5776

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 122

LOCALITY

Offshore
~~Southern~~ California Coast
West~~ward~~ of ~~Santa Barbara Ids.~~ Point Conception
~~Offshore~~

1933

CHIEF OF PARTY

O. W. Swainson, H. & G. Engineer.

U. S. GOVERNMENT PRINTING OFFICE: 1933

5776

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 122

REGISTER NO. [illegible]6

State California

General locality Offshore ~~Southern~~ California Coast

Locality West~~ern approaches~~ ~~Santa Barbara Channel~~ of Point Conception

Scale 1:120,000 Date of survey Apr. 11 - Dec. 19, 1933 & Aug. 15, 1934

Vessel Str. PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson

Protracted by P. L. Bernstein

Soundings penciled by H. J. Pulskamp, Draftsman

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated November 18, 1932

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 122.

U.S.C.& G.S.S. PIONEER O. W. Swainson, Commanding.

AUTHORITY

The hydrography represented by this sheet was done in accordance with instructions dated November 18, 1932 to the Commanding Officer of the PIONEER for Project 120.

LOCALITY

The sheet constitutes the offshore area westward of the Santa Barbara Islands. The scale of the sheet is 1:120,000.

CONTROL

Practically all the sheet was controlled by three R.A.R. stations. In some instances a fourth distance was obtained from one of the GUIDE'S R.A.R. stations. The distance arcs intersected in various sized triangles. The velocity was determined by a few visual fixes, but these velocity tests were not of much value due to the irregular bottom and varying conditions over the sheet. In general 1480 meters per second was used over 400 fathoms depth and a gradual increase to 1495 close to the stations. A sketch showing the velocities used in the various areas is attached to this report.

Five second circles with a velocity of 1480 meters were drawn on the smooth sheet to facilitate the plotting.

In many cases the triangles could have been made smaller by using lesser velocities. However, it was thought best to keep the velocities uniform over the offshore areas. The erratic nature of the velocity can more easily be shown in this manner.

The position was selected from a study of the dead reckoning and adjacent bomb positions. This selected position is no doubt quite close to being correct.

FATHOMETER CORRECTIONS Fmtrs at 820fm/sec

A detailed description of the fathometer corrections is contained in the Season's Report for 1933, also in Descriptive Reports for Sheets 41 and 45, and 121. Also see attached tables.

SURVEY METHODS

The standard method of taking fathometer soundings supplemented by vertical casts was used. Most of the soundings are red light soundings, either slow or fast speed. The white light soundings may be in error by as much as 40 fathoms. Experienced men read the fathometer.

TIDES

The readings from the tide gage at Santa Barbara were used to reduce the soundings where reducers were required.

SLOPE CORRECTIONS

No slope corrections were applied, as it is thought the probable error of position did not warrant applying slope corrections.

CURRENTS

A special report on oceanography was forwarded in 1934. The currents were generally southwestward over the offshore areas.

O.W. Swainson
Chief of Party

CHIEF OF PARTY'S REPORT

ON INSPECTION OF FIELD RECORDS

The positions were plotted by Lt. P. L. Bernstein, and the soundings plotted by H. J. Pulskamp, Draftsman.

The distance arcs could have been made to intersect nearer to a common point in many cases by using a different velocity. However, it was thought best to keep the velocity uniform over given areas. Various methods of determining the correct velocity to each hydrophone from each bomb were tried. It was noted that the velocity along a profile to any one hydrophone apparently varied from 1460 to 1490, depending upon the distance and bottom profile. We know now that this was to be expected in accordance with the reflection theory for the path of sound rays.

A study was made of the dead reckoning positions as well as the bomb positions. The point that seemed to fit best was selected as the final position. This fell inside the triangle of error in most cases. If the velocity was the same to all hydrophones this would of course not be correct.

I personally examined every sounding plotted on the smooth sheet to see how it compared with those nearby. If any looked queer I questioned it. Later the sounding was investigated for errors. If no reason could be found for rejecting or correcting it, an O. K. was penciled after the question mark. These marks were left on the sheet to aid the reviewer in the Office. The reviewer should erase them.

I did not personally examine the sounding and bomb records closely.

Attention is called to the large gorge extending north northeasterly toward Point Arguello and the system of gorges leading into it. This was not recognized during the field work. There should have been a system of northwest and southeast lines run across this area.

Where this sheet is overlapped by inshore sheets, use the soundings of the inshore sheets.

O. W. Swainson

O. W. Swainson,
Chief of Party,
Commanding Ship PIONEER.

TABLE B (Continued).

Fathometer Sounding (Fms.)	Theoretical Correction (Fms.)	Corrected Fath. Sounding (Fms.)	Vertical Cast (Fms.)	I. C. (Fms.)
27.5	+ 2.4	29.9	28.4	- 1.5
28.0	2.4	30.4	29.0	1.4
28.0	2.4	30.4	29.0	1.4
11.0	0.8	11.8	12.3	+ 0.5
10.5	0.5	11.0	11.9	0.9
				-24.0
			Average I. C.	- 0.6

Number 2 Hydrophone - Small Oscillator - Short Dash. Before Nov. 21, 1933.

244.0	- 2.2	241.8	243.0	+ 1.2
353.0	- 4.6	348.4	348.1	- 0.3
97.0	+ .6	97.6	95.2	- 2.4
118.0	.3	118.3	116.3	- 2.0
81.7	.9	82.6	81.2	- 1.4
99.0	.6	99.6	97.6	- 2.0
				- 6.9
			Average I.C.	- 1.2

Number 2 Hydrophone - Small Oscillator - Long Dash. Before Nov. 21, 1933.

228.0	- 1.8	226.2	223.4	- 2.8
101.0	+ 0.7	101.7	95.2	- 6.5
				- 9.3
			Average I.C.	- 4.6

Number 2 Hydrophone - Small Oscillator - Short Dash. After Nov. 21, 1933.

78.2	+ 0.8	79.0	79.0	0.0
209.0	- 1.5	207.5	208.8	+ 1.3
52.5	+ 1.3	53.8	53.4	- 0.4
420.0	- 6.0	414.0	419.8	
				+ 0.9
			Average I.C.	+ 0.3

Statistics Sheet 122

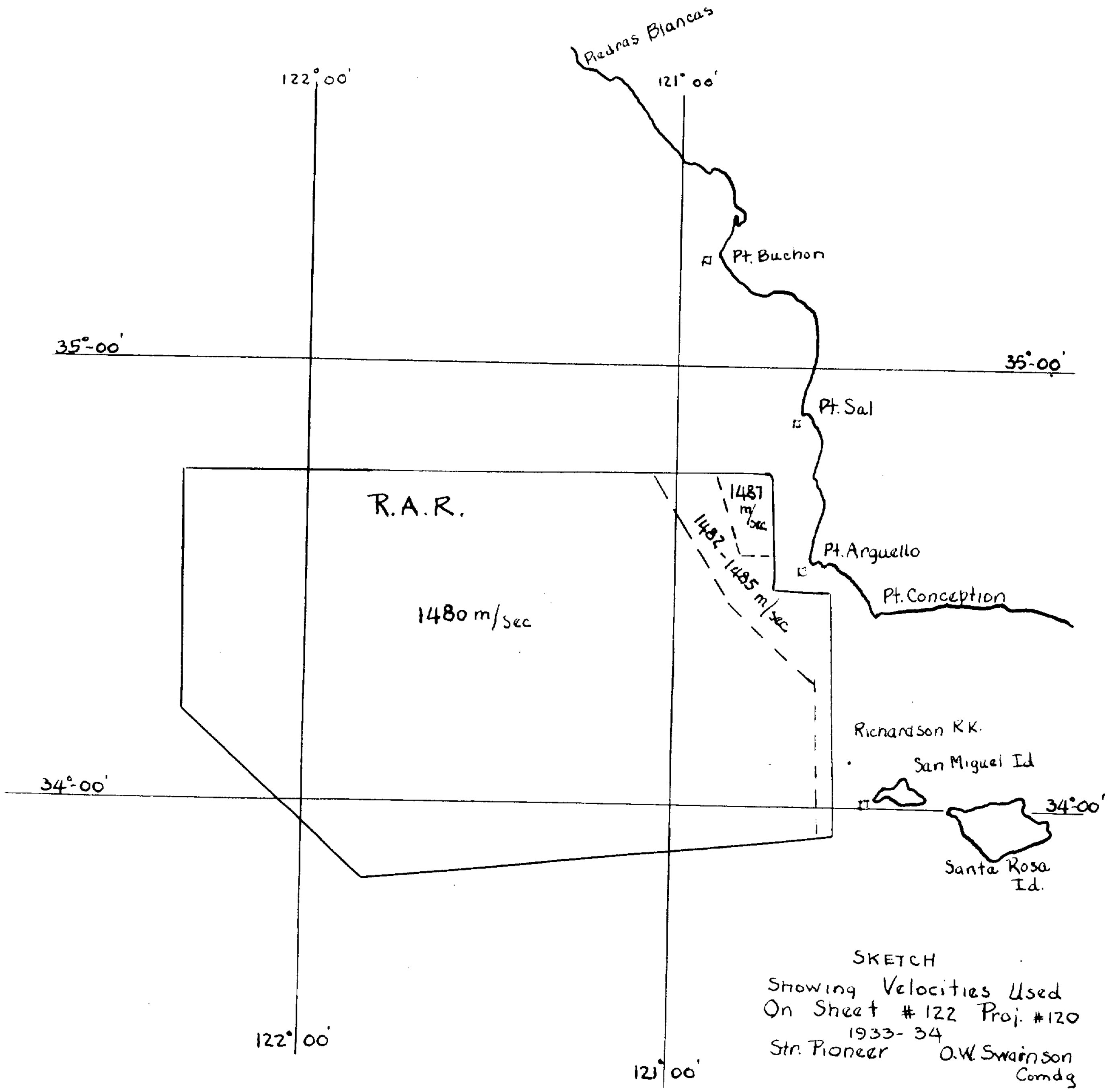
Date	Letter	Volume	Positions	Soundings	Miles (Stat)	Vessel
April 11, 1933	A	1	16	116	36.5	Ship
" 27, 1933	B	1	21	43	40	"
" 28, 1933	C	1	62	260	110	"
May 6,	D	1	77	354	101	"
" 9	E	1	22	129	14	"
June 6	F	1	76	286	119	"
" 7	G	2	33	80	75	"
" 8	H	2	50	192	105	"
" 9	J	2	68	347	140	"
" 10	K	2	61	240	117	"
" 11	L	2	83	581	146	"
" 12	M	3	68	318	124	"
" 13	N	3	55	234	109	"
" 14	P	3	71	486	95	"
" 27	Q	3	49	163	161	"
" 28	R	3&4	60	198	156	"
" 29	S	4	46	264	83	"
July 11	T	4	50	352	80	"
" 14	U	4	25	251	60	"
" 15	V	4	60	129	114	"
" 16	W	4	28	102	64	"
" 17	X	4&5	77	588	136	"
" 18	Y	5	80	525	127	"
" 19	Z	5	92	528	110	"
August 1	AA	5&6	73	389	108	"
" 2	BB	6	12	41	345	"
" 4	CC	6	112	475	89	"
Sept. 12	DD	6	61	236	46	"
Oct. 18	EE	6	90	416	85	"
" 19	FF	6	40	126	34	"
Dec. 5	GG	7	14	50	10.5	"
" 19	HH	7	22	147	25	"
Aug 15, 1934	JJ	8	118	905	87.5	"
Totals	33	8	1872	9551	2944.0	

✓

ABSTRACT OF VERTICAL CASTS

Sheet Field No. 122.

Pos. No.	Day	V.C.	Method	#2 Hyd. Sm.Osc.	Cor'n	Crtd Sndg	#3 Hyd Bg.Osc.	Cor'n	Crtd Sndg.
55	N	81		82.5	-1	81.5	82	-0.5	81.5
65	P	550	FRx6	545	-3	542			
25	U	2124	"	(2045	-16	(2022 (slope)			
		[illegible]	"	2150		2134			
60	V	2178	"	2215	-16	2199			
77	X	961	"	975	-11	964			
80	Y	539	"	546	-3	543			
46	Z	46.2		46.5	-0.5	46			
		46.1							
46	AA	507.5	FR	520	-10	510			
			FRx6	516	-3	513			
59	EE	223.4	(FR	228	-7	221			
			FRx6	230		223			



SKETCH
Showing Velocities Used
On Sheet # 122 Proj. #120
1933-34
Str. Pioneer O.W. Swainson
Comdg

FATHOMETER CORRECTIONS FOR PROJECT NO. 130
AFTER SEPTEMBER 30, 1933. To Feb 1, 1934

Field Sheets 45, 46, 122, and 123.

Since there were very few temperature and salinity observations made in the locality covered by the soundings during this period, the curve for all the theoretical corrections for the period prior to the above date was assumed correct and used. These values, for the large oscillator and No. 5 (Navy rat) hydrophone, and the small oscillator and No. 2 (tuned) hydrophone, are shown in table A. Since it had been noted throughout the season that the initial flash was shown at an average point of six fathoms when the large oscillator, No. 5 hydrophone combination was used, it was decided that an additional theoretical correction of plus 1.8 fathoms should be applied to cover the error introduced by the dial reading at the instant the sound was produced. This value was obtained by the following reasoning - When the oscillator produces a sound, the impulse is spread in all directions through the water at approximately the same velocity. Therefore, by the time the sound wave reaches the hydrophone - which in this case is 93 feet away from the oscillator - and is transmitted to the fathometer dial as an initial flash, it also has traveled an equal distance toward the bottom. Since the depth read on the fathometer dial is exactly half of the distance traveled by the sound wave, it would be necessary for the initial flash to come in at 7.8 fathoms if the oscillator tripped when the dial read zero. But, as the initial flash occurred at 6 fathoms, the sound must have started when the dial read 98.2, thus making a correction of 1.8 fathoms to be added to the read sounding. With the number two hydrophone-small oscillator combination, which has only a 24 foot base line, this correction was found to be less than one-half fathom, therefore it was not included as a theoretical correction, but was taken up by the index correction.

The determination of an index correction by comparison of theoretically corrected fathometer soundings and corresponding vertical casts will be found in table B. Since the fathometer was repaired on November 21, it was necessary to compute index corrections for each of two periods, before and after that date. There were very few soundings taken after November 21 with the No. 2 hydrophone-small oscillator combination, and consequently only one comparison was taken during that period. In order to arrive at some index correction, it was found necessary to use three comparisons that had been made during this period near San Clemente Island, and which had been included in the index correction for that area. However, the mean of three - one of the four was obviously wrong - gave an index which appeared to be very nearly correct. The five index corrections computed in table B were then applied, in table C, to the corresponding total theoretical corrections, and the results plotted as a set of curves, Numbers 1, 2, 3, 4, abd 5, from which were picked the depth ranges for the various final corrections.

TABLE A

THEORETICAL FATHOMETER CORRECTIONS

Large Oscillator - Number 3 Hydrophone Combination.

True Depth	Indicated Depth	Total Theor. Crn. (from curves of period before	Crn. for Initial Contact	Total Theor. Correction
4	7.8	-3.8	+ 1.8	-2.0
6	8.4	2.4		.6
8	9.7	1.7		+ .1
10	11.0	1.0		.8
12	12.6	.6		1.2
14	14.3	.3		1.5
16	16.1	.1		1.7
18	17.9	+0.1		1.9
20	19.8	.2		2.0
24	23.6	.4		2.2
28	27.4	.6		2.4
32	31.4	.65		2.45
42	41.2	.8		2.6
52	51.2	.8		2.6
62	61.3	.7		2.5
72	71.4	.6		2.4
82	81.5	.5		2.3
92	91.7	.3		2.1
102	101.8	.2		2.0
112	112.0	0.0		1.8
122	122.1	- 0.1		1.7
142	142.5	.5		1.3
162	162.9	.9		0.9
182	183.3	1.3		.5
202	203.7	1.7		.1
242	244.5	2.5		-0.7
282	285.4	3.4		1.6
322	326.2	4.2		2.4
362	367.1	5.1		3.3
402	407.9	5.9		4.1

(continued)

TABLE A (Continued)

THEORETICAL FATHOMETER CORRECTIONS

Small Oscillator - Number 2 Hydrophone Combination.

