
1964 March	11	15	16	18	18	20	16.5	15.7	14
April	11	14	17	18	18	16	15.7	13.0	28
May	13	15	16	16	16	16	15.4	13.7	24
June									
July	10	15	19	20	18	18	16.5	13.2	3
Aug	13	15	17	20	18	19	17.1	15.6	16
Sept	13	16	16	17	18	19	16.8	15.1	4
MEAN (6 months)	12	15	17	18	18	18	16.3	14.4	-

(b) MT. SERLE

<u>HOUR</u>	19	21	23	01	03	05	<u>MEAN</u>	<u>MEAN</u>	n
							18 ^h -06 ^h	00 ^h 02 ^h 3 ^h	
1964 Sept	12	13	18	17	15	16	15.2	15.0	20
Oct	13	14	14	15	15	16	14.5	13.1	30
Nov	10	12	12	13	14	16	12.9	12.7	26
Dec	12	11	8	8	9	11	9.9	9.2	3
1965 Jan	11	13	13	12	15	17	13.5	12.7	8
Feb	8	10	11	14	15	16	12.3	12.6	7
Mar	-	-	-	-	-	-	-	-	-
April	10	11	12	14	14	16	12.8	11.9	20
May	10	12	12	14	14	14	12.6	12.2	28
MEAN (8 months)	11	12	12	13	14	15	12.9	12.4	-

TABLE XII

MONTHLY MEANS OF DAILY AVERAGE WIND SPEED m.p.h.

(Cup anemometers - Records or Daily Readings *)

<u>MONTH</u>	<u>SIDING SPRING</u>		<u>MT. SERLE</u>	
	m.p.h.	n	m.p.h.	n
1964 March	15.7	12	-	-
April	13.0	25	-	-
May	13.7	24	-	-
June	-	-	-	-
July	15.6	14	-	-
August	15.6	15	-	-
Sept	15.1	4	15.0	20
Oct	-	-	13.1	30
Nov	-	-	12.7	26
Dec	-	-	9.2	3
1965 Jan	13.7*	10	12.7	8
Feb	14.4*	28	12.6	7
Mar	12.7*	20	-	-
April	14.1*	23	11.9	20
May	12.6*	11	12.2	8
Mean of Months -	14.2	.	12.4	.

* Derived from readings of run of wind terminating each day at 1300 hrs

and the velocity averaged over the full day (00h-23h). At both sites the wind is stronger during the night than during the day, although this feature is not so well marked at Mt. Serle as at Siding Spring. At Siding Spring the velocity increases during the first half of the night and then remains fairly steady till dawn. At Mt. Serle there is a slow steady increase throughout the night till dawn, but the velocity at Mt. Serle even then does not reach the midnight values attained at Siding Spring. The values for 21h show quite reasonable agreement with the velocities obtained from the Beaufort scale estimates shown in Table IX.

Table XII repeats some of the data of Table XI, but gives also results derived from daily readings of the run of wind terminating each day at 1300h of the cup anemometer (marked *), which were commenced after difficulty was experienced with the contact recording system at Siding Spring.

(iii) Pressure tube records Table XIII shows some scattered values of wind velocity obtained with a Dines pressure tube instrument on a 10-metre mast at Mt. Serle and is arranged to show the diurnal variation hour by hour.

(iv) Maximum gust velocities Maximum gust velocities for Siding Spring and Mt. Serle are given in Table XIV. The records for Siding Spring come from a cup anemometer (frequency type) operating an Esterline-Angus recorder. This is the CARSO equipment used by Mr. D. Crotty. It was set up close to the summit of Siding Spring Mountain on a 15-metre mast. The records at Mt. Serle come from the already mentioned Dines pressure tube anemometer. The figures for the maximum gusts at Siding Spring are decidedly greater than those recorded at Mt. Serle, but the Dines instrument may have more inertia than the light cups of the CARSO equipment. Table XV shows the association between the mean wind velocity for the night with the maximum gust velocity in that period, as derived from the Siding Spring results.

