

This digital file is a scan of a portion of contents of a paper folder entitled "SIO PIER DATA, 1957-1962, Daily CO2 Minimums and Averages" located in the first drawer labeled as "SCRIPPS PIER DATA (1958-62)" of a file cabinet in Alane Bollenbacher's office.

SIO PIER DATA
Daily CO₂ Minimums and Averages

1957 - ~~58~~

1962

77

8

11

12

43

SIO Pier

Monthly Av. of Weekly Minima

Month	No.	Index	Month	No.	Index
Mar. '57	2	313.1	Jan. '59	3	314.3
Apr.	4	313.2	Feb.	4	313.9
May	4	313.2	Mar.	5	314.7
June	4	312.8	April	4	314.4
-			May	4	314.4
-			June	4	314.5
Sept	5	308.5	July	5	311.5
Oct	2	309.3	Aug.	4	308.7
-			Sept.	4	309.2
-			Oct.	5	312.0
-			Nov.	2	313.3
-			Dec.	5	313.1
-			Jan. '60	4	314.1
Apr. '58	3	313.8	Feb.	4	314.7
May	3	314.6	Mar.	5	314.7
June	1	315.7	Apr.	4	316.2
July	5	311.2	May	3	316.8
Aug.	4	309.0	June	2	315.2
Sept.	4	309.2			
Oct.	3	310.9			
Nov.	5	312.9			
Dec.	4	313.8			

END OF PIER

RECORD

S10 Pier Monthly Minimum Indices

Month	No. of Days	Daily Minimum CO ₂ Index			Average Weekly Minimum CO ₂ Index		MANO Daily Av.
		Average	Maximum	Minimum			
1959							
Nov.	22	316.2	320.9	313.0	313.3	313.7	317.2
Dec.	25	315.3	322.9	311.6	313.1	313.5	316.1
1960	3						
Jan.	30	317.3	326.2	313.4	314.1	314.7	318.6
Feb.	28	316.7	322.7	314.0	314.7	315.4	317.8
Mar.	30	317.1	327.8	313.5	314.7	315.4	318.3
Apr.	25	317.1	321.8	315.6	316.2	317.2	318.3
May	17	317.9	320.4	316.0	316.8	318.0	319.3
Jun.	8	316.4	317.9	315.1	315.2	316.0	317.5

SIO Pier Monthly Minimum Indices

Month	No. of days included	Daily Minimum CO ₂ Index			Average ⁷ of daily Minimum ¹⁴		MANU Daily Av.
		Average	Maximum	Minimum	MANU ⁵ CO ₂ Index ⁹	MANU ¹⁴	
1958 April	24	317.8	329.2	313.7	313.8	317.3	319.2
May	21	314.8	315.6	314.0	314.6	315.3	315.5
June	12	315.8	316.9	314.0	315.7*	315.7	316.7
July	29	312.3	318.8	310.8	311.2	311.1	312.5
August	30	310.3	311.7	308.4	309.0	308.4	310.0
Sept.	12	310.0	311.4	308.3	309.8 ²	308.7	309.7
October	21	313.5	318.3	310.3	310.9	310.8	313.9
Nov.	25	315.1	320.0	310.7	312.9	313.2	315.9
Dec.	29	317.3	329.6	313.1	313.8	317.3	318.6
1959 Jan.	30	318.3	329.2	313.5	314.3	317.9	319.8
Feb.	25	316.0	326.6	313.6	313.9	317.4	317.0
March	29	316.9	323.2	314.3	314.7	315.4	318.1
April	23	315.0	318.0	313.7	314.4	315.0	315.8
May	30	315.4	316.8	313.4	314.4	315.0	316.2
June	29	314.8	315.7	312.9	314.5	315.2	315.5
July	31	312.4	313.8	308.7	311.5	311.5	312.6
August	24	309.9	312.2	307.5	308.7	308.1	309.6
Sept.	27	310.7	314.3	307.8	309.8 ²	308.7	310.5
October	28	314.5	322.1	309.8	312.0	312.1	315.2

*single value

Recorder Scale Factors at ~~1800~~ 500

Tanks.	Obs. Scale	Factor No.	Ind. 246	RSF	TRAV.	Date.
<u>SPAN 500</u>						
C-7	C-5 B-3	37.0 48.45	2 4	18.00	37.00	Mar. 30
...	...	35.3	2	...	35.30	Apr. 2
C-7	B-3	46.15	4	22.32	37.22	37.15 " .4845
Value in VII-3		$18.00 \times 1.4505 = 26.109$			(37.40)	.4805
For 55 VOLTS		$37.15 \times \frac{46.15}{46.2} =$			42.84	.3
		$\frac{36.1}{46.2}$			29.03	.6200
		\uparrow VII-2				
Value in VII-2						.6179

SPAN 210

C-7	B-3	21.8	2?	22.32	17.58	Mar. 31
"	B-4	21.4	2?	"	17.50	Apr. 2
"	"	21.6	2?	"	17.42	"
"	"	21.8	2?	"	17.58	Apr. 7
"	B-3	21.8	2?	"	17.58	Apr. 8
"	B-7	22.1	2?	22.69	17.53	17.53 Apr. 13
"	"	"	"	"	"	Apr. 20
"	B-7	20.37	7	22.69	16.08	Apr. 20
"	"	20.23	4?	"	16.05	16.07 Apr. 21