True Depth (Fms.)	Indicated Depth (Fms.)	Theor. Correction (from curves of period before Sept. 30, 1933.) (Fms.)
4	2.4	+ 1.6
6	4.0	2.0
8	5.8	2.2
10	8.0	2.0
12	10.1	1.9
14	12.1	1.9
16	14.2	1.8
18	16.2	1.8
20	18.2	1.8
24	22.3	1.7
28	26.4	1.6
32	30.5	1.5
42	40.6	1.4
52	50.7	1.3
62	60.9	1.1
72	71.0	1.0
82	81.2	.8
92	91.3	.7
102	101.5	.5
112	111.7	.2
122	121.9	.1
142	142.3	- 0.3
162	162.6	.6
182	183.0	1.0
202	203.3	1.5
242	244.2	2.2
282	285.2	3.2
322	326.0	4.0
362	367.0	5.0
402	407.7	5.7
442	448.5	6.5
482	489.2	7.2

TABLE B

DETERMINATION OF AN INDEX CORRECTION

Number 3 Hydrophone - Large Oscillator. Before November 21, 1933.

Fath. Sdg. (Fms.)	Theor. Crn. (Fms.)	Corrected Fath. Sdg. (Fms.)	Vertical Cast (Fms.)	I.C. (Fms.)
93.5	2.1	95.6	91.7	- 3.9
84.5	2.2	86.7	83.2	- 3.5
98.5	2.0	100.5	98.4	- 2.1
				- 9.5
			Average I.C.	- 3.2

Number 3 Hydrophone - Large Oscillator. After November 21, 1933. (Feb 1, 1934

Fath. Sdg. (Fms.)	Theor. Crn. (Fms.)	Corrected Fath. Sdg. (Fms.)	Vertical Cast (Fms.)	I.C. (Fms.)
30.5	+ 2.2	32.7	31.8	- 0.9
30.0	2.2	32.2	31.5	0.7
77.5	2.3	79.8	79.0	0.8
15.5	1.6	17.1	16.2	0.9
15.1	1.6	16.7	16.1	0.6
18.0	1.9	19.9	19.0	0.9
55.3	2.6	57.9	58.4	+ 0.5
55.6	2.6	58.2	57.5	- 0.7
51.7	2.6	54.3	55.1	+ 0.8
52.5	2.6	55.1	53.8	- 1.3
44.0	2.6	46.6	46.4	0.2
42.5	2.6	45.1	43.9	1.2
29.8	2.4	32.2	32.6	+ 0.4
30.5	2.4	32.9	31.7	- 1.2
24.2	2.2	26.4	25.8	0.6
42.2	2.6	44.8	43.6	1.2
23.0	2.2	25.2	24.1	1.1
22.8	2.2	25.0	24.1	0.9
22.8	2.2	25.0	24.1	0.9
12.5	1.1	13.6	13.3	0.3
12.7	1.2	13.9	13.2	0.7
12.3	1.0	13.3	13.2	0.1
28.5	2.4	30.9	30.2	0.7
39.0	2.6	41.6	40.4	1.2
39.0	2.6	41.6	40.6	1.0
10.5	.5	11.0	11.8	+ 0.8
10.3	.4	10.7	11.9	1.2
10.5	.5	11.0	11.7	0.7
39.0	2.6	41.6	41.4	- 0.2
38.5	2.6	41.1	41.0	0.1
54.2	2.6	56.8	55.4	1.4
54.2	2.6	56.8	55.6	1.2
45.5	2.6	48.1	46.9	1.2
45.3	2.6	47.9	46.9	1.0
25.2	2.3	27.5	26.6	0.9
27.5	2.4	29.9	29.4	0.5
28.0	2.4	30.4	29.5	0.9

(Continued)

TABLE G

COMPUTATION OF FINAL CORRECTIONS FOR FATHOMETER SOUNDINGS.

Number 2 Hydrophone - Small Oscillator Combination.

Indicated Fathometer Depth (Fms.)	Theoretical Correction (Fms.)	Short Dash Before Nov. 21 I.C. - 1.2 (Fms.)	Long Dash Before Nov. 21 I.C. - 4.6 (Fms.)	Short Dash After Nov. 21 I.C. + 0.3 (Fms.)
2.4	+ 1.6	+ 0.4	- 3.0	+ 1.9
4.0	2.0	.8	2.6	2.3
5.8	2.2	1.0	2.3	2.5
8.0	2.0	.8	2.6	2.3
10.1	1.9	.7	2.7	2.2
12.1	1.9	.7	2.7	2.2
14.2	1.8	.6	2.8	2.1
16.2	1.8	.6	2.8	2.1
18.2	1.8	.6	2.8	2.1
22.3	1.7	.5	2.9	2.0
26.4	1.6	.4	3.0	1.9
30.5	1.5	.3	3.1	1.8
40.6	1.4	.2	3.2	1.7
50.7	1.3	.1	3.3	1.6
60.9	1.1	- 0.1	3.5	1.4
71.0	1.0	.2	3.6	1.3
81.2	0.8	.4	3.8	1.1
91.3	.7	.5	3.9	1.0
101.5	.8	.4	3.8	1.1
111.7	.2	1.0	4.4	.5
121.9	.1	1.1	4.5	.4
142.5	- 0.3	1.5	4.9	0.0
162.6	.6	1.8	5.2	- 0.3
183.0	1.0	2.2	5.6	.7
203.3	1.3	2.5	5.9	1.0
244.2	2.2	3.5	6.8	1.9
285.2	3.2	4.4	7.8	2.7
326.0	4.0	5.2	8.6	3.7
367.0	5.0	6.2	9.6	4.7
407.7	5.7	6.9	10.3	5.4
448.5	6.5	7.7	11.1	6.2
489.2	7.2	8.4	11.8	6.9

(Continued)

TABLE C (Continued).

COMPUTATION OF FINAL CORRECTIONS FOR FATHOMETER SOUNDINGS

Number 3 Hydrophone - Large Oscillator Combination.

Indicated Fathometer Depth (Fms.)	Theoretical Correction (Fms.)	Short Dash Before Nov. 21 I.C. - 3.2 Final Corrn. (Fms.)	Short Dash After Nov. 21 I.C. - 0.6 Final Corrn. (Fms.)
7.8	- 2.0	- 5.2	- 2.6
8.4	0.6	3.8	1.2
9.7	+ 0.1	3.1	0.5
11.0	0.8	2.4	+ 0.2
12.6	1.2	2.0	0.6
14.3	1.5	1.7	0.9
16.1	1.7	1.5	1.1
17.9	1.9	1.3	1.3
19.8	2.0	1.2	1.4
23.6	2.2	1.0	1.6
27.4	2.4	.8	1.8
31.4	2.45	.75	1.85
41.2	2.6	.6	2.0
51.2	2.6	.6	2.0
61.3	2.5	.7	1.9
71.4	2.4	.8	1.8
81.5	2.3	.9	1.7
91.7	2.1	1.1	1.5
101.8	1.8	2.0	.6
112.0	1.8	1.4	1.2
122.1	1.7	1.5	1.1
142.5	1.3	1.9	.7
162.9	.9	2.5	.3
183.3	.5	2.7	- 0.1
203.7	.1	3.1	.5
244.5	.7	3.9	1.3
285.4	1.6	4.8	2.2
326.2	2.4	5.6	3.0
367.1	3.3	6.5	3.9
407.9	4.1	7.3	4.7

FINAL FATHOMETER CORRECTIONS

No. 3 Hydrophone
Large Oscillator - Short Dash
After Nov. 21, 1933

Fath. Depth (Fms.)			Correction (Fms.)
0	-	11	0
11	-	13	+ ½
13	-	17	+ 1
17	-	25	+ 1½
25	-	80	+ 2
80	-	101	+ 1½
101	-	102	+ 1
102	-	108	+ ½
108	-	141	+ 1
141	-	186	± 0
186	-	235	- 1
235	-	287	- 2
287	-	338	- 3
338	-	384	- 4

No. 2 Hydrophone
Small Oscillator - Short Dash
After Nov. 21, 1933.

Fath. Depth (Fms.)			Correction (Fms.)
10	-	40	+ 2
40	-	78	+ 1½
78	-	102	+ 1
102	-	106	+ 1½
106	-	109	+ 1
109	-	155	± 0
155	-	212	- 1
212	-	252	- 2
252	-	302	- 3
302	-	347	- 4
347	-	392	- 5
392	-	445	- 6
445	-	500	- 7

No. 3 Hydrophone
Large Oscillator - Short Dash
Sept 3 ~~Before~~ Nov. 21, 1933

10	-	12	- 2½
12	-	15	- 2
15	-	19	- 1½
19	-	32	- 1
32	-	63	- ½
63	-	100	- 1
100	-	101	- 1½
101	-	103	- 2
103	-	106	- 2½
106	-	158	- 2
158	-	209	- 3
209	-	257	- 4
257	-	306	- 5
306	-	354	- 6
354	-	405	- 7

No. 2 Hydrophone
Small Oscillator - Long Dash
Between Sept. 30 and Nov. 21, 1933.

10	-	12	- 2½
12	-	40	- 3
40	-	78	- 3½
78	-	102	- 4
102	-	106	- 3½
106	-	110	- 4
110	-	164	- 5
164	-	215	- 6
215	-	260	- 7
260	-	305	- 8
305	-	350	- 9
350	-	402	-10
402	-	457	-11
457	-	512	-12

No. 2 Hydrophone
Small Oscillator - Short Dash
Sept 3 ~~Before~~ Nov. 21, 1933.

11	-	39	+ ½
40	-	70	0
70	-	97	- ½
97	-	100	- 1
100	-	105	- ½
105	-	106	0
106	-	109	- ½
109	-	126	- 1
126	-	183	- 2
183	-	233	- 3
233	-	279	- 4
279	-	323	- 5
323	-	368	- 6
368	-	420	- 7
420	-	477	- 8
477	-	500	- 9

FATHOMETER CORRECTIONS

Sheet No. 122.

U.S.C.. & G.S.S. PIONEER. For August 15, 1934.

The method of computing these corrections is covered by the report on Sheets 25 and 26 (San Clemente Id.). Since the temperatures in the general vicinity of this day's work on sheet 122 agree reasonably well with the temperatures in the area of sheet 25 and 26, the theoretical average velocities were taken from the report of the latter sheets on the fathometer correction for the current season.

No vertical cast comparisons were taken on August 15, 1934. Therefore the index corrections were taken from the report, sheet 45, of the fathometer corrections for the current season. This gives I. C. for #1 Big FRSD as +0.4 fathoms and for #6 Big FRSD, as +0.7 fathoms. Since comparison shows that #5 Big FRSD reads, on the average, 0.5 fathom shoaler than #6 Big FRSD, the I. C. for #5 Big FRSD is +1.2 fathoms. It has been observed that FRLD readings with the same hydrophone-oscillator combination are, on the average, $1\frac{1}{2}$ fathoms deeper than FRSD readings. Hence for #1 Big FRLD, I. C. = -1.1 fathom, and for #5 Big FRLD, I. C. = -0.3 fathom.

Tables 1 and 2 each show the computation of the theoretical corrections and the total corrections. The total corrections were plotted on the accompanying graph from which the final corrections were taken.

Table 1, Sheet 122.

U.S.C. & G.S.S. PIONEER — August 15, 1934. — #1 Hydrophone - B ig Oscillator

69 foot Base Line.

1 Depth (Fms)	2 V= Av. Theor. Vel. to this depth. m/sec	3 1/2 Distance traveled by sound. Fms.	4 Theor.Fath. Rdng. $\frac{1509}{V}$ x col.2.	5 Theor. Cor'n. Col. 1 - Col. 4.	6 I. C. FRSD	7 Total Fath. Corn. FRSD	8 I.C. FRLD	9 Total Fath. C orn. FRLD
42	1503	40.3	40.5	+1.5	+0.4	+1.9	-1.1	+0.4
52	1501	50.2	50.5	+1.5	+0.4	+1.9	-1.1	+0.4
62	1500	60.2	60.6	+1.4	+0.4	+1.8	-1.1	+0.3
82	1497	80.2	80.8	+1.2	+0.4	+1.6	-1.1	+0.1
102	1495	100.1	101.0	+1.0	+0.4	+1.4	-1.1	-0.1
122	1494	120.1	121.3	+0.7	+0.4	+1.1	-1.1	-0.4
152	1492	150.1	151.8	+0.2	+0.4	+0.6	-1.1	-0.9
202	1490	200.1	202.6	-0.6	+0.4	-0.2	-1.1	-1.7
302	1487	300.0	304.4	-2.4	+0.4	-2.0	-1.1	-3.5
402	1487	400.0	405.9	-3.9	+0.4	-3.5	-1.1	-5.0

FINAL FATHOMETER CORRECTIONS

Sheet No. 122. August 15, 1934.

#1 Hydro. Big Oscillator				#5 Hydro. Big Oscillator.			
FRSD		FRLD		FRSD		FRLD	
Fath. Rdg.	Fath. Cor'n.	Fath. Rdg.	Fath. Cor'n.	Fath. Rdg.	Fath. Cor'n	Fath. Rdg.	Fath. Cor'n.
35 - 71	+2	75 - 110	0	30 - 42	+2	101 - 150	0
71½ - 100½	+1½	111 - 175	-1	42½ - 82	+2½	151 - 220	-1
101 - 140	+1	176 - 240	-2	82½ - 120	+2	221 - 275	-2
141 - 205	0	241 - 295	-3	121 - 185	+1	276 - 330	-3
206 - 265	-1	296 - 350	-4	186 - 245	0	331 - 400	-4
266 - 315	-2	351 - 400+	-5	246 -300	-1		
316 - 380	-3			301 - 360	-2		

Table 2, Sheet 122.
August 15, 1934

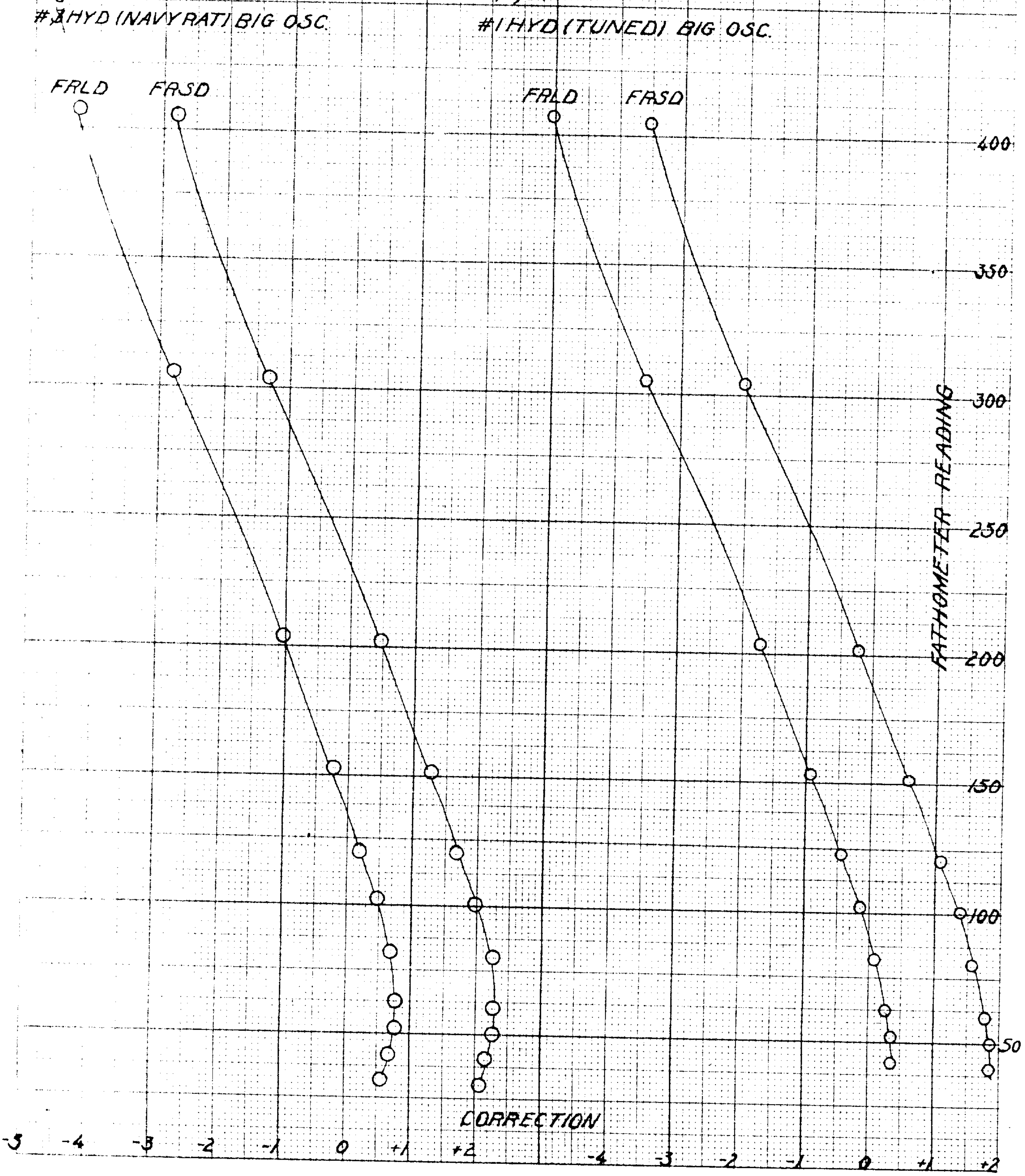
U.S.C. & G.S.S. PIONEER

#5 Hydrophone-Big Oscillator.
96 foot Base Line.