TABLE XIII

WIND VELOCITY AT MT. SERLE - 1965

MEAN HOURLY VALUES

Hour	Jan	Feb	Mar	Apr	May	Hour	Jan	Feb	Mar	Apr	May
00	14	15		16	13	13	8	10		11	7
01	16	16		16	13	14	10	11		10	6
02	18	17		16	14	15	8	11		10	6
03	18	19		17	13	16	10	10		8	7
04	20	18		17	12	17	11	10		8	7
05	21	17		19	12	18	10	10		10	11
06	22	19		18	12	19	12	10		12	10
07	23	20		19	10	20	15	10		12	13
08	22	17		17	9	21	15	9		13	13
09	19	16		16	8	22	16	12		14	11
10	15	16		12	8	23	15	14		15	11
11	13	12		11	7						
12	9	12		11	7	Days	8	7	0	8	6

TABLE XIV

		<u>WIND VELOCITY</u>		<u>MAXIMUM GUST m.p.h.</u>	
		<u>Siding Spring</u>		<u>Mt. Serle</u>	
		<u>Day</u>	<u>Night*</u>	<u>Day</u>	<u>Night</u>
1964	Oct			44	40
	Nov			52	41
	Dec		53	32	30
1965	Jan		53	33	46
	Feb		58	41	46
	Mar		58	-	-
	Apr		55	30	34
	May	47	55	22	26
	June	58	91	-	-

* The Siding Spring entries have been obtained in part from the CARSO report by Mr. D. Crotty. The earlier CARSO anemometer charts are not available at the time of writing, so it is not practicable to separate the "day" (i.e. 06-18hr) from the night (18-06hr) gusts, but in view of the nature of the variation of the wind the maximum gust has been taken as occurring at night.

TABLE XV

RELATION BETWEEN AVERAGE WIND DURING THE NIGHT AND MAXIMUM GUST

Average Wind m.p.h.	8	11	16	21	16	30	38	48
Max. Gust m.p.h.	14	25	27	37	43	44	50	54
n	2	12	11	9	14	19	7	2

D. AIR TEMPERATURES

(i) Diurnal range Air temperatures were recorded in Stevenson screens at both sites. The records have been analysed to give the range on clear nights. This has been taken as the maximum-minimum temperature between 1800h and 06h. In a few cases the temperature has risen by a small amount during these hours, in which case a negative sign has been prefixed to the range. The results are shown in Table XVI which refers to clear nights only and shows the maximum range, the minimum range and the mean range for each month. The grand mean indicates that the temperature range on clear nights at Siding Spring is slightly less than at Mt. Serle as might be expected from the somewhat greater elevation of the former site. However, this quantity is strongly subject to seasonal influence and the tabulated grand means have been derived from observations that are not strictly contemporaneous. If the unweighted means for the same months are compared, the ranges at the two places are found to be essentially the same.

(ii) Diurnal variation More detailed information on the diurnal variation under clear conditions is given for Siding Spring in Table XVII and for Mt. Serle in Table XVIII. The records give the usual result of a maximum temperature at 14-16 hours and a minimum near sunrise.

E. HUMIDITY

Figures for relative and absolute humidity (R.H. and p) are shown in Table XIX along with mean air temperature \bar{T} . The absolute humidity figures are nominal having been derived from the mean relative humidity and the mean temperature. Those for Siding Spring represent the mean of all nights; those for Mt. Serle are figures averaged over the 24 hours. On the whole, the air at Mt. Serle seems drier than that at Siding spring - a point suggested by the relative rain falls at the two places.

TABLE XVI

AIR TEMPERATURE RANGE ON CLEAR NIGHTS

All temperatures in °F.

MONTH	SIDING SPRING				MT. SERLE			
	Range Max-Min 18-06h				Range Max-Min 18-06h			
	Max*	Min*	Mean	n	Max*	Min*	Mean	n
1964 June	12 ^o	4 ^o	6.2	5	12	1	5.7	17
July	8	-4	5.5	7	10	3	7.3	10
Aug	9	4	5.5	9	11	1	7.4	8
Sept	9	0	5.6	5	7	-1	2.8	4
Oct	19	5	10.9	8	23	2	10.2	21
Nov	-	-	-	-	27	7	14.3	16
Dec	-	-	-	-	-	-	-	-
1965 Jan	21	9	14.2	12	25	8	16.3	16
Feb	33	7	16.0	15	25	9	16.9	8
March	14	-7	9.2	17	-	-	-	-
April	16	3	7.8	14	12	7	10.2	5
May	8	1	5.3	14	19	1	8.0	11
June	16	0	5.5	21	5	-4	4.0	5
MEAN (all months)			8.3				9.4	
MEAN (same months)			8.4				8.9	

* Extreme values for clear nights during month. Negative signs indicate a rise of temperature from the value at 18^h.