S 10 Daily Min. March - ~~Apr~~ 1957

Date	Hr.	Index.	INSTRUMENT OPERATED				
						Weekly.	21 312.4
Mar. 21	2200	312.4 ✓	✓				26 313.8
22	2000	313.3 ✓	✓			AV.	313.1
23		— ✓	✓			(Av. date 24th)	
24		—					
25	1830	315.4 ✓	✓				
26	1700	313.8 ✓	✓				
27	1530	(320.1 limit)	✓				
28			✓				
29	1900	314.9 ✓	✓				
30	1800	315.3 ✓	✓				
31	2100	312.8 ✓	✓				

10 days

^

AV(7) 314.0

510 Daily Min. April 1957

Date	Hr.	Index		Date	Hr.	Index	
April 1		—	✓	April 16		—	✓
2	1730	314.7		17		—	✓
3	1100	314.8		18		—	✓
4		—	✓	19		—	✓
5		—	✓	20		—	✓
6	1430	313.4 ✓		21		—	✓ (AV Date 17th)
7	1430	313.4 ^{XX}		22	1500	312.9 ^X	
8	1430	314.4		23	1500	312.9 ^{XX}	✓
9	1900	313.0 ^X		24	1500	—	✓
10	1900	313.0 ✓		25		—	✓
11	1800	313.9 ^X		26		—	✓
12	0800	313.7 ^X		27	1730	313.3	
13		—	✓	28		—	✓
14		—	✓	29	1600	314.8	
15		—	✓	30	1800	313.5 ✓	

Weekly

6 313.4

10 313.0

23 312.9

30 313.5

Av. 313.2

(AV Date 17th)

AV. (14) 313.7

SIO Daily Min. May 1957

Date	Hr.	Index							
May 1		—			May 19	2000	314.7 ^{xx}		Weekly
2		—			20	1200	314.9 ^{xx}		6
3	1200	313.6			21	1800	313.3 ✓		12
4		—			22		—		21
5	2130	313.4			23		—		26
6	1830	313.2 ✓			24	1300	313.9 ^x		Av.
7		—			25	1700	313.6		313.2
8		—			26	1630	312.6 ^x ✓		Av. Note 1610
9		—			27		—		
10		—			28		—		
11	1800	313.9			29	1830	314.0		
12	2330	313.8 ^x ✓			30	1530	314.6 ^x		
13.	1330	313.8			31	1630	313.7 ^x		
14	2030	314.4							
15		—							
16		—							
17	1730	313.8							
18	1530	314.2 ^x							

AV. 3(17) 313.9

S10 Daily Min June 1957

Date	Hr.	Index	Date	Hr.	Index
Jun. 1	16.00	315.6	Jun. 16	1830	314.2
2	20.30	316.1	17	1800	312.8
3	1730	315.5	18	1730	318.9
4	1730	316.0	19	1900	313.2 ^x
5	1630	315.7 ^x	20	1600	312.8 ^x
6	1600	313.3 ✓	21	1200	312.8 ^x
7	1500	313.9 ^x	22	1500	312.7 ^{xx} ✓
8	18.00	313.4 ^x	23	1230	314.1 ^x
9	0800	313.2	24	1800	313.9
10	0700	313.6	25	1830	312.1 ✓
11	0930	313.9	26	1930	313.1 ^x
12	1230	312.9 ✓	27		—
13	1430	313.6	28		—
14	1400	312.9	29		—
15	1730	313.6	30		—

Weekly

6 313.3

12 312.9

22 312.7

25 312.1

AV(4) 312.8

Av. date: 16th

operated but
too short to determine
minimum

AV. (26) 314.0

S10 Daily Min. Sept. 1937

Date	Hr.	Index	Date	Hr.	Index		
Aug. 29							
Sept 1	1130	308.3	Sept. 16	19	309.8 ^x		Weekly
30	2100	307.8 ✓	17	08	309.6 ^x		30 307.8
Sept 1		—	18	2030	309.1 ^x		2 308.4
2	1930	308.4 ^x ✓	19	08	307.8 ✓		13 309.4
3	1830	309.2 ^x	20	20	309.9 ^x		19 307.8
4	1830	309.0	21	19	311.8	Av(5) 308.5	25 309.1
5	2200	309.4	22		—	Av date 12th	
6	1900	310.0	23	21	312.9		
7	1730	309.0	24	1930	312.4		
8	1830 2200	310.6 ^x	25	1900	309.1 ✓		
10 9	0130	310.2	26	0430	309.7		
10	1800	310.0 ^x	27	22	310.1		
11	1830	310.6	28	23	310.3		
12	1930	309.9 ^x	29	18	308.3 ✓		
13	2200	309.4 ✓	30	0130	309.6		
14	2200	309.7 ^x					
15	2230	309.7 ^{xx}					

(30)
Av. 309.7

510 Daily Min Oct 1957

Date	Hr.	Index	Date	Hr.	Index
Oct. 1	2100	309.9 ^x			
2	1000	310.2			
3	1930	309.8			
4	1000	311.6			
5	1900	310.3			
6	1900	310.8			
7		—			
8		—			
9	1930	311.4			
10	1800	310.3 ^x			
11					
12		—			
13					