1	2	3	4	5	6	7	8	9
Depth (Fms)	V = Av. Theor. Vel. to this depth. m/sec	1/2 Distance traveled by sound Fms.	Theor. Fath. Rdng. $\frac{1509}{V}$ x col. 2.	Theor. Cor'n. Col. 1 - Col. 4.	I.C. FRSD	Total Fath. Corn. FRSD	I.C. FRLD	Total Fath. Corn. FRLD
32	1506	31.05	31.1	+0.9	+1.2	+2.1	-0.3	+0.6
42	1503	40.8	41.0	+1.0	+1.2	+2.2	-0.3	+0.7
52	1501	50.6	50.9	+1.1	+1.2	+2.3	-0.3	+0.8
62	1500	60.5	60.9	+1.1	+1.2	+2.3	-0.3	+0.8
82	1497	80.4	81.0	+1.0	+1.2	+2.2	-0.3	+0.7
102	1495	100.3	101.2	+0.8	+1.2	+2.0	-0.3	+0.5
122	1494	120.3	121.5	+0.5	+1.2	+1.7	-0.3	+0.2
152	1492	150.2	151.9	+0.1	+1.2	+1.3	-0.3	-0.2
202	1490	200.2	202.7	-0.7	+1.2	+0.5	-0.3	-1.0
302	1487	300.1	304.5	-2.5	+1.2	-1.3	-0.3	-2.8
402	1487	400.1	406.0	-4.0	+1.2	-2.8	-0.3	-4.3

FINAL FATHOMETER CORRECTIONS
SHEET 122

AUG. 15, 1934



A Day Sheet 12:: 2
April 11, 1933

~~Statist~~
Abstract of Dead Reckoning.

Pos. No.	Time	Time Diff	E log	Diff	Corr 'd	B log	Diff	Corr'd	Sum log	True Crs	Remarks
1			82.62			91.12	2.47				
2			84.92	2.30		93.59	2.41				
3			87.22	2.30		96.00	2.39				
4			89.50	2.28		98.39	.98				
5			90.42	.92		99.37	.79				
6			91.10	.68		00.16					
7			93.00	.90		02.17	1.03				
8			93.90	.90		03.20	1.50				
9			95.38	1.48		04.70	.65				
10			96.02	.64		05.35	3.10				
11			98.95	2.93		08.45	2.92				
12			01.68	2.73		11.37	2.67				
13			04.17	2.49		14.04	2.61				
14			06.65	2.48		16.65	2.72				
15			09.21	2.56		19.37	2.11				
16			11.80	2.59		22.48					
17											
18											
19											
20											
21											
22											

B Day Sheet 122
April 27 1933

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Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	4:49:40		22.22			25.00					Bomb
2	5:01:05	19:25	23.67	1.45		26.60	1.60				Bomb
3	5:19:05	18:00	26.[illegible]7	2.70		29.50	2.90				Bomb
4	5:25:00	5:55	27.30	0.93		30.50	1.00				C/C
5	5:26:15	1:15	27.47	0.17		30.67	0.17			88	ON/C
6	5:29:30	3:15	27.97	0.50		31.21	0.54				
	5:48:05	18:35	31.12	3.15		34.53	3.32				Bomb
8	5:58:20	10:15	32.85	1.73		36.34	1.81				Bomb
9	6:05:00	6:40	34.00	1.15		37.52	1.18			85	C/C
10	6:26:00	21:00	37.50	3.50		41.22	3.70				Bomb
11	6:35:30	9:30	39.10	1.60		42.90	1.68			87	
12	6:52:55	17:25	41.90	2.80		45.82	2.92				Bomb
13	6:55:00	2:05	42.42	0.52		46.36	0.54				Bomb
14	7:06:30	11:30	44.30	1.88		48.32	1.96			85	
15			45.30	1.00		49.39	1.07			80	
16	7:24:40		47.27	1.97		51.40	2.01				Bomb
17	7:43:00	18:20	50.30	3.03		54.58	3.18			85	Bomb C/C
18	7:48:10	5:10	51.15	0.85		55.49	0.91				
19	7:54:30	6:20	52.18	1.03		56.58	1.09				
20	8:04:20		53.80	1.62		58.25	1.67				
21	8:12:05		55.05	1.25		59.60	1.35				

C Day Sheet 122
April 28, 1933

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	7:07:40		84.20			63.49					Bomb
2	7:09:50	02:10	84.45	0.25		63.72	.23				C/C
3	7:11:50	02:00	84.60	0.15		63.89	.17				C/C
4	7:12:10	:20	84.72	0.12		64.00	.11				ON/C
5	7:16:15	4:05	85.32	0.60		64.61	.61				C/C
6	7:17:30	1:15	85.52	0.20		64.78	.17				Bomb ON/C
	7:23:00	5:30	86.35	0.83		65.62	.94				Bomb
8	7:26:15	3:15	86.85	0.50		66.12	.50				C/C
9	7:27:20	1:05	87.00	0.15		66.20	.08				ON/C
10	7:33:10	5:50	87.90	0.90		67.18	.98				C/C
11	7:34:30	:20	88.07	0.17		67.32	.14				ON/C
12	8:07:30	33:00	93.27	5.20		72.50	5.18				Bomb
13	8:16:00	8:30	94.57	1.30		73.83	1.33			253	C/C
14	8:23:00	7:00	95.75	1.18		74.98	1.15				Bomb
15	8:37:50	14:50	98.10	2.35		77.23	2.25				Bomb
16	8:44:00	6:10	98.92	0.82		78.12	.89			246	C/C
17	8:51:50	7:50	0.37	1.45		79.50	1.38				Bomb C/C
18	8:52:30	:40	0.47	0.10		79.64	.14			272	C/C
19	9:13:40	21:10	3.82	3.35		82.97	3.33				Bomb
20	9:43:00	29:50	8.52	4.70		87.63	4.66				Bomb
21	9:50:30	6:30	9.75	1.23		88.87	1.24			269	C/C
22	10:11:55	21:25	13.20	3.45		92.25	3.38				
23	10:18:15	6:20	14.20	1.00		93.27	1.02			271	C/C
24	10:41:10	22:55	17.82	3.62		96.90	3.63				Bomb
25	10:49:30	8:20								275	C/C
26	11:04:15	14:45	21.52			00.50				272	C/C to 272T
27	11:09:40	5:25	22.37	0.85		01.40	.90				Bomb
28	11:50:20	40:40	28.95	6.58		07.95	6.45				Bomb
29	11:56:00	5:40	29.85	.90		08.86	.91			0	C/C
30	11:57:15	1:15	30.02	0.17		09.00	.14				ON/C
31	12:01:20	4:05	30.68	0.66		09.62	.62				Bomb
32	12:20:30	19:10	33.83	3.17		12.76	3.14				Bomb C/C
33	12:21:30	1:00	34.00	0.17		12.90	.14			89	ON/C
34	12:26:15	4:45	34.78	0.78		13.68	.78				Bomb
35	12:46:15	20:00	38.20	3.42		17.01	3.33				Bomb
36	12:56:30	10:15	39.98	1.78		18.72	1.71				Bomb
37	1:01:30	5:00	40.88	.90		19.57	.85			86	C/C
38	1:11:30	10:00	42.60	1.72		21.25	1.68				Bomb
39	1:21:30	10:00	44.30	1.70		22.91	1.66			80	C/C
40	1:26:25	4:55	45.15	0.85		23.75	.84				Bomb
41	1:30:45	4:20	45.90	0.75		24.43	.68				Bomb
42	1:35:00	4:15	46.65	0.75		25.20	.77			85	ON/C
[illegible]	1:47:35	12:35	48.85	2.20		27.28	2.08				Bomb
44	1:56:15	8:40	50.35	1.50		28.74	1.46				Bomb
45	2:00:30	4:15	51.10	0.75		29.45	.71			0	C/C
46	2:01:30	1:00	51.25	0.15		29.52	.07			85	C/C

C Day Sheet 122
April 28, 1933

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corr'd	Sum Log	True Crs	Remarks
47	2:03:00	01:30	51.42	.17		29.71	.19				ON/C
48	2:04:00	01:00	51.60	.18		29.91	.21				Bomb
49	2:24:00	20:00	55.05	3.45		32.95	3.04				Bomb
50	2:25:30	01:30	55.12	.07		33.04	.09			0	C/C
51	2:26:45	01:15	55.30	.18		33.09	.05				C/C
52	2:29:30	02:45	55.90	.60		33.63	.54			85	C/C
[illegible]	2:30:35	01:05	56.05	.15		33.71	.08				ON/C
54	2:45:30	14:55	58.62	2.57		35.81	2.10				Bomb
55	3:07:35	22:05	62.45	3.83		38.85	3.04				Bomb
56	3:14:00	06:25	63.55	1.10		39.74	.89			95	C/C
57	3:14:50		63.70	.15		39.84	.10				
58	3:31:00	16:10	66.48	2.78		42.04	2.20				Bomb
59	3:50:30	19;30	69.90	3.42		44.72	2.68				
60	4:11:55	21:25	73.62	3.72		47.67	2.95				Bomb
61	4:21:15	09:20	75.22	1.60		48.98	1.31			88	Bomb C/C
62	4:26:50	05:35	76.20	.98		49.72	.74				

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D Day Sheet 122
May 6, 1933

Pos. No.	Time	Time Diff	K log 1.05	Diff	Corr'd	B log	Diff	Corr'd	Sum log	True Crs	Remarks
1			68.30								
2			68.90	.60							
3			68.98	.08							
4			69.18	.20							
5			70.78	1.60	1.68	50.98					
6			72.42	1.64	1.68	52.88	1.90	1.81			
			73.00	.58	.61	53.52	.64	.61			
8			75.00	2.00	2.10	55.83	2.31	2.20			
9			75.62	.62	.65	56.45	.62	.59			
10	9:31:12		77.55			58.45	2.00	1.90			
11	9:40:20	09:18	78.70	1.15	1.21	59.79	1.34	1.28			Bomb
12	9:45:00	04:40	79.30	.60	.63	60.35	.56	.53		273	C/C
13	9:45:45	:45	79.38	.08	.08	60.42	.07	.07			C/C
14	9:53:50	08:05	80.42	1.04	1.09	61.52	1.10	1.05		242	ON/C
15	9:55:00	1:10	80.47	.05	.05	61.62	.10	.10		273	C/C
16	9:55:40	:40	80.62	.15	..16	61.82	.20	.19		273	ON/C
17	10:00:00	4:20	81.12	.50	..52	62.35	.53	.51			Bomb
18	10:34:30	34:30	85.42	4.30	4.51	67.08	4.73	4.52		268	C/C
19	10:42:40	8:10	86.52	1.10	1.15	68.28	1.20	1.15			Bomb
20	10:43:00	;20	86.57	.05	.05	68.42	.14	.13			C/ C
21	10:51:00	08:00	87.47	.90	.94	69.33	.91	.87		294	ON/C
22	10:51:20	:20	87.52	..05	.05	69.35	.02	.02			C/C
23	11:13:00	21:40	90.20	2.68	3.01	72.35	3.00	2.85		268	ON/C
24	11:16:30	3:30	90.65	.45	.47	72.90	.55	.52			Bomb C/C
25	11:33:40	17:10	92.82	2.17	2.27	75.27	2.37	2.25		268	
26	11:35:00	1:20	92.95	.13	.13	75.39	.12	.12			C/C Bomb
27	11:53:00	18:00	95.25	2.30		77.92	2.53			0	ON/C
28	11:54:00	11:00	95.38	.13		78.02	.10				C/C
29	11:56:00	2:00	95.65	.27		78.30	.28			85	ON/C
30	12:01:45	5:45	96.50	..85		79.20	.90				Bomb
31	12:06:00	4:15	97.12	.62		79.92	.72				
32	12:24:30	18:30	99.80	2.68		82.78	2.86			75	C/C
33	12:38:00	13:30	01.70	1.90	2.00	84.85	2.07	2.17		80	C/C
34	12:39:10	1:10	01.87	.17		84.99	.14				C/C
35	12:49:00	9:50	03.12	1.25		86.32	1.33	1.26		359	
36	12:50:00	1:00	03.25	.13		86.40	.08	.08			C/C
37	1:01:00	11:00	04.65	1.40		87.99	1.59	1.51		273	ON/C
38	1:06:00	05:00	05.32	.67		88.90	.91	.86			
39	1:10:30	4:30	05.90	.58		89.33	..43	.41			
40	1:16:00	5:30	06.65	.75		90.15	.82	.78		263	C/C
41	1:21:20	5:20	07.38	..73		90.95	.80	.76		258	C/C
	1:26:25	5:05	08.05	.67		91.70	.75	.71			
43	1:28:30	2:05	08.22	.17		91.88	.18	.17			C/C Bomb
44	1:39:15	10:45	09.72	1.50		93.49	1.61	1.53		359	ON/C
45	1:40:45	1:30	09.90	.18		93.67	.18	.17			C/C
46	1:55:00	14:15	11.97	2.07	2.17	95.91	2.24	2.13		85	late
47	1:59:00	4:00	12.60	.63	.65	96.59	.68	.65		Logs read	15sec
48	2:12:10	13:10	14.45	1.85	1.94	98.55	1.96	1.86		70	C/C
49	2:16:05	3:55	15.05	.60	.63	99.20	.65	.62			
50	2:29:10	13:05	17.25	2.20	2.36	01.56	2.34	2.23		84	C/C