TABLE XVII - SIDING SPRING OBSERVATORY

MEAN AIR TEMPERATURE VARIATIONS UNDER CLEAR CONDITIONS

°F (screen near summit)

EST	1 9 6 4							1 9 6 5					
	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June
00	41.5	45.1	44.4	44.0	49.3	-	-	65.4	66.7	62.2	50.1	45.7	43.7
01	41.7	45.1	44.4	44.7	48.7	-	-	64.0	66.4	61.0	49.6	45.6	44.3
02	41.5	43.8	43.9	43.5	48.6	-	-	62.9	65.1	61.2	49.2	45.0	44.1
03	41.5	43.2	44.0	43.2	48.0	-	-	62.1	63.9	60.6	48.9	44.2	43.3
04	41.5	43.1	42.9	43.7	47.9	-	-	61.4	63.1	60.1	49.1	44.6	43.3
05	41.2	42.5	43.9	43.0	47.4	-	-	61.7	62.9	59.4	48.8	44.6	42.7
06	41.0	41.2	42.3	46.2	48.9	-	-	62.0	61.0	54.9	48.5	45.7	42.6
07	41.7	43.8	42.3	46.2	50.4	-	-	64.8	62.8	62.2	49.9	47.5	43.1
08	41.5	44.8	44.1	48.2	52.0	-	-	68.0	65.5	64.9	52.5	48.7	44.5
09	42.0	46.1	44.3	48.2	54.3	-	-	70.8	68.5	67.4	55.3	50.7	45.3
10	43.2	47.4	45.5	51.0	56.9	-	-	73.4	73.8	69.9	57.7	52.9	46.6
11	43.7	48.4	47.3	52.0	58.7	-	-	75.9	75.7	72.6	59.9	54.5	47.9
12	45.7	49.2	47.3	53.7	60.0	-	-	77.9	78.0	74.0	61.3	55.8	48.8
13	47.0	49.5	50.5	54.7	61.0	-	-	79.7	80.2	75.3	62.6	55.7	49.6
14	49.0	50.0	54.1	54.0	62.1	-	-	80.2	80.5	75.0	62.2	56.0	48.4
15	48.5	49.1	52.4	52.5	62.1	-	-	81.2	81.2	74.1	61.9	54.5	48.8
16	48.7	47.2	52.0	52.2	60.9	-	-	79.8	81.5	72.0	59.0	52.7	48.0
17	48.2	47.5	50.2	50.5	59.2	-	-	77.0	80.5	69.9	58.2	51.1	47.2
18	47.2	46.7	47.8	49.0	57.9	-	-	75.1	78.2	68.5	56.3	49.5	46.3
19	45.7	46.1	46.7	48.5	56.9	-	-	72.8	75.4	67.0	54.3	48.3	45.4
20	43.7	45.7	46.2	46.7	52.7	-	-	71.6	73.4	66.3	52.8	47.5	45.2
21	42.5	45.7	45.2	45.7	51.7	-	-	69.7	71.0	64.9	52.0	46.7	43.7
22	42.7	45.2	44.4	45.5	50.6	-	-	67.7	68.9	63.6	51.3	46.7	43.7
23	41.7	44.7	43.9	45.0	49.9	-	-	66.6	67.4	63.2	51.2	46.0	44.0
- MEAN	43.8	45.8	46.2	47.9	54.0	-	-	70.4	71.3	66.2	54.2	49.2	45.4
Records used	5	7	9	4	7			10	14	13	13	14	19

TABLE XVIII - MOUNT SERLE

MEAN AIR TEMPERATURE VARIATIONS UNDER CLEAR CONDITIONS

°F (screen near summit)