Weekly
 Sept. 29 308.6³
 10 310.3
 AV 309.3
 Av. date 4hr

AV. (8) 310.5

SIO Daily Min Apr. 1958

File Date	Hr.	Index	Index							
Apr. 4	19	315.2								Weekly:
5	1730	315.2			Apr. 21	1930	322.5		7	313.8
6		—			22	1400	316.9		17	(316.2 mit fun av.)
7	23	313.8 ✓			23		—		25	313.7
8	1830	315.8			24		—		30	313.8
9	09	317.2			25	1830	313.7 ✓		AV (3)	313.8
10	18	318.3			26	1930	314.9		AV date: 21th	
11	08	329.2			27	18	315.1			
12	1330	318.6			28	18	314.5			
13	20	323.4			29	1730	313.7			
14	23	325.8			30	03	313.8 x			
15	0030	324.8			30	1830	314.4 x			
16		—		Min. weekly	7		313.8			
17 18 19 20					17		316.2			
17	2030	316.2 ✓			25		313.7			
18	2030	317.7			30		313.8			
19	18	319.8								
20	18	317.7								
										AV. (24) 317.8

x Denotes Min. periods > 1hr.

S10 Daily Min May, 1958

Date	Hr.	Index			Date	Hr.	Index			
May 1	20	314.5 [*]			18	1930	315.4		Weekly:	
2	1830	314.8 [*]			19	18	315.6 [*]		10	314.0
3	1900	314.4			20	2030	315.4 [*]		16	314.7
4		—			21	18	315.4		22	315.2
5	18	314.1			22	1930	315.2 ^x ✓		AV (5)	314.6
6	1830	314.8 [*]			23		—		Av date:	10 th
7	1730	314.6			24		—			
8	2030	314.9 [*]			25		—			
8	2030	314.9			26		—			
9	22	314.7 [*]			27		—			
10	16	314.0 [*] ✓			28		—			
11	20	314.8 [*]			29		—			
12	2330	314.9 [*]			30		—			
13	2130	314.9			31		—			
14	2130	314.9								
15	20	315.3		Week						
16	19	314.7 ✓		Weekly						
17	2230	314.7								

AV(21) 314.8

S10 Daily Min June 1958

Date	Hr.	Index	Date	Hr.	Index
June 1			June 16		
2			17		
3			18		
4			19	2130	315.3 x
5			20	1830	315.7
6			21	2130	315.3 x
7			22	16	315.7 x
8			23	1530	316.1 ^
9			24	20	315.9 x
10			25	18	316.6 x
11			26	19	316.9 x
12			27	18	316.7 x
13			28	2030	316.3
14			29	21	314.6
15			30	1830	314.0 x

Weekly:

22	315.7
(1)	
22	315.7
30	314.0
AV	314.8

revises
Dec 19, 77

- lower value in July & during the same week

Av. date 26th

AV. (12) 315.8

510 Daily Min. July 1958

Date	Hr.	Index	Date	Hr.	Index		
Jul. 1	18	314.4 ^x	Jul. 18	1930	311.4	Weekly	
2	1830	314.8 [■]	19	1830	311.0 ^{xx}	5	312.5
3	2130	314.4 ^x	20	1930	311.3 ^x	10	312.3
4	20	312.5	21	1930	311.4 ^x	16	309.8
5	1930	312.5 ^x ✓	22	14.00	312.5	26	310.5
6	1350	313.2 ^x	23		—	27	310.9
7	18	313.0 ^x	24	1830	312.4 ^x	AV.(5)	311.2
8	1930	313.8	25	1830	310.9	Av date	17th
9	1900	313.9	26	1830	310.5 ^x ✓		
10	2130	312.3 ^x ✓	27	1930	310.9 ^{xx} ✓		
11		—	28	1300	311.9 ^x		
12	1630	313.2	29	2230	312.5 ^x		
13	17	312.5	30	0400 1600	313.3 312.8		
14	1930	313.4 ^x	31	0430	311.8 ^x		
15	1730	311.7 ^x					
16	1030	309.8 ✓					
17	1330	310.0 ^x					

** Density constant for > 4 hrs.

AV.(29) 312.3

510 Daily Min Avg. 1958

Date	Hr.	Index.	Date	Hr.	Index.	Weekly
Aug. 1	1430	311.7	Aug. 17	0530	(310.1 ^x mit f. an.)	9 309.3
2	17	<u>311.4</u>	17	2230	310.3	13 308.4
3	22	310.7 ^x	18	1900	311.3 ^x	21 308.8
4	22	310.2	19	1700	311.5	30 309.3
5	1830	310.3 ^x	20	1900	311.3 ^x	AV. (4) 309.0
6	2130	310.2	21	2130	308.8 ^x ✓	Av. Note: 146 th
7	2230	309.9 ^x	22	1830	310.2	
8	1810	309.5 ^x	23	1930	310.6	
9	1900	<u>309.3</u> ✓	24	2130	311.3 ^x	
10	1830 1530	309.7 ^x	25		—	
11	1400	309.5	26	2130	311.3	
12	1830	309.2	28	0100	311.0 ^x	
13	2100	308.4 ✓	29	0100	311.3	
14	1730	309.3 ^x	29	1900	311.0	
15	20	308.8 ^x	30	1730	<u>309.3</u> ✓	
16	1930	<u>310.3</u>	31	1700	311.5 ^x	