D Day Sheet 122
May 6, 1933

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Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corr'd	Sum log	True Crs	Remarks
51	2:54:55	25:45	20.55	3.30	3.47	05.12	3.58	3.40			
52	3:02:00	7:05	21.72	1.17	1.23	06.39	1.27	1.21		70	C/C
53	3:08:30	6:30	22.72	1.00	1.05	05.45	1.06	1.01		85	C/C
54	3:17:00	8:30	23.97	1.25	1.31	08.80	1.35	1.28			
55	3:24:40	7:40	24.97	1.00	1.05	09.88	1.08	1.03			C/C
56	3:25:05	0:25	25.15	.18	.19	10.03	.15	.16		180	
	3:33:00	7:55	26.25	1.10	1.15	11.29	1.26	1.20			C/C
58	3:34:30	1:30	26.42	.17	.18	11.45	.16	.15		273	
59	3:39:15	4:45	26.87	.45	.47	11.98	.53	.50			
60	3:42:40	3:25	27.35	.48	.50	12.46	.48	.46		270	C/C
61	3:58:45	16:05	29.45	2.10	2.20	14.80	2.34	2.23			
62	4:08:30	9:45	30.67	1.22		16.14	1.34	1.27			C/C
63	4:10:30	2:00	30.90	.23		16.32	.18	.17		182	ON/C
64	4:14:00	3:30	31.37	.47		16.90	.58	.55			
65	4:15:30	1:30	31.57	..20		17.10	.20	.19		85	ON/C
66	4:20:35	5:05	32.30	.73		17.88	.78	.74			ON/C
67	4:23:40	3:05	32.75	.45		18.35	.47	.44			
68	4:38:55	15:15	34.97	2.22		20.74	2.39	2.27			
69	4:50:40	11:45	36.72	1.75		22.59	1.85	1.76			C/C
70	4:51:45	1:05	36.85	.13		22.70	.11	.11		13	
71	4:59:40	7:55	37.85	1.00		23.80	1.10	1.05		0	ON/C
72	5:00:40	1:00	37.97	.12		23.88	.08	.08		85	ON/C
73	5:12:10	11:30	39.68	1.71		25.70	1.82	1.73			
74	5:31:30	19:20	42.47	2.79		28.69	2.99	2.84			
75	5:38:10	0:40	43.47	1.00		29.73	1.04	.99			Bomb
76			45.87	2.40		32.30	2.57				

F Day Sheet 122
June 6, 1933

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corr'd	Sum log	True Crs	Remarks
31	12:12:00										Vis.Fix
32	12:18:15	3:15	40.32			57.91					
33	12:33:00	14:45	42.62	2.30		60.21	2.30				C/C
34	12:35:00	2:00	42.85	.23		60.40	.19				ON/C
35	12:38:00	3:00	43.50	.65							C/C
36	12:40:00	2:00	43.70	.20		61.20	.80				ON/C 268wh
	12:42:45	2:45	44.10	.40		61.62	.42				Bomb
38	12:54:00	11:15	45.85	1.75		63.40	1.78			265	C/C
39	1:05:05	11:05	47.58	1.73		65.10	1.70				Bomb
40	1:11:20	6:15	48.58	1.00		66.10	1.00				C/C
41	1:24:05	12:45	50.55	1.97		68.05	1.95				Bomb
42	1:28:30	4:25	51.25	.70		68.76	.71				C/C
43	1:30:00	1:30	51.48	.23		68.97	.21			360	ON/C
44	1:41:15	11:15	53.28	1.80		70.75	1.78				C/C
45	1:42:25	1:10	53.45	.17		70.85	.10			271	ON/C
46	1:45:45	3:20	53.97	.52		71.37	.52				Bomb
47	2:07:10	21:55	57.40	3.43		74.80	3.43				Bomb
48	2:41:30	34:20	62.90	5.50		80.25	5.45			180	C/C
49	2:43:10	1:40	63.10	.20		80.40	.15				ON/C
50	2:44:45	1:35	63.38	.28		80.65	.25				Bomb
51	2:58:00	13:15	65.70	2.32		82.95	2.30			271T	C/C
52	2:59:30	1:30	65.88	.18		83.11	.16				ON/C
53	3:05:05	5:35	66.70	.82		83.96	.85				Bomb
54	3:18:00	12:55	68.78	2.08		86.00	2.04			275T	C/C
55	3:25:10	7:10	69.88	1.10		87.08	1.08				Bomb
56	3:30:20	5:10	70.70	.82		87.90	.82			270	C/C
57	3:42:15	11:55	72.55	1.85		89.73	1.83				Bomb
58	3:47:30	5:15	73.45	.90		90.67	.94			272	C/C
59	3:58:20	10:50	75.02	1.57		92.38	1.71				Bomb
60	4:12:00	13:40	76.62	1.60		94.67	2.29			274	C/C
61	4:20:45	8:45	77.95	1.33		96.10	1.43				Bomb
62	4:25:45	5:00	78.57	.62		96.90	.80			271T	
63	4:41:45	16:00	80.60	2.03		99.20	2.30				Bomb
64	5:00:00	18:15	83,20	2.60		02.21	3.01				Bomb
65	5:05:00	5:00	83.97	.77		03.13	.92			261	C/C
66	5:37:45	32:45	88.33	4.36		08.16	5.03			270T	C/C
67	5:51:45	14:00	90.27	1.94		10.37	2.21				Bomb
68	6:00:00	8:15	91.40	1.13		11.61	1.24			268	C/C
69	6:23:50	23:50	94.75	3.25		15.47	3.86				Bomb
70	6:32:25	8:35				16.81	1.34			275	C/C
71	6:49:50	17:25	98.32			19.53	2.72				Bomb
72	7:04:23	14:33	00.20	1.88		21.80	2.27				Bomb
	7:07:20	2:53	00.57	.37		22.24	.44			272	C/C
74	7:17:40	10:20	02.00	1.43		24.85	2.61			275	C/C
75	7:20:20	2:40	02.35	.35		25.26	.41			278	C/C
76	7:54:45	34:25	06.87			29.47	4.21				

G Day Sheet 122
June 7, 1933

Pos. No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	8:09:30		24.87			38.80					Bomb
2	8:19:30	10:00	26.37	1.50						85	C/C
3	8:20:15	:45	26.50	.13							ON/C
4	8:30:45	10:30	28.42	1.92		42.15	3.35			88	C/C
5	8:44:50	14:05	30.60	2.18		44.23	2.18				Bomb
6	8:49:00	4:10	31.45	.85		45.02	.79				
	9:12:06	23:06	35.37	3.92		48.80	3.78				Bomb
8	9:21:00	8:54	36.85	1.48		50.22	1.42			82	C/C
9	9:42:22	21:22	40,45	3.60		53.70	3.48				Bomb
10	10:21:05	38:43	46.95	6.50		59.98	6.28				Bomb
11	10:31:00	9:55	48.60	1.65		61.50	1.52			84	C/C
12	10:50:50	19:50	51.90	3.30		64.72	3.22				Bomb
13	11:01:00	10:10	53.60	1.70		66.35	1.63			87	C/C
14	11:14:15	13:15	55.80	2.20		68.46	2.11				C/C
15	11:15:40	1:25	55.97	0.17						180	ON/C
16	11:19:25	3:45	56.65	0.68		69.28	0.82				Bomb
17	11:46:30	27:05	61.20	4.55		73.81	4.53			270	C/C
18	11:47:45	1:15	61.35	0.15		73.98	.17				ON/C
19	11:50:45	3:00	61.72	0.37		74.28	.30				Bomb
20	11:57:45	7:00	62.77	1.05		75.30	1.02			278	C/C
21	12:22:06	24:21	65.97	3.20		78.45	3.05				Bomb
22	12:27:10	5:04	66.67	.70		79.18	.73			274	C/C
23	12:52:42	25:32	70.32	3.65		82.75	3.57				Bomb
24	1:02:00	9:28	71.70	1.38		84.10	1.35			276	C/C
25	1:23:17	21:17	74.77	3.07		87.10	3.00				Bomb
26	1:30:30	7:13	75.80	1.03		88.10	1.00			274	C/C
27	1:51:50	21:20	79.00	3.20		91.26	3.16				Bomb
28	1:57:00	5:10	79.75	0.75		92.02	0.76				C/C
29	1:58:30	1:30	79.95	0.20		92.12	0.10				ON/C
30	2:16:05	17:35	82.98	3.03		95.10	2.98				Bomb
31	2:25:30	9:25	84.60	1.62		96.62	1.52				C/C
32	2:26:20	0:50	84.72	.12		96.72	.10			84	ON/C
33	2:44:40	18:20	87.87	3.15		99.78	3.06				Bomb

H Day Sheet 122
June 8, 1933

Pos. No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	10:55:03		89.96			90.67				357	Same as 13Y Sh 121 Bomb
2	11:25:30	30:27	94.40	4.44		95.00	4.33				Bomb
3	11:31:30	6:00	95.30	.90		95.85	.85			359	c/c
4	11:57:40	26:10	99.04	3.74	3.40	99.48	3.63				Bomb
5	12:08:30	10:50	00.55	1.51	1.37	00.98	1.50			5	c/c
6	12:28:00	19:30	3.37	2.82	2.57	3.60	2.62				Bomb
7	12:41:00	13:00	5.07	1.70		5.32	1.72				c/c
8	12:42:00	1:00	5.20	.13		5.45	.13			83T	on/c
9	12:48:45	6:45	6.30	1.10		6.50	1.05				Bomb
10	1:07:30	18:45	9.52	3.22		9.60	3.10				Bomb
11	1:30:45	23:15	13.52	4.00		13.38	3.78				Bomb
12	1:51:50	21:05	17.17	3.65		16.86	3.48				Bomb
13	2:00:00	8:10	18.67	1.50		18.30	1.44			88	c/c
14	2:14:40	14:40	21.15	2.52		20.59	2.29				Bomb
15	2:25:30	10:50	23.00	1.85		22.35	1.76			357	c/c
16	2:27:30	2:00	23.30	.30		22.60	.25				on/c
17	2:41:15	13:45	25.12	1.82		24.40	1.80				Bomb
18	3:05:00	23:45	28.42	3.30		27.60	3.20			86	c/c
19	3:06:00	1:00	28.55	.13		27.72	.12				on/c
20	3:06:45	:45	28.65	.10		27.88	.16				Bomb
21	3:12:30	5:45	29.67	1.02		28.87	1.01			83	c/c
22	3:34:30	22:00	33.50	3.83		32.46	3.59				Bomb
23	3:40:45	6:15	34.57	1.07		33.50	1.04			87	c/c
24	4:01:15	20:30	38.18	3.61		36.93	3.43				Bomb
25	4:12:00	10:45	40.05	1.87		38.70	1.77			85	c/c
26	4:31:30	19:30	43.50	3.45		41.96	3.25				Bomb
27	4:36:45	5:15	44.40	.90		42.82	.86				c/c
28	4:37:30	:45	44.52	.12		42.90	.08			8	on/c
29	4:58:10	20:40	47.45	2.93		45.74	2.84				Bomb
30	5:04:20	6:10	48.35	.90		46.60	.86				c/c
31	5:05:20	1:00	48.47	.12		46.75	.15			85	on/c
32	5:27:20	22:00	52.25	3.78		50.34	3.59				Bomb
33	5:54:35	27:15	57.12	4.87		54.92	4.58				Bomb
34	5:59:30	4:55	58.00	.88		55.78	.86			87	c/c
35	6:07:00	7:30	59.30	1.30		57.02	1.24				
36	6:23:10	16:10	62.15	2.85		59.59	2.57				Bomb
37	6:29:00	5:50	63.10	.85		60.36	.77			88	c/c
38	6:50:20	21:20	66.92	3.52		63.48	3.12				Bomb B log cleaned & Restreamed
39	7:11:10	20:50	70.60	3.68		66.44	2.96				Bomb
40	7:16:10	5:00	71.50	.90		67.30	.86			91	c/c
41	7:26:50	10:40	73.38	1.88		69.10	1.80				Bomb
42	7:39:45	12:55	75.75	2.37		71.35	2.25			89	c/c
43	7:51:20	11:35	77.25	1.50		73.20	1.85			180	c/c
44	7:52:30	1:10	77.90	.65		73.31	.11				on/c
45	7:56:40	4:10	78.60	.70		74.08	.75			273	c/c
46	7:57:40	1:00	78.75	.15		74.12	.04				on/c
47	7:59:30	1:50	79.00	.25		74.40	.28				Bomb
48	8:08:00	8:30	80.22	1.22		75.68	1.28			267	c/c
49	8:11:30	3:30	80.70	.48		76.10	.42				Bomb
50	8:15:10	3:40	81.22	.52		76.60	.50				Bomb

J Day, Sheet 122, June 9, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cor'td	B log	Diff	Cortd	Sum log	True Crs	REMARKS
1	7:18:40		05.88			89.32				272	Bomb
2	30:30	11:50	7.78	1.90		91.12	1.80				"
3	36:00	5:30	8.62	0;84		91.93	0.81				c/c
4	8:09:30	33:30	13.92	5.30		96.92	4.99				Bomb
5	13:00	3:30	14.47	.55		97.40	.48			358	c/c
6	13:50	:50	14.58	.11		97.50	.10				on crs
	26:35	12:45	16.54	1.96		99.35	1.85				Bomb
8	34:00	7:25	17.67	1.13		100.40	1.05			360	c/c
9	48:40	14:40	19.94	2.27		2.50	2.10				Bomb
10	9:08:10	19:30	22.96	3.02		05.32	2.82				Bomb
11	26:15	18:05	25.80	2.84		7.98	2.66			270	c/c
12	27:15	1:00	25.90	.10		8.00	.02				o/c
13	31:10	3:55	26.42	.52		8.55	.55				Bomb
14	34:00	2:50	26.85	.43		8.97	.42			170	c/c
15	34:50	0:50	27.00	.15		9.00	.03				on crs.
16	38:20	3:30	27.50	.50		9.54	.54			275	c/c
17	39:15	0:55	27.65	.15		9.65	.11				on crs.
18	48:00	8:45	28.96	1.31		10.93	1.28				Bomb
19	10:11:25	23:25	32.63	3.67		14.40	3.47				Bomb
20	16:30	5:05	33.42	0.79		15.15	0.75			268	c/c
21	28:30	12:00	35.28	1.86		16.91	0.76				Bomb
22	35:00	6:30	36.35	1.07		17.95	1.04			263	c/c
23	49:50	14:50	38.70	2.35		20.26	2.31				Bomb
24	54:30	4:40	39.47	0.77		21.02	0.76				c/c
25	55:45	1:15	39.62	0.15		21.12	.10			358	o/c
26	11:10:30	14:35	41.71	2.09		23.18	2.06				Bomb
27	19:20	9:00	43.07	1.36		24.50	1.32			0	c/c
28	31:10	11:50	44.79	1.72		26.15	1.65				Bomb
29	42:20	11:10	46.49	1.70		27.83	1.68				c/c
30	43:20	1:00	46.62	.13		27.88	.05			272	O/c
31	12:05:50	22:30	49:92	3.30		31.18	3.30				Bomb
32	10:00	04:10	50.50	.58		31.72	.54			269	c/c
33	30:50	19:50	53:80	3.30		34.98	3.26				Bomb
34	47:20	16:30	56.30	2.50		37.40	2.42			180	c/c
35	48:20	1:00	56.45	.15		37.49	.09				on crs.
36	58:50	10:30	58.22	1.77		39.28	1.79				Bomb
37	1:11:30	12:40	60.47	2.25		41.39	2.11			270	c/c
38	13:00	1:30	60.67	.20		41.58	.19				on crs.
39	28:45	15:45	63.12	2.45		44.02	2.44				Bomb
40	57:45	29:00	67.60	4.48		48.45	4.43				Bomb
41	2:03:15	5:30	68.45	0.85		49.29	.84				Bomb
42	10:00	6:45	69.47	1.02		50.30	1.01				c/c
43	11:00	1:00	69.60	.13		50.37	.07			0°	on crs
44	15;10	4:10	70.20	0.60		51.00	.63				c/c
45	16:15	1:05	70.32	0.12		51.02	.02			275	on crs
46	32:50	16:35	72.80	2.48		53.50	2.48				Bomb
47	59:45	26:55	76.80	4.00		57.46	3.96				Bomb & c/c
48	3:01:45	2:00	76.95	.15		57.50	.04			182	o/c
49	10:15	8:30	78.62	1.67		59.18	1.68			185	c/c
50	22:30	12:15	80.75	2.13		61.22	2.04				c/c
51	23:45	1:15	80.95	.20		61.35	.13			274	o/c

J Day continued, sheet 122, June 9, 193[illegible].