EST	1 9 6 4							1 9 6 5					
	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June
00	43.7	45.8	47.7	47.0	50.1	62.3	-	65.7	67.1	-	51.7	58.4	-
01	43.2	45.5	48.0	49.6	48.6	61.4	-	64.1	65.8	-	51.0	58.7	-
02	42.7	44.6	47.2	48.3	47.9	60.5	-	62.9	64.1	-	50.5	59.6	-
03	42.9	44.1	46.7	47.3	47.5	59.9	-	61.2	61.8	-	50.5	58.7	-
04	43.3	43.3	47.0	47.3	47.3	59.6	-	60.2	60.8	-	50.0	58.3	-
05	43.2	42.5	46.5	47.0	47.5	58.6	-	59.0	59.4	-	49.5	56.2	-
06	44.5	42.2	43.2	41.3	46.7	54.8	-	55.9	60.5	-	49.0	55.2	-
07	42.4	42.3	44.0	41.6	48.2	56.6	-	57.0	61.7	-	48.7	53.9	-
08	40.2	42.3	46.0	41.6	50.1	59.6	-	60.1	64.0	-	50.0	53.1	-
09	41.7	43.0	48.2	42.3	52.8	63.0	-	63.5	66.8	-	53.0	53.3	-
10	46.7	44.3	50.7	46.0	54.9	66.1	-	67.2	69.8	-	55.7	53.6	-
11	48.3	45.1	51.7	47.3	57.5	68.9	-	70.7	73.2	-	57.7	52.6	-
12	49.2	46.6	53.2	49.3	59.5	71.5	-	73.2	77.1	-	59.2	52.3	-
13	50.0	47.1	54.5	51.0	60.8	73.4	-	75.3	78.7	-	60.5	52.1	-
14	50.5	47.5	55.2	51.0	61.6	75.8	-	77.3	79.8	-	61.0	52.1	-
15	50.1	47.3	55.5	50.6	61.5	76.0	-	77.6	80.5	-	61.7	51.6	-
16	50.2	48.0	55.5	50.6	61.0	76.2	-	77.1	80.4	-	61.5	50.8	-
17	48.7	48.1	53.7	50.6	59.1	74.8	-	76.0	79.0	-	60.5	50.1	-
18	48.5	48.1	52.7	48.3	56.7	72.9	-	74.8	77.2	-	59.2	50.0	-
19	47.7	47.0	51.2	48.3	54.9	69.4	-	72.7	74.2	-	56.2	49.8	-
20	47.6	46.7	49.7	48.0	53.5	66.3	-	70.4	72.2	-	54.0	51.2	-
21	47.2	46.5	48.7	48.0	52.8	65.3	-	68.5	71.0	-	53.2	54.9	-
22	45.6	46.0	48.2	48.3	52.1	64.2	-	67.2	69.5	-	52.7	56.4	-
23	44.1	46.2	48.0	47.6	50.9	63.2	-	66.2	68.4	-	52.0	57.3	-
MEAN	45.9	45.4	49.7	47.4	53.4	65.8	-	67.6	70.1	-	54.5	54.1	-
Records used	14	9	4	3	16	15		14	7		4	10	

TABLE XIX

H U M I D I T Y

	<u>SIDING SPRING</u>			<u>MT. SERLE</u>		
1965	R.H.%	\bar{T}	p	R.H.%	\bar{T}	p
Jan	45%	63°	6.7mm	34%	68°	5.8mm
Feb	47	66	7.6	20	70	3.7
Mar	30	63	4.4	-	-	-
Apr	56	53	5.8	51	54	5.6
May	52	49	4.7	37	54	4.0
June	58	46	4.8	53	47	4.9

RH = Relative Humidity

\bar{T} = Adopted mean temperature

p = Absolute humidity partial pressure in mm Hg.

F. PRECIPITATION

Table XX shows rain data for Coonabarabran and Angepena as representative of Siding Spring and Mt. Serle respectively. As well as giving the amount of rainfall and the number of days of rain for the period under review, the average data over long periods are shown for the two places. The figures show that the observations at Siding Spring were carried out during a dry spell. Only in two months (September and October 1964) was the rainfall above average and most of the time it was well below normal. Much the same state of affairs held at Mt. Serle, but the percentage deficiency in the rainfall was much less than at Siding Spring. The number of rain days was distinctly below average at Siding Spring, but, despite zero rain in January and February, was brought to normal at Mt. Serle by good falls in September and October.

If anything, the season might be expected to favour Siding Spring, i.e. the amount of clear weather experienced over the testing season there would be more above normal than would be the case for Mt. Serle.

G. DUST AND SMOKE HAZE

(i) Night time tests Haze has been estimated at night by looking along the beam from an electric torch directed to a dark background. The conditions have been classed as corresponding to -

- A Good Beam invisible or only faintly so
- B Fair Beam visible
- C Poor Beam relatively intense.