AV. (30) 310.3

S10 Daily Min Sept 1958

Date	Hr.	Index	Date	Hr.	Index		
Sept 1		—	Sept. 17		—	Weekly	
2	1730	308.6	18		—	3	308.3
3	2330	308.3	19		—	13	309.3
4		—	20	1830	311.0	14	309.7
5		—	21	2000	310.1 ²	23	309.6
6		—	22		—	AV (4)	309.2
7		—	23	1830	309.6	AV date	13 th
8		—	24	0530	309.9 ^x		
9		—	25	1800	311.4		
10		—	26		—		
11		—	27		—		
12	2230	309.4 ^x	28		—		
13	0800	309.3	29		—		
14	1800	309.7	30		—		
15	1900	310.8					
16	1630	311.4					

waters center

10th

17

21

Index chart 12-30

AV (12) 310.0

SIO Daily Min Oct. 1958

Date	Hr.	Index	Date	Hr.	Index
Oct. 1		—	Oct. 17		—
2		—	18		—
3	20	318.3	19		—
4			20		—
5	0030	315.7	21		—
5	1930	313.2	22	18	311.2 ^x
6	0700	312.2	23	1030	311.2
7	0630	311.6 ^x	24	1230	311.0
8	1830	312.0	25	1400	310.3
9	1730	314.7	26	1800	310.7 ^x
10	17	315.1	27	1830	310.9 ^x
11	1630	314.7	28	0930	313.0
12	2100	317.8	29		—
13	1600	314.7	30	1500	313.2
14		—	31	0900	314.7
15		—			
16	2300	316.3			

Weekly:

7	311.6	7
(13)	314.7 ^{mid}	17
25	310.3	24
26	310.7	28

AV. (3) 310.9

Av date: 19th

All indices checked

AV. (21) 313.5

510 Daily Min. - Nov. 1958

Date	Hr.	Index	Date	Hr.	Index		
Nov. 1	1500	315.2	Nov. 17	18	314.5	Weekly:	
2	1500	320.0	18	1430	313.7 ✓	7	314.1 4
3	.	-	19	1130	313.9	15	310.7 11
4	1730	315.3	20		-	18	313.7 18
5	0100	318.4	21	1530	317.9	28	313.1 25
6	1730	314.3 ^x	22	1700	319.4	30	313.9 32
7	17	314.1	23	1800	319.8	AV. (5)	312.9
8	17	317.0	24		-	Av. later:	20 th
9	18	311.6	25	2000	319.1		
10	1230	310.7	26	1730	316.6		
11	14	313.2	27	0030	318.6		
12	17	310.8	28	2230	313.18 ✓		
13		-	29	0530	313.5		
14	22	311.3 ^x	30	0230	318.9		
15	0330	310.7 ✓					
16		-					

x Perseus > 1hr
 x " " > 4hr.
 No Indices checked 1-20 vs. Density

AV. 316.1 (25)

Date	Hr.	Index	Date	Hr.	Index			
Dec. 1	0630	314.8	Dec. 17	0630	316.4		Weekly	
2	0600	316.4	18	0600	316.4		11	314.5
3	0700	316.5	19		—		14	313.9
4	2130	315.8 ^x	20	0330	323.4		26	313.1
5	1030	315.0	21	0330	324.5	AV.	29-31	313.6
<u>6</u>	1030	<u>316.8^x</u>	22	1800	313.7		(4)	313.8
7	1630	329.6	23	1100	315.8		Av. of 20 th	20 th
8	1030	327.2	24	1600	315.0			
9	1600	318.2	25	1700	316.8			
10	1030	326.2	26	1630	313.1			
11	0730	314.5	27	2030	313.9			
12	1600	319.8	28	1130	318.4			
13	1700	<u>315.8</u>	29	1130	313.6			
14	1900	313.9 ^x	30	0930	313.6			
15	0600	314.2	31	01400	313.6			
16	0300	313.9						

ave. 317.3 (29)

S10 Daily Min. Jan. 1959

Date	Hr.	Index	Date	Hr.	Index
Jan. 1	1200	315.0	Jan. 17	1930	329.2
2	1500	314.4	18	1800	322.9
3	1230	315.2 ^x	19	1430	317.4
4	1730	315.2	20	1830	316.1
5	2230	313.6	21	1700	315.3
6	1900	313.5	22	1100	315.8
7	1630	317.0	23	1830	323.6
8	1800	317.2	24	2130	320.0
9	1800	319.7	25	1800	317.6
10	1530	320.8	26	1100	316.4
11	1600	323.4	27	1200	316.9
12	2200	326.8	28	1700	315.7
13	1800	315.5	29	0300	319.3
17	1900	327.2	30	1700	317.2 ^x
15	2100	323.8	31	1300	315.7
16		—			

Weekly

6	313.5
13	(315.5 omit from av.)
21	315.3 315.3
30	314.2
AV (3)	314.3
Arlyte	19th