Pos. No.	Time	Time Diff	E log	Diff	Cor'td	B log	Diff	Cortd	Sum log	True Crs	REMARKS
52	3:27:30	3:45	81.47	.52		61.92	.57				Bomb
53	34:30	7:00	82.47	1.00		62.88	.96			278	c/c
54	40:30	6:00	83.32	.85		63.72	.84			270	c/c
55	50:15	9:45	84.75	1.43		65.09	1.37			274	
56	59:07	8:52	86.02	1.27		66.33	1.24				Bomb
57	4:10:10	11:03	87.70	1.68		67.98	1.65				Bomb
[illegible]	28:20	18:10	90.42	2.72		70.63	2.65				Bomb
59	5:11:15	42:55	96.95	6.53		77.03	6.40				Bomb
60	40:00	28:45	01.37	4.42		81.38	4.35				Bomb
61	46:30	6:30	2.37	1.00		82.31	.93			272	c/c
62	6:12:00	25:30	6.35	3.98		86.26	3.95				Bomb
63	7:01:10	49:10	14.15	7.80		93.92	7.66				B omb
64	7:10:45	9:35	15.65	1.50		95.38	1.46			280	c/c
65	11:15	0:30	15.80	.15		95.50	.12			312	c/c
66	24:30	13:15	17.68	1.88		97.32	1.82				Bomb
67	36:00	11:30	19.35	1.67		98.99	1.67			322	c/c
68	58:15	22:15	22.70	3.35		2.22	3.23				Bomb

K Day, Sheet 182, June 10, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cor'd	B log	Diff	Cor'd	Sum log	True Crs	REMARKS
1	9:26:30										
2	40:30	14:00									
3	56:45	16:15	38.15			5.76				85°	B omb
4	10:29:00	32:15	43.61	5.46		11.00	5.24				Bomb
5	36:00	7:00	44.80	1.19		12.15	1.15			80	c/c
	58:10	22:10	48.50	3.70		15.70	3.55				Bomb
7	11:04:30	6:20	49.52	1.02							
8	05:40	1:10	49.72	0.20		16.87				180°ca	on crs
9	14:20	8:40	51.18	1.46		18.30	1.43			85	c/c
10	15:15	:55	51.30	.12		18.37	.07				on crs
11	16:30	1:15	51.47	.17		18.57	.20			0	c/c
12	17:20	:50	51.58	.11		18.65	.08				o/c
13	20:45	3:25	51.88	.30		19.00	.35				c/c
14	21:40	:55	52.02	.14		19.08	.08			85	o/c
15	29.20	7:40	53.47	1.45		20.46	1.38				Bomb
16	12:02:45	33:25	59.15	5.68		25.92	5.46				Bomb
17	09:00	6:15	60.20	1.05		26.95	1.03			82	c/c
18	29:45	20:45	63.82	3.62		30.40	3.45				Bomb
19	39:15	9:30	65.50	1.68		31.98	1.58				c/c
20	40:30	1:15	65.68	.18		32.10	.12			358	o/c
21	52:30	12:00	67.48	1.80		33.88	1.78				c/c
22	54:00	1:30	67.67	.19		34.05	.17			82	o/c
23	58:50	4:50	68.55	.88		34.90	.85				B omb
24	1:05:45	6:55	69.72	1.17		36.00	1.10			80	c/c
25	16:15	10:30	71.55	1.83		37.72	1.72				Bomb
26	43:15	27:00	76.28	4.73		42.18	4.46				Bomb
27	1:50	6:45	77.45	1.17		43.30	1.12			83	c/c
28	2:14:45	24:45	81.70	4.25		47.28	3.98				Bomb
29	20:30	5:55	82.68	.98		48.20	.92			86	c/c
30	45:40	25:10	87.05	4.37		52.32	4.12				Bomb
31	50:45	5:05	87.95	.90		53.20	.88			357	c/c
32	52:00	1:15	88.12	.17		53.32	.12				on crs.
33	3:13:40	21:40	91:12	3.00		56.22	2.90				Bomb
34	14:30	:50	91.22	.10		56.35	.13			86	c/c
35	15:30	1:00	91.38	.16		56.45	.10				o/c
36	22:00	6:30	92.45	1.07		57.50	1.05			80	c/c
37	45:20	23.20	96.50	4.05		61.32	3.82			85	Bomb c/c
38	4:14:20	29:00	01.55	5.05		66.11	4.79				Bomb
39	4:17:30	3;10	02.10	0.55		66.62	0.51				Bomb
40	4:26:00	8:30	3.57	1.47		68.00	1.38			87	c/c
41	40:00	14:00	6.00	2.43		70.29	2.29				c/c
42	41:00	1:00	6.15	0.15		70.41	0.12			358	O/c
43	44:00	3:00	6.52	0.37		70.82	0.41				Bomb
44	5:07:45	23:45	9.92	3.40		74.10	3.28				c/c
45	5:09:00	1:15	10.07	.15		74.22	.12			85	o/c
46	5:13:00	4:00	10.70	.63		74.88	.66				Bomb
47	5:24:00	11:00	12.67	1.97		76.71	1.83			83	c/c
48	5:43:00	17:00	16:06	3.39		79.88	3.17			85	Bomb
49	6:05:50	22:50	20.00	3.94		83.54	.66				Bomb
50	14:15	8:25	21.45	1.45		84.99	1.45				Bomb
51	30:10	15:55	24.22	2.77		87.58	2.59				Bomb
52	42:44	12:34	26.42	2.20		89.70	2.12				Bomb

U DAY - LOG RECORD

Pos. No.	E Log (1.00)	E Log ([illegible])	REMARKS

K Day continued, Sheet 122, June 10, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cor'td	B log	Diff	Cor'td	Sum log	True Crs	REMARKS
53	6:57:45	15:01	29.00	2.58		92.12	2.42				Bomb
54	7:02:30	4:45	29.82	.82		92.93	.81			82°	c/c
55	13:10	10:40	31.65	1.83		94.68	1.75			84	Bomb c/c
56	26:35	13:25	34:00	2.35		96.90	2.22				Bomb
57	42:35	16:00	36.77	2.77		99.50	2.60				Bomb
58	58:50	16:15	39.62	2.85		2.18	2.78				Bomb
59	8:09	10:10	41:40	1.78							c/c
60	10:00	1:00	41.50	.10						53	o/c
61	18:30	8:30	42.92	1.42							B omb

L Day, Sheet 122, June 11, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cort'd	B log	Diff	Cortd	Sum log	True Crs	REMARKS
1	7:01:40		55.22			09.42					Bomb
2	04:30	2:50	55.70	0.48		09.90	.48				c/c
3	05:40	1:10	55.87	0.17		10.03	.13			275	o/c
4	08:00	2:20	56.17	0.30		10.34	.31				c/c
5	09:00	1:00	56.30	0.13		10.41	.07			180	
6	11:00	2:00	56.60	0.30		10.79	.38				c/c
7	12:00	2:00	56.78	0.18		10.91	.12			275	o/c
8	13:05	1:05	56.90	0.11		11.07	.16				Bomb
9	29:40	16:35	59.30	2.40		13.45	2.38				Bomb
10	33:15	3:35	59.82	0.52		13.99	.54			272	c/c
11	8:00:35	27.20	63.96	4.14		18.07	4.08			275	Bomb c/c
12	19:00	18:25	66.71	2.75		20.81	2.74				c/c
13	20:00	1:00	66.85	0.14		20.91	.10			357	o/c
14	24:30	4:30	67.50	0.65		21.56.	.65				c/c
15	25:20	:50	67.63	0.13		21.62	.06			275	o/c
16	25:40	:20	67.67	0.04		21.70	..08				Bomb
17	44:00	17:20	70.26	2.59		24.25	2.35				Bomb
18	50:40.	6:20	71.24	0.98		25.22	.97			272	c/c
19	59:03	8:23	72.48	1.24		26.45	1.23				Bomb
20	9:13:40	14:37	74.67	2.19		28.50	2.05			Bomb	
21	23:00	9:20	75.17	1.30		29.77	1.27			c/c	
22	24:00	1:00	76.13	0.16		29.80	0.07			177	o/c
23	29:30	5:30	77.02	0.89		30.72	.92				Bomb
24	36:20	6:50	78.22	1.20		31.90	1.18				c/c
25	37:15	:55	78.37	.15		31.93	.03			85	
26	42:50	5:35	79.32	.95		32.80	.87				B omb
27	57:40	14:50	81.85	2.53		35.20	2.40				
28	10:03:35	5:35	82.87	1.02		36.18	.98			87	
29	14:00	10:25	84.67	1.80		37.85	1.67				Bomb
30	28:50	14:50	87.23	2.56		40.23	2.38			Bomb	
31	33:00	4:10	87.92	.69		40.90	.67			89	
32	43:45	10:45	89.81	1.89		42.62	1.72				Bomb
33	47:30	3:55	90.47	.66		43.25	.63			93	c/c
34	59:00	11:30	92.47	2.00		45.13	1.88			89	Bomb c/c
35	11:14:15	15:15	95.15	2.68		47.68	2.55				Bomb
36	18:30	4:15	95:90	.75		48.40	.72			87	c/c
37	27:30	12:00	97.48	1.58		49.90	1.50				Bomb
38	33:00	5:30	98.48	1.00		50.85	.95				c/c
39	34:15	1:15	98.67	0.19		51.00	0.15			180	o/c
40	44:30	10;15	.37	1.70		52.67	1.67				c/c
41	45:30	1:00	.55	.18		52.75	.08			272	o/c
42	57:55	12:25	2.60	2.05		54.90	2.15				Bomb
43	12:18:15	20:20	5.55	2.95		57.81	2.91			B omb	
44	30:50	12:35	7.45	1.90		59.70	1.89			274	Bomb c/c
45	44:35	13:45	9.42	1.97		61.60	1.90			272	" "
46	59:35	15:00	11.55	2.13		63.72	2.12				Bomb
47	1: 27:33	28:00	15.62	4.07		67.72	4.00				Bomb
48	32:30	5:00	16.35	.73		58.41	.69			270	c/c

L Day Continued, Sheet 122, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff.	Cortd.	Sum log	True Crs	REMARKS
49	1:59:20	26:50	20.37	4.02		72.42	4.01				B omb
50	2:03:00	4:40	20.92	0.55		73.00	.58			272	c/c
51	06:00	3:00	21.30	.38		73.34	.34			270	c/c
52	26:15	20:15	24.42	3.12		76.45	3.11				Bomb
53	39:30	13:15	26.42,	2.00		78.40	1.95				c/c
54	41:00	1:30	26.60	.18		78.52	.12			180	o/c
55	57:00	16:00	29.35	2.75		81.25	2.73				Bomb
56	3:04:30	7:30	30.65	1.30		82.48	1.23				
57	05:30	1:00	30.82	.17		82.60	.12			87	
58	27.30	22:00	34.78	3.96		86.38	3.78				Bomb
59	58:50	31:10	40.07	5.29		91.39	5.01			90	Bomb
60	4:03:00	4:10	40.77	.70		92.08	.69			85	c/c
61	29:15	26:15	45.45	4.68		96.42	4.34				Bomb
62	35:45	6:30	46.60	1.15		97.50	1.08			81	c/c
63	43:40	7:55	48:02	1.42		98.88	1.38				Bomb
64	5:00:45	17:05	51:00	2.98		1.65	2.77			85	Bomb c/c
65	28:10	27:25	55.88	4.88		6.50	4.85				Bb RchRk 189T
66	37:15	9:05	57.48	1.60		7.73	1.23				c/c
67	38:30	1:15	57.65	.17		7.87	.14			358	o/c
68	43:30	5:00	58:42	.77		- -	- -				Bomb
69	57:00	13:30	60.52	2.10		10.66	(2.04)				c/c
70	58:00	1:00	60.65	.13		10.73	.07			272	Bb o/c
71	6:15:10	17:10	63.07	2.42		13.15	2.42				Bb Arg. 357T
72	23:00	7:50	64.25	1.18		14.30	1.15			277	c/c
73	28:50	5:50	65.10	.85		15.12	.82				Bb Arg. 02T
74	45:00	16:10	67.40	2.30		17.40	2.28				Bb Arg. 11T
75	49:00	05:00	67.97	.57		17.98	.58				c/c
76	50:00	01:00	68.10	.13		18.07	.09			357	o/c
77	59:55	9:55	69.55	1.45		19.50	1.43				Bomb Arg.18T
78	7:03:15	3:20	70:10	.55		20.00	.50				c/c
79	04:15	1:00	70.22	.12		20.10	.10			82	on crs.
80	06:00	1:45	70.50	.28		20.39	.29				Bomb Arg. 13T
81	28:00	22:00	74.27	3.72		24.02	3.63			85	Bb c/c Arg.359½
82	44:45	16;45	77.30	3.03		26.88	2.86				Bb c/c Cncptl0T
83	45:40	:55	77.45	.15		26.98	.10			41	o/c

M Day, Sheet 122, June 12, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corrd	Sum log	True Crs	REMARKS
1	7:02:20		99.22			39.70				275	Bomb
2	17:05	14.45	1.50	2.28		41.98	2.28				Bomb
3	27:25	10:20	3.00	1.50		43.43	1.45				Bb Arg. 70
4	41:55	14:30	5.07	2.07		45.29	1.86				Bb Arg. 23T
5	50:00	8:05	6.25	1.18		46.20	.91			180	c/c
6	51:15	1:15	6.42	.17		46.30	.10				o/c
7	57:20	6:05	7.42	1.00		47.12	.82				c/c
8	58:40	1:20	7.60	.18		47.29	.17			272	o/c
9	8:01:55	3:15	8.08	.48		47.65	.36				Bomb
10	21:30	19:45	10.90	2.82		49.85	2.20				Bomb
11	26: 0	4:30	11.52	.62		50.30	.45			276	c/c
12	45:30	19:30	14:12	2.60		52.35	2.05				Bomb
13	49:15	3:45	14.62	.50		52.75	.40			272	c/c
14	9:00:35	11:20	16.18	1.56		53.95	1.20				Bomb
15	05:00	4:25	16.75	.57		54.38	.43			273	c/c
16	28:55	23:55	19.90	3.15		57.20	2.82				Bomb
17	34:45	5:50	20.68	.78		57.95	.75			272	c/c
18	59:10	24:25	23.70	3.02		60.95	3.00				Bomb
19	10:29:00	29:50	27.40	3.70		64.53	3.58				Bomb
20	43:00	14:00	29.10	1.70		66.20	1.67			c/c	
21	44:30	1:30	29.22	0.12		66.25	.05			180	o/c
22	58:40	14:10	31.38	2.16		68.45	2.20				Bomb
23	11:06:30	7:50	32.58	1.20		69.70	1.25				c/c
24	07:45	1:15	32.75	.17		69.80	.10			274	o/c
25	26:55	19:10	35.05	2.30		72.08	2.28				Bomb
26	34:15	7:20	36.00	0.95		73.00	.92			277	c/c
27	56:55	22:40	38.32	2.32		75.80	2.80			275	Bb
28	12:15:00	18:05	41.06	2.24		78.00	2.20				Bomb
29	43:00	28:00	44.80	3.74		81.48	3.48				Bomb
30	52:00	9:00	46.05	1.25		82.62	1.14				c/c
31	53:20	1:20	46.23	.18		82.72	.10			182	o/c
32	1: 01:20	8:00	47.54	1.31		84.02	1.30				Bomb
33	16:00	14:40	49.94	2.40		86.30	2.28				c/c
34	17:30	1:30	50.12	.18		86.40	.10			275	o/c
35	1:28:40	11:10	51.60	1.48		87.80	1.40				Bomb
36	43:40	15:00	53.66	2.06		89.70	1.90				Bomb
37	2:13:00	29:20	57.70	4.07		93.40	3.50				Bomb
38	2:27:30	14:30	59.57	1.87		95.20	1.80				Bomb
39	46:40	19:10	62,10	2.53		97.50	2.30				Bomb
40	59:30	12:50	63.85	1.75		99.18	1.68				Bomb c/c
41	3:00:45	1:15	64.03	.18		99.22	.04			177	o/c
42	07:00	6:15	65.03	1.00		.22	1.00				c/c
43	08:15	1:15	65.22	.19		.38	.16			270	o/c
44	19:30	11:15	66.82	1.60		1.82	1.44				Bomb
45	33:20	13:50	68.77	1.95		3.67	1.85				Bomb
46	39:00	5:40	69.57	.80		4.40	.73			277	c/c
47	43:25	4:25	70.25	.68		5.01	.61				Bomb
48	56:45	13:30	72:23	1.98		6.82	1.81			275	Bomb c/c