The results are given in Table XXI and show that the two places have, in the mean, much the same degree of atmospheric transparency at night.

(ii) Daytime observations Visual observations of dust, smoke, etc. were also carried out and Table XXI-b shows the results not only for the mountain sites, but also for Angepena Homestead which lies about 1000 ft. below the summit of Mt. Serle. Again, these results suggest

TABLE XX

RAINFALL DATA

Amount (inches) and Days of Rain

	<u>SIDING SPRING</u> *				<u>MT. SERLE</u> *			
	Year		Mean 65 years		Year		Mean 30 years	
1964 June	1.52	7	2.42	7.4	0.08	2	0.99	2.3
July	1.45	9	2.20	7.3	0.73	2	0.81	2.8
Aug	1.46	3	2.04	7.5	0.39	2	0.71	2.4
Sep	5.31	11	1.83	6.3	3.32	4	0.82	1.4
Oct	3.69	9	1.94	7.4	0.77	6	0.80	1.9
Nov	0.66	4	2.18	6.3	0.08	1	0.73	1.6
Dec	0.86	4	2.47	6.7	1.08	2	0.76	1.4
1965 Jan	0.18	3	2.72	7.0	0.00	0	0.85	1.6
Feb	0.04	2	2.81	7.2	0.00	0	1.08	1.6
Mar	0.01	1	2.38	5.2	0.75	1	1.14	1.5
Apr	0.36	4	2.10	5.1	0.08	1	0.41	1.4
May	0.29	4	2.06	5.9	0.39	1	1.00	2.3
June	0.82	4	2.42	7.4	0.79	2	0.99	2.3
YEAR**	15.83	61	27.15	79	8.46	24	11.09	24.5

* The values entered under Siding Spring refer to Coonabarabran records and the means cover a period of 65 years for rainfall and 30 years for raindays.

The Mt. Serle figures refer to Angepena station and the means for these each cover the same 30 years.

** The month of June 1965 is excluded from this total.

TABLE XXI

DUST AND SMOKE HAZE

(a) BEAM TESTS

	<u>SIDING SPRING</u>	<u>MT. SERLE</u>
Period occupied	Dec 64-June 65	July 64-July 65
Tests made	115 nights	108 nights
Beam Good	79%	78%
Fair	20%	18%
Poor	1%	4%
Observer	A.G.S.	A.V.W.

(b) VISUAL OBSERVATIONS

	<u>SIDING SPRING</u>	<u>MT. SERLE</u>	<u>ANGEPEANA</u>
Period occupied	Dec 64-June 65	May 64-June 65	June 64-June 65
Total observations	184	208	389
Haze recorded	17	16	60
%	9%	8%	15%

that the two mountain sites have about equally clear air. The Angepena series (which was critically carried out by Miss Flowers) shows that even in daytime a good deal of the local atmospheric opacity lies below the summit of Mt. Serle. Haze due to smoke seemed more prevalent at Siding Spring than at Mt. Serle where the haziness was predominantly due to dust. The worst months for haze were March at Siding Spring and October and November at Mt. Serle.

H. NET RADIOMETER RECORDS

The net radiometers did not stand up very well to field conditions and suffered damage due to wind and birds. The operation of the actual recorders was not free from difficulty either. As a consequence of this the records were rather scattered and the results have not been reduced in detail for inclusion in this report. The general impression from non-concurrent records is that Mt. Serle has more clear nights than Siding Spring.

III. SUMMARY

Table XXII collects data from earlier paragraphs and provides what is hoped to be a fair basis for comparison of the two sites using largely concurrent results.

The product of photoelectric hours (line 5) and percentage of the time the seeing is better than a stated value (line 7 C-e) may be used as a "figure of merit" to characterize the sites. This gives -

	<u>Siding Spring</u>	<u>Mt. Serle</u>
Image motion less than 0".75	120 hrs. p.a.	120 hrs. p.a.
1".0	480	410
1".5	930	1130

Thus the quality and duration of the best seeing is the same at the two places. Seeing corresponding to 1".0 or less of image motion is to be found for a longer time at Siding Spring than at Mt. Serle, but the seeing corresponding to 1".5 of image motion or better (which is still quite fair) is encountered for a considerably longer time at Mt. Serle than at Siding Spring. The total amount of clear sky is greater at Mt. Serle than at Siding Spring, and the amount of atmospheric haze (smoke and dust) is about the same at the two places.