Jan. 13 min. during period of continued contamination.

ave. 318.3 (30)

S10 Daily Min Feb 1959

Date	Hr.	Index	Date	Hr.	Index
Feb 1	1430	315.1	Feb 15	2330	315.9
2	2100	314.8	16	2330	313.8 ^x
3	0400	316.1	17	0130	313.9
4	1700	314.8 ^x	18		—
5		—	19	1800	314.3 ^x
6	1730	313.9	20	1900	314.3 ^x
7	1600	313.6 ^x	21	2000	314.8 ^{xx}
8	1800	313.8 ^x	22	1730	314.6
9	0230	314.0	23	0900	318.5
10	1500	313.6	24	1300	319.9
11	1600	314.0 ^{xx}	25	1230	318.3
12	1830	314.3 ^x	26		—
13	1400	315.4	27	1900	326.6
14	1200	318.8 ^x	28	1530	323.9

Weekly

7	313.6
10	313.6
17	313.8
22	314.6
AV. (M)	313.9
AV. date 14 th	

ave. 316.0 (25)

Date	Hr.	Index	Date	Hr.	Index			
Mar. 1	1800	317.6	Mar. 17	1900	317.0		Weekly	
2	2330	323.2	18	1230	314.4 ^x		7	315.5
3	1730	316.8	19	1630	315.9		13, 14	314.7
4	1700	320.2	20	1800	318.7		18	314.4
5	1430	317.2	21	1530	315.9		22	314.5
6	2030	315.6 ^x	22	2300	314.5 ^{xx}		30	314.3
7	1730	315.5 ^x	23		—		AV.(5)	314.7
8	0230	316.6	24		—		Av date:	18 th
9	1830	322.2 ^x	25	1130	317.3			
10	1600	322.5	26	2400	314.7			
11	1100	316.8	27	1430	314.9			
12	0230	318.5	28	1630	314.9			
13	1530	314.7	29	1830	315.0			
14	1100	314.7 ^x	30	2400	314.3 ^{xx}			
15	1530	317.9	31	0900	316.5			
16	0300	316.4						

ave. 316.9 (29)

S10 Daily Min. April, 1959

Date	Hr.	Index	Date	Hr.	Index			
Apr. 1	1730	318.0	Apr. 16	2200	315.4		Weekly	
2		—	17	1630	314.9 ^{xx}		15	313.7
3	1800	314.9 ^x	18	1030	314.9		17	314.9
4	1730	314.4 ^x	19	1900	314.4 ^x		24	314.3
5	1830	313.7 ^x	20	1500	314.9	AV. (4)	26	314.9
6	1430	317.5 ^x	21	0200	315.4	AV. date: 16 th		
7		—	22	2030	317.5			
8	0730	313.9	23	1800	317.9			
9	1700	317.8	24	2000	314.3 ^x			
10	1900	315.7	25	1200	315.1			
11	1630	315.7 ^{xx}	26	1900	314.9			
12	1400	315.3	27	—	—			
13	0430	315.9	28	—	—			
14		—	29	—	—			
15	1900	315.2 ^{xx}	30	—	—			

x Persists > 1hr

xx " > 4hr.

AV. 23 315.0

510 Daily Min. Temp. 1959

Date	Hr.	Index	Date	Hr.	Index		
May 1	1830	315.6	May 17	2130	316.1	Weekly	
2	0630	316.0	18	1230	316.1 ^x	9	315.6
3	0730	316.6	19	1130	316.1	12	314.5
4	2030	316.6	20	1130	316.0	23	313.9
5	1500	316.4	21	2330	315.8	25	313.4
6	0830	316.4	22	1800	314.1 ^h	Av(4)	314.4
7	1700	316.8 ^x	23	0030	313.9	Av date: 17th	
8	2330	316.0	24	2400	313.8 ^x		
9	0600	315.6 ^x	25	2000	313.4 ^x		
10	1500	316.2 ^x	26	0430	313.5 ^x		
11	1800	315.8 ^x	27	0500	314.3		
12	2230	314.5 ^x	28	1300	315.3		
13	1630	315.0 ^x	29	0830	315.4		
14	2300	315.1	30	1900	315.2		
15	0830	315.4	31	2000	314.5 ^x		
16	0930	316.3 ^x					

ave 315.4 (30)

SID DAILY MIN. JUNE, 1959

DATE	HR.	INDEX		DATE	HR.	INDEX	
JUNE 1	2400	314.5		JUNE 16	0530	315.1 ^{XX}	Weekly
2	1730	313.8 ^X		17	1830	315.4 ^X	2 313.8
3	1230	314.1 ^X		18	2030	315.5	12 315.2
4	1700	314.6		19	1800	315.3	16 315.1
5	1930	315.5 ^{XX}		20	2130	315.6 ^X	27 313.9
6	1230	315.2		21	2200	315.8 ¹	Av (4) 314.5
7	0400	315.5 ^X		22	1600	315.3	Av date: 14th
8	1300	315.4 ^X		23	1830	314.2	
9	1830	315.4		24	0900	314.0 ^X	
10	1200	315.3		25	1430	314.1	
11	1900	315.6 ^X		26	1100	314.0	
12	2130	315.2		27	1530	313.9	
13	0130	315.7		28	1400	313.4	
14	1930	315.5		29	2230	312.9	
15	2130	315.3 ^X		30	2130	314.2	

ave. 314.8 (29)