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M Day, Sheet 122, June 12, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Corr'd	B log	Diff	Corrd	Sum log	True Crs	REMARKS
49	4:14:15	17.20	74.80	2.57		9.18	2.36				Bomb
50	20:00	5:45	75.65	.85		9.93	.75				c/c
51	43:00	23:00	79.02	3.37		13.03	3.10				Bomb
52	52:00	9:00	80.25	1.23		14.14	1.01			277	c/c
53	5:00:20	8:20	81.45	1.20		15.23	1.09				Bomb
54	33:00	32:40	86.12	4.67		19.49	4.26				Bomb
55	39:45	6:45	87.07	.95		20.38	.89				c/c
56	41:00	1:15	87.20	.13		20.40	.02			360	o/c
57	56:40	15:40	89.20	2.00		22.29	1.89				c/c
58	57:45	1:05	89.30	.10		22.35	.06			280T	o/c
59	6:10:50	13:05	91.10	1.80		24.02	1.67				Bomb
60	33:15	22:45	94.30	3.20		26.92	2.90			360	c/c
61	34:10	:55	94.42	.12		26.96	.04				o/c
62	42:20	8:10	95.45	1.03		27.98	1.02				Bomb
63	7:02	19:40	97.95	2.50		30.23	2.25				o/c
64	03:10	1:10	98.07	.12		.29	.06			85	o/c
65	12:20	9:10	99.55	1.48		31.68	1.39				Bomb
66	27:25	15:05	2.00	2.45		33.88				80	Bb c/c
67	43:30	16:05	4.65	2.65		36.20	2.32				Bomb
68	59:15	15:45	7.25	2.60		38.48	2.28				Bomb

N Day, Sheet 122, June 12, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cortd	B log	Diff	Cortd	Sum log	True Crs	REMARKS
1	7:38:30		35.10			44.78					Bomb
2	8:13:20	34:50	41.00	5.90		50.50				160	Bomb
3	20:00	6:40	42.10	1.10		51.62	1.12				c/c
4	21:10	1:10	42.25	0.15		51.75	0.13			83	o/c
5	30:20	9:10	43.78	1.53		53.20	1.45				Bomb
6	38:00	7:40	45.00	1.22		54.35	1.15			80	
7	59:30	21:30	48.52	3.52		57.78	3.43			85	Bomb c/c
8	9:05:30	6:00	49.48	0.96		58.70	.92			82	c/c
9	30:55	25:25	53.65	4.17		62.72	4.02			85	Bmb c/c
10	39:00	8:05	54.98	1.33		64.00	1.28				c/c
11	41:30	2:30	55.35	.37		64.32	.32			360	o/c
12	46:40	5:20	56.08	.73		65.05	.73				Bomb
13	52:00	5:20	56.95	.75		65.80	.75				c/c
14	53:20	1:20	57.00	.15		65.90	.10			85	c/c
15	10:01:10	7:50	58.25	1.25		67.15	1.25				Bomb
16	16:00	14:50	60.72	2.47		69.50	2.35				Bomb
17	30:10	14:10	63.10	2.38		71.80	2.30				Bomb
18	36:30	6:20	64.12	1.02		72.78	.98			88	c/c
19	45:00	8:30	65.52	1.40		74.12	1.34				Bomb
20	11:14:15	29:15	70.38	4.86		78.83	4.71				Bomb
21	31:40	17:25	73.28	2.90		81.65	2.82				Bomb
22	53:30	21:50	76.88	3.60		85.12	3.57				c/c
23	54:45	1:15	77.05	.17		85.25	.13			358	o/c
24	12:02:50	8:05	78.12	1.07		86.30	1.05				Bomb
25	25:30	22:40	81.12	3.00		89.25	2.95				c/c
26	26:40	1:10	81.28	.16		89.38	.13			85	o/c
27	27:40	1:00	81.40	.12		89.50	.12				Bomb
28	44:00	16:20	84.05	2.65		92.10	2.60				Bomb
29	48:45	4:45	84.85	.80		92.88	.78			84	c/c
30	58:15	9:30	86;40	1.55		94.37	1.49				Bomb
31	1:03:00	4:45	87.22	.82		95.18	.81			82	c/c
32	12:30	9:30	88.80	1.58		96.70	1.52				Bomb
33	19:30	7:00	89.95	1.15		97.85	1.15			80	c/c
34	30:05	10:35	91.72	1.77		99.52	1.67				Bomb
35	38:30	8:25	93.10	1.38		0.90	1.38			84	c/c
36	42:10	3:40	93.66	.56		1.48	.58				Bomb
37	57:20	15:10	95.92	2.26		3.98	2.50				Bomb
38	2:01:00	3:40	96.48	.55		4.52	.54				c/c
39	02:30	1:30	96.65	.18		4.76	.24			180	o/c
40	13:30	11:00	98.45	1.80		6.52	1.76				c/c
41	15:00	1:30	98.65	.20		6.72	.20			84	o/c
42	29:40	14:40	1.05	2.40		9.08	1.36				Bomb
43	46:40	17:00	3.80	2.75		11.77	2.69				Bomb
44	51:30	4:50	4.67	.87		12.58	.79			87	
45	56:30	5:[illegible]0	5.55	.88		13.42	.84			92	
46	3:13:18	16:45	8.35	2.80		16.18	2.76			90	Bomb c/c
47	28:40	15:25	10.93	2.58		18.72	2.54				Bomb
48	43:45	15:05	13.45	2.52	2.59	21.20	2.48				Bomb Mt. 52°T
49	52:30	8:45	14.97	1.52	1.56	22.65	1.45			89	c/c
50	4:01:05	8:35	16.46	1.49	1.53	24.09	1.44				Bomb
51	4:14:15	13:10	18.85	2.39	2.45	26.32	2.23			87	Bmb c/c
52	27:55	13:40	21.15	2.30	2.36	28.49	2.17				Bmb
53	42:35	14:40	23.68	2.53	2.60	30.90	2.41				Bmb Ar. 17½T
54	58:10	15:35	26:40	2.72	2.79	33.39	2.49				Bomb
55	5:25:10	27:00	31.05	4.65		37.72	4.33				Bomb

P Day, Sheet 122, June 12, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cortd	B log	Diff	Cortd	Sum Log	True Crs	REMARKS
1	7:30:20		50.32			45.71				275	o/c
2	45:40	15:20	52.65	2.33		48.10	2.39			273	Bb c/c
3	8:01:30	15:50	54.98	2.33		50.48	2.38				Bb
4	29:10	27:40	59.09	4.11		54.52	4.04				Bb
5	44:10	15:00	61.32	2.23		56.80	2.28				Bb
6	54:10	10:00	62.82	1.50		58.30	1.50				c/c
7	55:30	1:12	63.00	.18		58.40	.10			162	o/c
8	59:10	3:40	63.57	.57		59.03	.63				Bb
9	9:14:30	15:20	66.18	2.61		61.63	2.60				Bb
10	28:50	14:20	68.60	2.42		64.02	2.39				Bb
11	44:00	15:10	71.15	2.55		66.55	2.53				Bb
12	47:30	3:30	71.75	.60		67.18	.63				c/c
13	48:30	1:00	71.88	.13		67.27	.09			80	c/c
14	49:30	1:00	72.02	.14		67.40	.13				c/c
15	50:30	1:00	72.19	.17		67.50	.10			0	o/c
16	54:30	4:00	72.75	.56		68.12	.62				c/c
17	55:30	1:00	72.92	.17		68.25	.13			88	o/c
18	59:00	3:30	73.47	.55		68.85	.60				Bomb
19	10:15:50	16:50	76.33	2.86		71.65	2.80				Bomb
20	18:20	2:30	76.80	.47		72.14	.49				c/c
21	20:00	1:40	77.02	.22		72.30	.16			180	o/c
22	22:20	2:30	77.32	.30		72.65	.35				c/c
23	23:30	1:10	77.50	.18		72.80	.15			88	o/c
24	27:55	4:25	78.25	.75		73.51	.71				Bmb
25	43:50	15:55	80.98	2.73		76.20	2.69				Bmb
26	47:00	3:10	81.55	.57		76.80	.60				c/c
27	48:30	1:30	81.75	.20		76.95	.15			180	c/c
28	55:30	7:00	82.85	1.10		78.10	1.15				c/c
29	56:40	1:10	83.05	.20		78.25	.15			271	o/c
30	57:35	:55	83.19	.14		78.38	.13				Bmb
31	11:12:05	14:30	85.42	2.23		80.62	2.24			272	Bb c/c
32	26:45	14:40	87.62	2.20		82.85	2.23				Bb
33	54:45	28:00	91.85	4.23		87.02	4.17			180	Bb c/c
34	56:30	1;45	92.08	.23		87.20	.18				o/c
35	59:00	2:30	92.42	.34		87.60	.40				c/c
36	12:00:00	1:00	92.58	.16		87.70	.10				o/c
37	03:00	3:00	93.07	.49		88.23	.53				Bomb
38	15:30	12:30	95.22	2.15		90.32	2.09				Bomb
39	28:30	13:00	97.40	2.18		92.47	2.15				Bomb
40	48:30	20:00	100.82	3.42		95.82	3.35				Bomb
41	56:30	8:00	2.22	1.40		97.20	1.38				c/c
42	57:45	1:15	2:40	.22		97.35	.15			180	o/c
43	59:30	1:45	2:70	.30		97.65	.30				c/c
44	1:00:45	1:15	2.85	.15		97.80	.15			271	o/c
45	09:45	8:20	4.10	1.25		99.08	1.28				Bomb
46	22:00	12:55	6.05	1.95		1.00	1.92				c/c
47	23:00	1:00	6.17	.12		1.12	.12			0	o/c
48	29:00	6:00	7.07	.90		2.02	.90				Bomb
49	32:30	3:30	7.60	.53		2.50	.48				c/c
50	33:45	1:15	7.72	.12		2.62	.12			88	o/c
51	43:00	09:15	9.25	1.53		4.18	1.56				Bomb

P Day, Sheet 122, June 12, 1933.

Pos. No.	Time	Time Diff	E log	Diff	Cortd	B log	Diff	Cortd	Sum Log	True Crs	REMARKS
52	1:54:15	11:15	11.15	1.80		6.02	1.84				c/c
53	55:30	1:15	11.30	.15		6.15	.13			180	o/c
54	59:20	3:40	11.92	.62		6.82	.67				Bomb
55	2:01:00	1;40	12.20	.28		7.10	.28				c/c
56	2:02:15	1:15	12.40	.20		7.25	.15			271	o/c
57	12:40	10:25	13.92	1.52		8.80	1.55				Bmb
58	16:30	3:50	14.50	.58		9.34	.54			274	c/c
59	29:25	12:55	16.40	1.90		11.25	1.91				Bb
60	41:25	12:00	18.17	1.77		13.00	1.75				Bb c/c
61	43:00	1:35	18.32	.15		13.07	.07			180	o/c
62	59:10	16:10	21.00	2.68		15.78	2.71				Bb
63	3:16:45	17:35	23.92	2.92		18.70	2.92				Bb
64	22:55	6:10	24.90	0.98							
65	- -										
66	5:03:00	..	27.25							85	Bmb
67	20:30	17:30	30.15	2.90		22.83				85	c/c
68	21:35	1:05	30.35	.20		23.00	.17				o/c
69	27:50	6:15	31.35	1.00		24.01	1.01				Bmb
70	43:50	16:00	34:00	2.65		26.70	2.69				Bmb
71	47:50	4:00	34.68	.68		27.38	.68				Bmb

Q Day Sheet 122
June 27, 1933

Pos. No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	7:06:55		47.20			30.98				279	Bomb
2	7:17:45	10:50	48.95	1.75		32.74	1.76				c/c
3	7:18:20	:35	49.05	.10		32.82	.08			303	on/c
4	7:31:35	13:15	51.22	2.17		35.03	2.21				Bomb
5	8:00:05	28:30	55.85	4.63		39.72	4.69				Bomb
6	8:04:15	4:10	56.47	.62		40.33	.61				c/c
7	8:05:45	1:30	56.60	.13		40.33	.00			358	on/c
8	8:35:00	29:15	61.57	4.97	5.38	45.47	5.14				
9	8:41:30	6:30	62.62	1.05	1.13	46.52	1.05			8	c/c
10	9:03:50	22:20	66.32	3.70	4.0 0	50.25	3.73				Bomb
11	9:30:20	26:30	70.65	4.33	4.6 7	54.65	4.40				Bomb
12	9:50:00	19:40	73.85	3.20	3.46	57.90	3.25				c/c
13	9:51:00	:01	74.00	.15		58.01	.11			85	on/c
14	9:57:00	:06	74.95	.95		59.00	.99				Bomb
15	10:29:00	32:00	80.32	5.37		64.45	5.45				Bomb
16	10:41:30	12:30	82.42	2.10		66.55	2.10				c/c
17	10:42:30	1:00	82.57	.15		66.70	.15			182	on/c
18	10:59:05	16:35	85.35	2.78		60.50	2.80				Bomb
19	11:28:00	28:55	90.17	4.82		74.44	4.94				Bomb
20	11:55:50	27:50	94.87	4.70		79.20	4.76				Bomb
21	12:03:00	7:10	95.65	.78 Log taken		80.48	1.28			177	c c
22	12:27:30	23:30	97.70	out		84.53	4.05				Bomb
23	12:42:00	14:30	00.08	2.38		87.02	2.49			179	c/c
24	12:58:15	16:15	2.90	2.82		89.75	2.73				Bomb
25	1:07:00	8:45	4.42	1.52		91.22	1.47				c/c
26	1:08:20	1:20	4.60	.18		91.30	.08			65	c/c
27	1:27:50	19:30	7.85	3.25		94.60	3.30				Bomb
28	1:55:00	27:10	12.45	4.60		99.15	4.55				c/c
29	1:55:45	:45	12.58	.13		99.22	.07			358	on/c
30	1:57:40	1:55	12.88	.30		99.31	.29				Bomb
31	2:03:00	5:20	13.70	.82		00.37	1.06			1	c/c
32	2:28:40	25:40	17.95	4.25		4.60	4.23				Bomb
33	2:35:15	6:35	19.02	1.07		5.67	1.07			359	c/c
34	3:02:20	27:05	23.45	4.43		10.10	4.43				Bomb
35	3:27:15	24:55	27.58	4.13		14.18	4.08				Bomb
36	3:56:05	28:50	32.25	4.67		19.80	5.62				Bomb
37	4:05:15	9:10	33.75	1.50		21.29	1.49				c/c
38	4:06:30	1:15	33.93	.18		21.40	.11				on/c
39	4:32:50	26:20	38.47	4.54		24.91	4.51				
40	4:44:35	11:45	40.47	2.00		26.88	1.97				
41	4:53:45	9:10	42.07	1.60		28.43	1.55				c/c
42	4:54:45	1:00	42.23	.16		28.56	.13			180T	on/c
43	4:59:10	4:25	42.97	.74		29.30	.74				Bomb
44	5:29:25	30:15	48.20	5.23		34.42	5.12				
45	6:02:12	32:47	53.89	5.69		40.05	5.63				Bomb
46	6:28:20	26:08	58.40	4.51		44.50	4.45			182	Bomb
47	6:59:55	31:35	63.87	5.47		49.92	5.42				Bomb
48	7:45:30	45:35	71.75	7.88		57.71	7.79				Bomb
49	8:12:00	26:30	76.32	4.57		62.20	4.49				