There is not a great deal of difference between the two sites, but from the present sampling, the margin is possibly slightly in favor of Mt. Serle because of (a) its greater amount of fair or better seeing, (b) its rather calmer conditions, (c) the fact that the diurnal maximum of wind velocity occurs in daylight and not at night and (d) its drier atmosphere which would be an advantage for infra red work.

The foregoing remarks are concerned with the technical excellence of the site. Other considerations such as the relatively undeveloped nature of the country around Mt. Serle remain to be taken into account. This present lack of development is not nearly so striking as is met with at some other sites which have been ~~considered~~ and should not be over-emphasized.

The site is 410 miles by road (mostly good) from Adelaide. A railway station, Copley, is within thirty miles of the mountain and the road from Copley to Mt. Serle is being improved. High voltage transmission lines connected to the State grid pass through Copley where a piped water supply is available from Aroona dam. However, water may be better available from the local sub-artesian sources. Local property holders rely on this sub-artesian water pumped by wind-mills and supplemented by rain water stored in tanks for domestic and culinary purposes. Party line telephone wires connected through the Copley exchange run within a mile or two of the mountain and the observer on the site even at present can be reached by telegram through the Flying Doctor network. The nearest airport is at Leigh Creek (35 miles) and is served by two air lines. There is a landing strip for light aircraft at Angepena station within a few miles of the summit.

The nearest large centre is the mining city of Broken Hill about 180 air miles to the east, but there is no direct highway across the Lake Frome basin. Charter air services are available at Broken Hill as well as scheduled services from there to Adelaide, Melbourne and Sydney. Port Pirie, which is the major South Australian city outside of Adelaide, lies 300 miles to the south by reasonably good road. It is a rail junction and has a variety of engineering and industrial services.

TABLE XXII

SUMMARY

(see notes on following page)

	<u>SIDING SPRING</u>	<u>MT. SERLE</u>
1. Longitude (E)	149° 03'	138° 53'
2. Latitude (S)	31° 16'	30° 30'
3. Elevation (ft.)	3800 ft.	3060 ft.
4. Nights clear at 9 p.m.	49%	54%
5. P.E. hours per year	1500	1690
6. Seeing (Danjon) t_0''		
(a) Mean	0".48	0".45
(b) 20 best nights	0".24	0".24
(c) t_0'' less than 0".35	40%	36%
7. Relative Image Motion		
(a) Mean	1".3	1".3
(b) 10 best nights	0".9	0".9
(c) % less than 1".5	62	67
(d) 1.0	32	24
(e) 0.75	8	7
8. Wind		
(a) Mean m.p.h.	14	12
(b) Max. Gust m.p.h.	58	46
(c) Time of Max. Velocity	03hr	07hr
9. Temperature - Night Range °F	8.4	8.9
10. Humidity		
(a) Mean R.H.%	48	39
(b) p_w mm	5.7	4.9
11. Rainfall		
(a) Inches	15.8 (27.2)	8.5 (11.1)
(b) Days	61 (79)	24 (24)
12. Dust and Haze		
(a) Good %	79	78
(b) Fair %	20	18
(c) Poor %	1	4

TABLE XXII (cont'd.)

N O T E S

- 1, 2, 3 From Government Survey data
4. From Angepena records for Mt. Serle.
5. Estimated from a relationship between nightly values of 9 p.m. cloud (cf. line 4) and actual experience at the 40-inch reflector at Siding Spring.
6. Danjon seeing tests reduced to scale of Astrola II.
7. Relative image motion estimated from Danjon tests using the conversion curve established by two independent observers with different equipment.
8. (a) Mean night time values from contact cup anemometer on 9m. mast
(b) Gusts as measured by CARSO cup anemometer at Siding Spring and Dines pressure tube at Mt. Serle (January-June 1965)
(c) From records January-June 1965
9. From thermograph records - Table XVI
10. (a) Relative humidity and (b) partial pressure of water vapor in mms of mercury (January-June 1965)
11. The unbracketted values given refer to the year ending 30th June 1965 at Coonabarabran Post Office (for Siding Spring) and at Angepena Station (for Mt. Serle). The bracketted values refer to long-term averages: 65 years at Coonabarabran, 30 years at Angepena.
12. Estimates from optical beam test at night.

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