SIO DAILY MIN. JULY, 1959

DATE	HR.	INDEX	DATE	HR.	INDEX			
JULY 1	2400	313.9	JULY 17	0500	312.2		Weekly	
2	1930	312.8 ^x	18	1030	312.2		2	312.8
3	0400	313.5	19	1430	311.6		5	312.4
4	1930	313.0 ^x	20	1100	312.2		15	311.8
5	1830	312.4 ^x	21	2400	312.6 ⁶		19	311.6
6	1900	312.6	22	0700	313.2		31	308.7
7	1630	312.6	23	2400	313.5		Avg(S)	311.5
8	1800	312.6	24	2030	312.9		A. Lat. 14th	
9	1500	313.8	25	2000	312.9 ^x			
10	1930	312.6 ^x	26	1830	313.2			
11	1730	312.9	27	0900	313.1 ^x			
12	0430	312.0	28	1830	312.3 ^{xx}			
13	1830	312.0	29	1500	310.9			
14	0030	312.2	30	2330	309.4			
15	2130	311.8 ^x	31	2000	308.7			
16	0230	312.0 ^x						

ave. 312.4 (31)

SIO Daily Min.

August, 1959

Date	Hr.	Index	Date	Hr.	Index			
Aug. 1	0100	309.2	Aug 17	2200	308.9 ^{xx}		Weekly	
2	1100	310.0	18	2200	309.5 ^{xx}		6	308.7
3	0830	311.2 ^x	19	0800	309.2		7	308.8
4			20	0200	308.5 ^x		21	307.5
5	2130	309.7	21	1730	307.5 ^x		28	309.9
6	2300	308.7	22	0030	310.1		Av. (4)	308.7
7	0130	310.8	23	1400	309.2		Av. date	16 th
8			24	0930	309.5 ^x			
9	0030	308.8	25					
10	0030	310.8	26					
11	0230	311.2	27	1630	310.1 ^x			
12	0130	312.2 ^x	28	1830	309.9 ^x			
13			29	1930	310.7 ^x			
14			30	1900	310.8			
15			31	1800	311.5 ^x			
16	2100	308.8						

av. 309.9 (24)

Date	Hr.	Index	Date	Hr.	Index
Sept. 1	1900	310.7	Sept. 16	0800	307.8 ^{check chart} ?
2	2300	309.7	17	0800	308.4
3	2300	310.4	18	1430	309.4
4	1900	309.2 ^{xv}	19		
5	1730	309.4	20		
6	0200	310.5	21	1500	310.0
7	1200	310.5 ^x	22	1530	311.3
8	2330	310.1	23	1200	312.0 ^x
9	1800	311.7	27	1630	313.1
10	1400	312.6	25	1700	314.3
11	0900	311.8	26	1830	312.1
12	1730	311.1 ^x	27		
13	1730	311.1	28	1530	312.2
14	2330	308.9	29	1300	311.4
15	0030	308.6	30	1630	311.0 ^x

Weekly

4	309.2
8	310.1
16	307.8
21	310.0
Av. (4)	309.2 ³

Average: 12th

retain

ave. 310.7 (27)

S10 Daily Min. October, 1959

Date	Hr.	Index	Date	Hr.	Index
Oct. 1	0530	309.8	Oct. 17	0200	317.2
2	1730	311.9	18	1600	318.3
3	1800	314.7	19	1600	313.5 ^x
4	1730	315.2	20	1700	312.8
5	1800	313.5	21	1500	314.2 ^x
6	1900	312.3 ^x	22		
7	0530	311.8 ^x	23	1430	318.2
8			24	2400	314.1
9			25	0800	313.9
10	1900	313.1	26	0630	312.8
11	2000	312.6 ^x	27	1030	313.4
12	1530	313.4 ^x	28	1030	313.0 ^{xx}
13	1400	314.4	29	1130	313.9 ^x
14	0030	322.1	30	0900	314.1
15	1530	316.6	31	1530	313.6
16	1500	321.3			

Weekly

1	309.8
7	311.8
11	312.6
20	312.8
26	312.8
Av (5)	312.0
Av date: 13 th	

Oct. 1-11 Tank $\text{\textcircled{70}}$ av. 299.62

12- $\text{\textcircled{72}}$ av. 320.51

ave. 314.5 (28)

510 Daily Min.

November, 1959

Date	Hr.	Index	Date	Hr.	Index		
Nov. 1	1600	313.9	Nov. 16	0100	313.5	Weekly	
2	1530	313.6 ^x	17	0200	320.9	2	313.6
3	1000	314.1	18	1500	317.7	9	(315.6 omit from av.)
4	1530	314.0 ^x	19	1700	315.8 ^x	15	313.0
5	2000	313.8	20	0830	315.2	-	-
6	1530	314.8	21	0230	317.7	Av(2)	313.3
7	0500	315.1	22	0730	318.7	Av later:	8 th
8	0700	316.2	23	1630	316.8		
9	1400	315.6	24				
10	0630	316.1	25				
11	1800	320.9	26				
12	1500	321.8	27				
13			28				
14			29				
15	1830	313.0 ^x	30	1130	316.2		

ave. 316.2 (22)