R DaySheet 122
June 28, 1933

Pos. No.	Time	Time Diff	E Log	Diff	Corr'd	N Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	7:01:50		20.98			65.00				275	Bomb
2	7:45:40	43:50	27.55	6.57		71.70	6.70				Bomb
3	7:54:00	8:20	28.78	1.23		72.93	1.23			180	c/c
4	7:55:00	1:00	28.92	.14		73.08	.15				on/c
5	8:14:30	19:30	32.25	3,33		76.35	3.27				Bomb c/c
6	8:15:30	1:00	32.42	.17		76.47	.12			85	on/c
7	8:38:20	22:50	36.25	3.83		80.25	3.78				Bomb
8	8:46:45	8:25	37.65	1.40		81.70	1.45				c/c
9	8:47:45	1:00	37.85	.20		81.80	.10			180	on/c
10	8:58:15	10:30	39.55	1.70		83.60	1.80				c/c
11	8:59:30	1:15	39.73	.18		83.70	.10			85	onc/
12	9:01:30	2:00	40.05	.32		84.07	.37				Bomb
13	9:18:30	17:00	42.92	2.90		86.90	2.83				Bomb
14	9:28:00	9:30	44.55	1.60		88.47	1.57				c/c
15	9:29:00	1:00	44.72	.17		88.57	.10			0	on/c
16	9:44:45	15:45	46.92	2.20		90.80	2.23				Bomb
17	9:52:00	7:15	47.92	1.00		91.80	1.00				c/c
18	9:53:00	1:00	48.08	.16		91.90	.10			87	on/c
19	10:12:45	19:45	51.35	3.27	3.22	95.15	3.25				Bomb
20	10:17:30	4:45	52.16	.81	.80	95.94	.79			85	
21	10:26:05	8:35	53.62	1.46	1.44	97.35	1.41				Bomb
22	10:57:30	31:25	58.81	5.19	5.12	2.53	5.18				Bomb
23	11:03:30	6:00	59.95	1.14	1.12	3.60	1.07			82	
24	11:28:12	24:42	64.07	4.12	4.05	7.60	4.00				Bomb
25	11:32:30	4:18	64.80	.73	.72	8.30	.70				Bomb
26	11:36:30	4:[illegible]0	65.50	.70	.69	9.03	.73			86	c/c
27	11:57:20	20:50	68.97	3.47	3.42	12.45	3.42				Bomb
28	12:27:50	30:30	74.02	5.05	5.00	17.37	4.92				Bomb
29	12:34:00	6:10	75.07	1.05		18.39	1.02			89	c/c
30	12:42:30	8:30	76.47	1.40		19.80	1.41				Bomb
31	12:47:45	5:15	77.35	.88		20.67	.87			91	c/c c/c
32	12:58:00	10:15	79.10	1.75	1.73	22.35	1.68				Bomb
33	1:13:00	15:00	81.60	2.50	2.46	24.81	2.46			88	Bomb c/c
34	1:20:35	7:35	82.90	1.30	1.28	26.09	1.28				Bomb
35	1:43:45	23:10	86.80	3.90	3.84	29.90	3.81				Bomb
36	1:51:00	7:15	87.90	1.10	1.09	31.02	1.12			90	
37	2:09:15		91.10	3.20		34.11	3.09			180	c/c
38	2;10:30	1:15	91.27	.17		34.27	.16				on/c
39	2:24:40	14:10	93.62	2.35	2.45	36.65	2.38				Bomb
40	2:42:50	18:10	96.70	3.08	3.21	39.76	3.11				
41	2:57:00	14:10	99.05	2.35	2.45	42.10	2.34				
42	3:14:15	17:15	1.92	2.87	2.99	44.99	2.89				Bomb
3	3:22:00	7:45	3.12	1.20	1.25	46.18	1.19			165	
44	3:42:50	20:50	6.75	3.63	3.78	49.80	3.62			176	c/c Bomb
45	4:18:20	35:30	12.75	6.00	6.25	55.78	5.98				Bomb
46	4:23:30	5:10	13.62	.87	.91	56.66	.88			180	c/c
47	4:42:50	19:20	16.95	3.33	3.47	59.93	3.27				Bomb
48	5:09:45	26:55	21.50	4.55	4.75	64.42	4.49				Bomb
49	5:20:15	10:30	23.38	1.88	1.96	66.28	1.86			175	c/c
50	5:33:00	12:45	25.50	2.12	2.21	68.37	2.09				c c
51	5:34:00	1:00	25.65	.15		68.50	.13			88	on/c
52	5:38:30	4:30	26.40	.75		69.20	.70				Bomb

R Day, Sheet 122 (Con't)
June

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	W Log	Diff	Corr'd	Sum Log	True Crs	Remarks
53	5:58:00	19:30	29.70	3.30		72.34	3.14				Bomb
54	6:06:30	28;30	31.12	1.42		73.75	1.41			78	c/c
	6:27:40	21:10	34.67	3.55		77.18	3.43				Bomb
56	6:41:15	13:35	36.98	2.31		79.38	2.20			83	Bomb
57	6:55:55	14:40	39.50	2.52		81.80	2.42				
58	7:26:40	30:45	44.70	5.20		86.76	4.96				
59	7:54:55	28:15	49.45	4.75		91.31	4.55				Bomb
60			52.35	2.90							Day Ends Line Ends

S Day, Sheet 122
June 29, 1933

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	8:24:30		83.65			10.90				358	Bomb
2	8:41:40	17:10	85.80	2.15		13.08	2.18				
3	8:55:00	13:20	87.50	1.70		14.80	1.72				c/c
4	8:56:00	1:00	87.62	.12		14.87	0.07			275	c/c
5	8:58:30	2:30	87.92	.30		15.20	.33				Bomb
6	9:16:50	18:20	90.30	2.38	2.54	17.60	2.40				Bomb
7	9:23:00	6:10	91.12	.82	.87	18.42	.82			272	c/c
8	9:36:17	13:17	93.00	1.88	2.00	20.38	1.96				Bomb
9	9:58:25	22:08	96.08	3.08		23.35	2.97				
10	10:05:00	6:35	96.98	.90		24.25	.90				c/c
11	10:06:00	1:00	97.12	.14		24.35	.10			180	on/c
12	10:14:00	8:00	98.42	1.30		25.75	1.40				c/c
13	10:15:15	1:15	98.60	.18		25.88	.13			271	on/c
14	10:20:45	5:30	99.32	.72	.77	26.65	.67				Bomb
15	10:40:10	19:35	1.98	2.66	2.84	29.30	2.65				Bomb
16	10:59:15	19:05	4.63	2.65	2.83	31.95	2.65				c/c
17	11:00:30	1:15	4.78	.15		32.02	.07			180	on/c
18	11:02:20	1:50	5.08	.30		32.35	.33				Bomb
19	11:19:15	16:55	7.85	2.77		35.21	2.86				Bomb
20	11:39:00	19:45	11.10	3.25		38.35	3.14				Bomb
21	11:56:40	17:40	14.10	3.00		41.45	3.10				c/c
22	11:57:45	1:05	14.25	.15		41.55	.10			88	on/c
23	12:08:15	10:00	15.98	1.73		43.25	1.70				Bomb
24	12:24:45	16:30	18.75	2.77		45.98	2.73				Bomb
25	12:35:00	10:15	20.45	1.70		47.60	1.62				c/c
26	12:36:00	1:00	20.62	.17		47.75	.15			0	
27	12:45:20	9:20	21.87	1.25		49.01	1.26				Bomb
28	1:00:30	15:10	23.87	2.00		51.00	1.99				
29	1:20:00	19:30	26.55	2.68		53.60	2.60				Bomb
30	1:39:50	19:50	29.28	2.73		56.30	2.70				Bomb
31	1:44:00	4:10	29.85	.57		56.90	.60				c/c
32	1:45:20	1:20	30.00	.15		57.00	.10			85	on/c
33	1:59:45	14:25	32.37	2.37		59.35	2.35				
34	2:16:45	7:00	35.37	3.00		62.18	2.83				c/c
35	2:18:00	1:15	35.45	.08		62.30	.12			180	on/c
36	2:20:00	2:00	35.87	.42		62.65	.35				Bomb
37	2:35:30	15:30	38.42	2.55	2.75	65.30	2.65			185	c/c
38	2:38:20	2:50	38.92	.50	.54	65.80	.50				Bomb
39	2:41:15	2:55	39.39	.47	.50	66.28	.48			180	c/c
40	2:58:45	17:30	42.37	2.98	3.20	69.22	2.94				Bomb
41	3:05:00	6:15	43.37	1.00		70.25	1.03				c/c
42	3:06:00	1:00	43.55	.18		70.34	.09			85	on/c
43	3:18:00	12:00	45.51	1.96		72.30	1.96				Bomb
44	3:22:30	4:30	46.27	.76		73.02	.72			80	c/c
45	3:26:00	3:30	46.82	.55		73.57	.55			75	c/c
46	3:48:00	22:00	50.50	3.68		77.20	3.63				Bomb

T Day, Sheet 122
July, 13, 1933

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	E Log	Diff	Corr'd	Sm. Log	True Crs	Remarks
1	–										
2	1:08:00					80.35					Bomb
3	1:10:15					80.72				270	c/c
4	1:11:30					80.80					on/c
5	1:15:10					81.28				271	Bomb
6						81.68	.40			273	c/c
7	1:29:40					83.41	1.73			0	Bomb c/c
8	1:31:00	1:20				83.52	.11				on/c
9	1:45:30	14:30				85.73	2.21			355	Bomb c/c
10	2:01:50	16:20				88.20	2.47				Bomb
11	2:19:20	17:30				90.80	2.60				Bomb
12	2:36:00	16:40	89.00			93.30	2.50	2.78		0	Bomb c/c
13	2:40:30	4:30	89.67	.67	.74	94.00	.70				Bomb Apx brg
14	2:58:20	17:50	92.30	2.[illegible]	2.90	96.70	2.70				Bomb (Ft.Conc
15	3:15:10	16:50	94.80	2.50	2.76	99.20	2.50				c/c Lt. 75T
16	3:16:25	1:15	94.97	.17	..	99.50	.30			272	Bomb o/c
17	3:30:45	14:20	97.[illegible]0	2.03	2.24	1.50	2.00				Bomb
18	3:36:00	5:55	97.75	.75	.83	2.30	.80			270	c/c
19	3:47:30	11:30	99.42	1.67	1.85	4.02	1.72				Bomb
20	3:57:30	10:00	00.42	1.00	1.10	5.12	1.10			268	c/c
21	4:01:50	4:20	1.52	1.10		6.20	1.08				Bomb
22	4:05:05	3:15	2.00	.48		6.70	.50				Bomb
23	4:18:15	13:10	3.93	1.93		8.72	2.02				Bomb
24	4:23:30	5:15	4.72	.79		9.52	.80			270T	c/c
25	4:30:30	7:00	5.73	1.01		10.58	1.06				Bomb
26	4:45:45	15:15	7.93	2.20		12.88	2.30				Bomb
27	4:53:25	7:40	9.05	1.12		14.00	1.12				Bomb
28	4:57:30	4:05	9.65	.60		14.62	.62				Bomb
29	4:59:15	1:45	9.90	.25		14.90	.28			273	c/c
30	5:28:20	29:05	14.10	4.20		19.22	4.32				Bomb
31	5:33:00	4:40	14.77	.67		19.91	.69			270	c/c
32	5:54:07	21:07	17.81	3.04		23.00	3.09				Bomb
33	6:16:00	21:53	21.00	3.19		26.30	3.30				c/c
34	6:17:45	1:45	21.22	.22		26.52	.22				on/c
35	6:22:20	4:35	21.92	.70		27.21	.69				Bomb
36	6:28:00	5:40	22.72	.80	.89	28.08	.87			89T	c/c
37	6:29:30	1:30	22.92	.20	.22	28.25	..17				on/c
38	6:44:20	14:50	25.21	2.29	2.56	30.56	2.31				Bomb
39	6:50:00	5:40	26.12	.91	1.03	31.50	.94				c/c
40	7:06:00	16:00	28.67	2.55	2.85	34.10	2.60				Bomb
41	7:14:20	8:20	29.84	1.17	1.30	35.28	1.18			92	Bomb c/c
42	7:20:00	5:40	30.72	.88	.98	36.18	.90			82	
43	7:27:30	7:30	31.92	1.20	1.34	37.38	1.20			87	Bomb c/c
44	7:46:20	18:50	34.87	2.95	3.30	40.37	2.99				Bomb
45	7:50:30	4:10	35.52	.65	.73	41.10	.73			84T	c/c
46	8:00:15	9:45	37.00	1.48	1.65	42.54	1.44				Bomb
47	8:15:40	14:25	39.42	2.42	2.70	45.00	2.46				Bomb
48	8:22.45	7:05	40.52	1.10	1.23	46.11	1.11			87T	c/c
49	8:27:00	4:15	71.22	.70	.78	46.81	.70				Bomb

U Day Sheet 122
July 14, 1933

Pos No.	Time	Time Diff	N Log	Diff	Corr'd	B Log	Diff	Corr'd	Sim Log	True Crs	Remarks
1	7:39:45		86.62			49.18				270	on/c
2	7:47:30	7:45	87.90	1.28		50.38	1.20				Bomb
3	8:02:40	15:10	90.43	2.53		52.80	2.42				
4	8:10:10	7:30	91.63	1.20		53.93	1.13			265	c/c
5	8:29:10	19:00	94.35	2.72		56.51	2.58				Bomb
6	8:[illegible]2:30	3:20	94.90	.55		57.07	.56			269	c/c
7	8:46:10	13:40	97.10	2.20		59.12	2.05				Bomb
8	8:50:15	4:05	97.77	.67		59.79	..67			272	c/c
9	9:01:20	11:05	99.51	1.74		61.45	1.66				Bomb
10	9:06:35	5:10	00.35	.84		62.27	.82			271	c/c
11	9:30:50	24:15	4.22	3.87		65.99	3.72				Bomb
12	10:01:00	30:10	9.09	4.87		70.68	4.69				Bomb
13	10:06:30	5:30	9.95	.86		71.48	.80			270	c/c
14	10:13:00	6:30	11.02	1.07		72.50	1.02			269	c/c
15	10:30:15	17:15	13.83	2.81		75.20	2.70				Bomb
16	10:59:10	28:55	18.52	4.69		79.70	4.50				Bomb
17	11:06:30	7:20	19.72	1.20		80.80	1.20				c/c
18	11:3 :50	24:20	23.67	3.95		84.70	3.80			270	Bomb c/c
19	12:01:10	30:20	28.55	4.88		89.35	4.65				Bomb
20	12:07:10	6:00	29.52	.97		90.30	.95			269	c/c
21	12:28:45	21:35	32.95	3.43		93.60	3.30				Bomb
22	12:33:30	4:45	33.75	.80		94.35	.75			267	c/c
23	12:58:35	25:05	37.70	3.95		98.18					Bomb
24	1:05:15	6:40	38.75	1.05		log					*Bomb*
25	1:10:00	4:45	39.52	.77		taken in					Stop for VC