SIO Daily Min. December, 1959

Date	Hr.	Index	Date	Hr.	Index		
Dec. 1			Dec. 17	1400	315.8	Weekly	
2			18	0130	318.4	5	311.6
3	1630	314.9	19	1530	317.0	10	312.1
4	1000	315.0	20	2100	315.3	13	313.5
5	1130	311.6	21	0400	313.5	21	313.5
6	1300	312.4	22	1600	318.7	31	<u>314.6</u>
7	1230	312.6	23	2330	316.0	Av (5)	313.1
8	0600	315.5	24	1230	314.9	Av 16 th	converted from 313.1
9	2230	313.5	25	1200	313.5 ^{xx}		
10	0530	312.1	26	1000	316.2		
11	0330	317.6	27				
12	0730	322.9	28				
13	0930	313.5	29				
14	1030	314.2	30				
15	0700	316.9	31	2130	314.6 ^x		
16	1430	316.5					

ave 315.3 (25)

S10 Daily Min January, 1960

Date	Hr.	Index	Date	Hr.	Index
Jan. 1	0300	314.6 ^x	Jan. 17		
2	1400	316.2	18	1600	316.8
3	1830	315.5	19	1430	316.6
4	1700	314.6	20	0630	317.8
5	1430	317.5 ³	21	1530	317.8 ^x
6	0530	318.5	22	0330	319.4
7	0700	322.9 ^x	23	1930	317.4
8	1300	326.2	24	1930	316.8 ^x
9	1400	315.0 ^x	25	1800	317.8
10	0200	315.7	26	1730	314.4
11	1930	314.7	27	2000	317.0
12	0500	314.2	28	0100	322.7
13	1630	316.4	29	1800	322.1
14	1930	316.0	30	0330	320.5
15	1100	313.4	31	2030	314.6 ^x
16	1000	318.1			

Weekly

4 314.6

15 318.4

19 (316.6 omit from av.)

26 314.4

Av(4) 314.1

Av Mon: 16th

ave. 317.3 (30)

SIO Daily Min. February 1960

Date	Hr.	Index	Date	Hr.	Index
Feb 1	2400	314.3 ^x	Feb 16	0530	322.7
2	0030	314.0	17	0330	321.0
3	1830	317.5	18	1930	315.5 ^x
4	0030	315.3	19	0230	315.7 ^{xx}
5	2000	314.9	20	0900	317.6
6	1400	316.2	21	1830	316.9
7	2400	322.3	22	1600	315.8 ^{xx}
8	1930	314.4	23		
9	0500	314.7 ^x	24	1700	316.6
10	0630	315.1 ^x	25	1630	317.0
11	1930	317.8	26	2400	315.0
12	0900	314.5	27	1900	315.1 ^x
13	1630	318.7	28	1500	316.0
14	1630	317.7	29	1330	315.3
15	0930	319.3			

Weekly

2	314.0
8	314.4
18	315.5
26	<u>315.0</u>
Av (4)	314.7
Av date: 17 th	

ave 316.7 (28)

SIO DAILY CO₂ MIN.

FEB. 1960

DATE	HOUR	INDEX		DATE	HOUR	INDEX	
FEB. 1	2400	314.8	x ✓	FEB. 15	0930	319.3	✓
2	1600 ⁰⁰³⁰	314.7 ^{317.0}	x ✓	16	0530	322.7	✓
3	1830	317.5	✓	17	0330	321.0	✓
4	0030	315.3	✓	18	1930	315.5	✓ ^x
5	2000	314.9	✓	19	0230	315.7	✓ ^{xx}
6	1400	316.2	✓	20	0900	317.6	✓
7	2400	322.3	✓	21	1830	316.9	✓
8	1930	314.9	✓	22	1600	315.8	✓ ^{xx}
9	1600 ⁰⁵⁰⁰	311.3 ^{317.7}	✓	23	analyser shut down		
10	0630	315.1	✓	24	1700	316.6	✓
11	1930	317.8	✓	25	1630	317.0	✓
12	0900	314.5	✓	26	2400	315.0	✓
13	1630	318.7	✓	27	1900	315.1	✓ ^x
14	1630	317.7	✓	28	1500	316.0	✓
				29	1330	315.3	✓

Weekly

2 319.0
8 314.4

~~ave 317.1 (30)~~

SIO DAILY CO₂ MIN.

MARCH 1960

DATE	HOUR	INDEX		DATE	HOUR	INDEX				
MAR 1	1500	315.4 [*]	✓	MAR 17	0030	315.4	✓			
2	1300	317.0 [*]	✓	18	0530	325.8	✓			
3	1830	316.5	✓	19	0730	<u>327.8</u>	✓			
4	1800	315.3	✓	20	analyzer off					
5	0130	<u>321.3</u>	✓	21	2000	323.59	✓			
6	1700	315.2 [*]	✓	22	1830	318.10	✓			
7	1730	315. 2 ⁴²		23	2000	315.66	✓			
8	1730	315.4	✓	24	2030	315.56 ^{xx}	✓			
9	1900	316.0	✓	25	0330	315.35	✓			
10	0400	317.7	✓	26	3 730	315.88 ^{xx}	✓			
11	1030	317.8	✓	27	2000	315.24	✓			
12	2230	<u>314.7</u>	✓	28	0300	315.45 ^x	✓			
13	0730	313.5 [*]	✓	29	1830	316.19	✓			
14	0030	315.5	✓	30	2400	314.82	✓			
15	0030	320.7	✓	31	0200	315.03	✓			
16	2400	315.6	✓							

Weekly

4 315.3

12 314.7

13 313.5

Temp 25 315.4

30 314.8N(5) 314.7 ~~314.7~~Ar date: 17th

avg 317.1 (30)

S10

Daily CO₂ Min.

April 1960

Date	Hour	Index								
April 1	0030	320.95		April 23	2300	316.59 ^x	✓	Weekly		
4	1600	328.14		24	0030	316.59 ^x	-		7, 9	315.56
5	1430	321.80	✓	25	1730	316.69 ^{xx}	-		10	315.88
6	1830	318.41	✓	26	1700	317.01 ^x	-		23	316.59
7	2200	315.56	✓	27	2300	316.80 ^x	✓		24	316.59
8	0600	316.09	✓	28	0130	316.69	✓		Av. (4)	316.2
9	1900	315.56	✓	29	1000	317.75	✓		Av. (16):	16 th
10	1900	315.88	✓	30	1600	317.22	✓			
11	0800	316.19 ^x	✓							
12	0130	316.30	✓							
13										
14	1700	316.72 [*]								
15	1730	317.54	✓							
16	1630	317.33	✓							
17	1900	317.64	✓							
18	1730	317.75	✓							
19	1900	317.33	✓							
20	1600	317.64	✓							
21	1130	317.12 ^x	✓							
22	2000	316.90 ^{xx}	✓							

ave. 317.1 (25)

SIO Daily CO₂ Min.

May 1960

	Date	Hour	Index							
May	1	1900	318.70 ✓						Weekly 2, 3	316.59
	2	2400	316.59 ^x ✓						9	317.75
	3	0300	316.59 ✓						24	<u>315.96</u>
	4	0430	316.38 ✓						AU	316.78
	5	1700	317.54 ✓							316.8 (3)
	6	1830	319.23 ✓							Av date 12 th
	<u>7</u>	1830	318.07 ✓							
	8	2100	318.28 ✓							
	9	1830	317.75 ✓							
	10	1800	318.49 ✓							
	11	1700	318.81 ^x							
	<u>12</u>	0300	318.70							
	23	2400	317.02							
	24	2230	315.96							
	25	0130	316.59							
	26	0730	319.23							
	27	1300	320.39							

ave. 317.9 (17)

S10 Daily CO₂ Min

June 1960

Date	Hour	Index							
6	2130	317.86 ^x							
7	0430	317.75 ^x							
8	1900	315.96							
9	2300	315.33 ^x							
<u>10</u>	1530	315.12							
13	1930	315.26 ^{xx}							
14		omit							
15	2030	316.52							
<u>16</u>	0900	316.94							
		END OF PIER RECORD							

Weekly 10 315.12

13 315.26

AV 315.2 (2)

Av last 12th

ave 316.4 (8)

SIO Daily CO₂ Minima MM. 1962

<u>Date</u>	<u>Hr.</u>	<u>Incr</u>	<u>Weekly</u>
20	316.29		20. 316.29
20	1430	316.29	30 316.96
1	2230	317.20	
2:1	630	320.90	
22	2230	316.69	Av. (2) 316.6
	0030		
23	2230	317.30	Av. Note 25th.
<u>24</u>	1530	320.45	
25	1830	325.32	
26	2230	318.22	
		321.22	
27	31000	317.72	
28	1630	317.16	
29	2330	317.06	
30	1730	316.96	
<u>31</u>	0100	318.28	

SIO Daily CO₂ Minima Apr. 1962

Date	Hr	Index			
1	1700	316.45	25	0630	317.67
2	1200	316.65	26	0130	317.44
3	1030	317.26	27	1730	317.24
4	0400	316.65	28	1630	317.89
5	1600	320.10	29	1630	317.79
6	1430	324.57	30	1330	318.29
<u>7</u>	2300	324.93			
8	1700	319.29			
9	1630	317.06			
10	0100	317.36			
11	1430	319.70			
12	1530	323.86			
13	1100	323.66			
<u>14</u>	1430	320.10			
15	1430	316.55			
16	1400	316.96			
17	1730	316.46			
18	1730	316.96			
19	0630	317.05			
20	1730	317.47			
<u>21</u>	1730	314.40			
22	1630	320.51			
23	2230	314.09			
24	1630	317.36			

Weekly

1	316.45
9	317.06
15	316.55
27	317.24

Av (4) 316.81

Av date 13th

SIO Daily CO₂ Minima

May 1962

Date	Hr	Index		
1	1630	319.51		Weekly
2	1830	318.70		5 317.58
3	1600	318.09		6 316.67
4	1700	317.79		
<u>5</u>	1630	317.58	Av (2)	317.1
6	2030	316.67	Av Rate	6th
7	2130	317.18		
8	1330	317.18		
9	1330	317.28		
10	0730	317.38		