V Day, Sheet 122
July 15, 1933

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Stm Log	True Crs	Remarks
1	7:17:10		53.72			99.70				180T	c/c Bomb
2	7:43:00	25:50	57.80	4.08	3.96	3.80	4.10				Bomb
3	7:59:35	16:35	60.45	2.65	2.59	6.38	2.58				Bomb
4	8:04:05	4:30	61.17	.72	.70	7.11	.73				Bomb
5	8:34:10	30:05	65.97	4.80	4.68	11.84	4.73				Bomb
[illegible]	8:42:00	7:50	67.20	1.23	1.20	13.02	1.18			170T	c/c
[illegible]	8:42:30	:30	67.30	.10		13.12	.10				c/c
8	9:00:05	17:35	70.15	2.85	2.78	15.91	2.79				
9	9:07:00	6:55	71.25	1.10		16.99	1.08			270	c/c
10	9:08:30	1:30	71.42	.17		17.12	.13				c/c
11	9:14:05	5:35	72.25	.83		18.00	.88				Bomb
12	9:28:00	13:55	74.32	2.07	2.18	20.00	2.00				Bomb
13	9:58:20	30:20	78.90	4.58	4.83	24.50	4.50				Bomb
14	10:06:00	7:40	80.05	1.15		25.64	1.14			30T	c/c
15	10:07:15	1:15	80.20	.15	.42	25.80	.16				c/c
16	10:34:00	26:45	84.22	4.02	4.30	29.70	4.10				Bomb
17	10:39:30	5:30	85.05	.83	.93	30.51	.81			5	c/c
18	10:58:10	18:40	87.82	2.77	2.96	33.21	2.70				Bomb
19	11:07:30	9:20	89.25	1.43	1.60	34.60	1.39			2	c/c
20	11:14:10	6:40	90.25	1.00	1.10	35.58	.92				Bomb
21	11:18:00	3:50	90.72	.47	.53	36.09	.51			360T	c/c
22	11:30:20	12:20	92.70	1.98	2.21	38.00	1.91				Bomb
23	11:55:30	25:10	96.67	3.97		41.90	3.90			270	c/c
24	11:56:50	1:20	96.85	.18		42.05	.15				c/c
25	11:57:30	:40	96.92	.07		42.10	.05				Bomb
26	12:07:00	9:30	98.28	1.36		43.45	1.35			267	c/c
27	12:29:35	22:35	1.92	3.64		47.05	3.60				Bomb
28	12:47:00	17:25	4.60	2.63		49.77	2.72				c/c
29	12:48:45	1:45	4.75	.15		49.95	.18			177	c/c
30	12:58:40	9:55	6.45	1.70		51.51	1.56				Bomb
31	1:29:25	30:45	11.33	4.88		56.30	4.79				Bomb
32	1:43:40	14:45	13.60	2.27		58.55	2.25			182	c/c Bomb
33	1:48:45	5:05	14.40	.80		59.32	.77			267	c/c
34	1:50:00	1:15	14.60	.20		59.49	..17				c/c
35	1:53:15	3:15	15.05	.45	..49	59.97	.48			270	c/c
36	2:02:00	8:45	16.35	1.30	1.41	61.23	1.25				Bomb
37	2:14:05	12:05	18.20	1.85		63.07	1.84				Bomb
38	2:29:30	15:25	20.50	2.30		65.32	2.25				Bomb
39	2:35:45	6:15	21.48	.98		66.28	.96				c/c
40	2:37:00	1:15	21.65	.17						0	c/c
41	2:44:20	7:20	22.75	1.10		67.51					Bomb
	3:01:30	18:10	25.33	2.58		70.08	2.57				Bomb
43	3:15:00	13:30	27.40	2.07		72.08	2.00				Bomb
44	3:29:30	14:30	29.60	2.20		74.20	2.12				Bomb
45	3:46:50	17:20	32.22	2.62		76.78	2.58				Bomb
46	4:05:30	18:40	35.02	2.80		79.50	2.72			269	c/c
47	4:07:00	1:30	35.20	.18		79.63	.13				c/c
48	4:17:10	10:10	36.75	1.55		81.18	1.55				Bomb

V Day, Sheet 122 (Con't)
July 15, 1953

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
49	4:28:40	11:30	38.52	1.77		82.93	1.75				Bomb
50	4:33:20	4:40	39.25	.73		83.62	.69			273	c/c
51	4:49:45	16:25	41.70	2.45		86.05	2.43	3.12			Bomb
52	4:54:30	4:45	42.42	.72		86.77	.72			180T	c/c
53	4:56:00	1:30	42.62	.20		86.90	.13				c/c
54	5:15:40	19:40	45.82	3.20		90.09	3.19				Bomb
	5:21:30	5:50	46.78	.96		91.00	.91			170	c/c
56	5:31:15	9:45	48.30	1.52		92.49	1.49	2.40			Bomb
57	5:39:45	8:30	49.60	1.30		93.78	1.29			175	c/c
58	5:44:35	4:50	50.35	.75		94.48	.70	1.99			Bomb
59	5:49:00	4:25	51.07	.72		95.20	.72			180	c/c
60	6:01:15	12:15	53.00	1.93		97.09	1.89				

W Day, sheet 122
July 16, 1933

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	12:32:00		10.05			41.10	[illegible]			159T	Bomb
2	12:58:10	26:10	14.25	4.20		45.20	4.10				Bomb
3	1:11:20	13:10	16.35	2.10		47.25	2.05			82T	c/c
4	1:12:30	1:10	16.50	.15		47.32	.07			82T	On/c
5	1:29:25	16:55	19.12	2.62		49.90	2.58				Bomb
6	1:37:15	9:50	20.40	1.28		51.10	1.20			80T	c/c
7	1:58:10	20:55	23.67	3.27		54.24	3.14				Bomb
8	2:16:30	18:20	26.60	2.93		57.00	2.76				Bomb
9	2:24:30	8:00	27.85	1.25		58.22	1.22			90T	c/c
10	2:29:30	5:00	28.62	.77		59.00	.78			85T	Bomb c/c
11	2:37:15	7:45	29.92	1.30		60.25	1.25			90T	c/c
12	2:43:45	6:30	30.95	1.03		61.25	1.00				Bomb
13	2:53:15	9:30	32.47	1.52		62.75	1.50			88T	c/c
14	3:00:30	7:15	33.60	1.13		63.85	1.10				Bomb
15	3:30:45	30:15	38.45	4.85		68.52	4.67				Bomb
16	3:51:50	21:05	41.87	3.42		71.80	3.28				Bomb
17	4:12:40	20:50	45.18	3.31		74.98	3.18				Bomb
18	4:18:30	5:50	46.12	.94	.87	75.90	.92			85T	c/c
19	4:48:00	29:30	50.85	4.73	4.40	80.20			Log Cleaned		Bomb
20	4:50:55	2:55	51.27	.42		80.58	.38				Bomb
21	5:00:00	9:05	52.70	1.43	1.54	81.99	1.41				Bomb
22	5:05:00	5:00	53.54	.84	.90	82.77	.78			91T	c/c
23	5:10:00	5:00	54.30	.76	.82	83.48	.71			87T	c/c
24	5:28:55	18:55	57.33	3.03	3.25	86.38	2.90				Bomb
25	5:45:40	16:45	60.02	2.69	2.90	88.98	2.60				Bomb
26	6:13:50	28:10	64.45	4.43	4.76	93.22	4.24			89	Bomb c/c
27	6:44:00	30:10	69.28	4.83	5.16	97.80	4.58				Bomb
28	6:53:10	9:10	70.78	1.50	1.61	99.20	1.40			180	c/c
29	6:54:40	1:30	71.05	.27		99.38	.18				c/c
30	6:58:40	4:00	71.65	.60	.65	00.00	.62				Bomb
31	7:05:15	6:35	72.90	1.25	1.35	1.22	1.22			175	c/c
32	7:14:15	9:00	74.28	1.38	1.50	2.45	1.23				Bomb
33	7:31:40	17:35	77.15	2.87	3.10	5.20	2.75				Bomb
34	7:43:00	12:20	79.00	1.85	2.00	7.00	1.80				c/c
35	7:44:45	1:45	79.22	.22		7.17	.17				on/c
36	7:59:50	15:05	81.42	2.20		9.22	2.05				Bomb

X Day Sheet 122
July 17, 1933

Pos No.	Time	Time Diff	R Log	Diff	Corr'd	L Log	Diff	Corr'd	Sum L Log	True Crs	Remarks
1	7:13:00		89.60			09.92					Bomb
2	7:18:00	5:00	90.20	.60		10.50	.58			0T.	c/c
3	7:29:20	11:20	91.72	1.52		12.03	1.53			3	
4	7:47:30	18:10	94.20	2.48		14.49	2.46			350	c/c
5	8:01:55	14:25	96.25	2.05		16.50	2.01				
[illegible]	8:19:30	17:35	98.75	2.50		18.94	2.44				c/c
[illegible]	8:21:45	2:15	98.95	.20		19.10	.16			89 T	On/c
8	8:29:55	8:10	00.30	1.30		20.42	1.32				Bomb
9	8:35:00	5:05	1.17	.87		21.20	.82			92 T	c/c
10	8:58:10	13:10	4.64	3.47		24.55	3.35				Bomb
11	9:06:15	8:05	5.84	1.20		25.70	1.15			180 T	c/c
12	9:07:10	:55	5.98	.14		25.80	.10				On/c
13	9:16:20	9:10	7.38	1.40		27.25	1.45			88 T	c/c
14	9:17:30	1:00	7.55	.17		27.33	.08				On/c
15	9:31:40	14:10	9.73	2.18		29.51	2.18				48-59-80
16	9:46:45	15:05	12.08	2.35		31.85	2.34				Bomb
17	10:00:30	13:45	14.27	2.19		33.95	2.10				Bomb
18	10:05:30	5:00	15.05	.78		34.70	.75			91	c/c
19	10:15:35	10:05	16.60	1.55	1.59	36.21	1.51				Bomb
20	10:30:35	15:00	18.77	2.17	2.22	38.37	2.16				Bomb
21	10:45:35	15:00	21.25	2.48	2.54	40.84	2.47				Bomb
22	11:02:40	17:05	23.88	2.63	2.70	43.40	2.56				Bomb
23	11:16:05	13:25	25.98	2.10	2.17	45.43	2.03				
24	11:19:10	3:05	26.45	.47	.48	45.92	.49			96	c/c
25	11:30:15	11:05	28.12	1.67	1.71	47.57	1.63			93	Bomb & c/c
26	11:34:00	3:45	28.68	.56	..57	48.10	.53			96	c/c
27	11:46:45	16:45	30.62	1.94	1.99	50.05	1.95				Bomb
28	11:51:30	4:45	31.35	.73	.75	50.80	.75			90	c/c
29	12:02:30	11:00	33.10	1.75	1.80	52.45	1.65				Bomb
30	12:08:00	7:30	33.95	.85	.87	53.30	.95			87 T	c/c
31	12:16:55	8:55	35.35	1.40	1.44	54.70	1.40				Bomb
32	12:21:30	4:35	36.12	.77	.79	55.40	.70			92 T	c/c
33	12:25:45	4:15	36.78	.66	.68	56.05	.65			85 T	c/c
34	12:31:05	5:20	37.60	.82	.84	56.88	.83				Bomb
35	12:45:35	14:30	39.82	2.22	2.28	59.05	2.17				Bomb
36	12:58:15	12:40	41.82	2.00		61.02	1.97				c/c
37	1:00:15	2:00	42.05	.23		61.20	.18			0-T	On/c
38	1:12:30	12:15	44.02	1.97		63.10	1.90				c/c
39	1:14:00	1:30	44.20	.18		63.20	.10			270-T	On/c
40	1:21:05	7:05	45.20	1.00		64.20	1.00				Bomb
41	1:31:35	10:30	46.78	1.58		65.70	1.50				Bomb
	1:45:10	13:45	48.82	2.04		67.60	1.90				Bomb
43	2:00:00	14:50	51.00	2.18		69.70	2.10				Bomb
44	2:05:00	5:00	51.70	.70		70.38	.68			264-T	c/c
45	2:16:25	11:25	53.25	1.55		72.05	1.67				Bomb
46	2:21:15	4:50	54.28	1.03		72.80	.75			270-T	c/c
47	2:32:50	11:35	56.00	1.72		74.35	1.55				Bomb
48	2:46:00	13:10	58.02	2.02		76.30	1.95				Bomb

X Day, Sheet 122 (Con't)
July 17, 1933

Pos No.	Time	Time Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum L Log	True Crs	Remarks
49	2:50:00	4:00	58.60	.58		76.90	.60			263T	c/c
50	2:57:45	7:45	59.80	1.20		78.00	1.10			272	c/c
51	3:01:10	3:25	60.32	.52		78.50	.50			272T	Bomb c/c
52	3:17:45	16:35	62.90	2.58		80.95	2.45				Bomb
F	3:31:70	13:25	64.92	2.02		82.90	1.95				Bomb
54	3:37:00	5:50	65.82	.90		83.72	.82			270T	c/c
55	3:47:10	10:10	67.42	1.60		85.20	1.48				Bomb
56	4:01:00	13:50	69.50	2.08		87.20	2.00				Bomb
57	4:05:30	4:30	70.20	.70		87.87	.67			269T	c/c
58	4:17:00	11:30	72.02	1.82		89.50	1.63				Bomb
59	4:32:00	15:00	74.30	2.28		91.65	2.15				Bomb
60	4:46:15	14:15	76.68	2.32		93.82	2.17				Bomb
61	5:00:45	14:30	79.00	2.38		96.10	2.28				Bomb
62	5:05:35	4:50	79.85	.85		96.87	.77			0T	c/c
63	5:06:45	1:10	80.00	.15		97.00	.13				on/c
64	5:30:20	23:35	83.75	3.75		00.60	3.60				Bomb
65	5:44:40	14:20	86.02	2.27		2.80	2.20				c/c Bomb
66	5:46:15	1:35	86.25	.23		2.98	.18			90T	on/c
67	6:01:00	14:45	88.72	2.47		5.50	2.32			88	Bomb c/c
68	6:29:15	28:15	93.35	4.63		9.73	4.43				Bomb
69	6:35:30	6:15	94.45	1.10		10.78	1.05				c/c
70	6:37:30	2:00	94.65	.20		10.90	.12			180T	on/c
71	6:46:15	8:45	96.26	1.61		12.45	1.55				Bomb
72	6:53:00	6:45	97.40	1.14		13.50	1.05			185	c/c
73	7:01:05	8:05	98.80	1.40		14.89	1.39				omb
74	7:16:00	14:55	01.35	2.55		17.30	2.41				Bomb
75	7:31:25	15:25	3.98	2.63		19.80	2.50				Bomb
76	7:46:35	15:10	6.62	2.64							Bomb
77	7:57:10	10:35	8.55	1.93		23.83					

Y Day Sheet 122
July 18, 1933

Pos No.	Time	Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
1	7:27:35		18.70			26.72				105T	Bomb
2	7:31:00	3:25	19.15	.45		27.22	.50			88T	c/c
3	7:56:40	25:40	23.35	4.20		31.12	3.90				Bomb
4	8:01:40	5:00	24.20	.85		31.90	.78			90T	c/c
5	8:17:15	15:35	26.70	2.50		34.28	2.38				Bomb
6	8:26:15	9:00	28.20	1.50		35.68	1.40			2	c/c
	8:27:30	1:15	28.37	.17		35.81	.13				on/c
8	8:43:15	15:45	30.90	2.53		38.21	2.40			0	Bomb c/c
9	9:00:25	17:10	33.60	2.70		40.80	2.59				Bomb
10	9:25:35	25:10	37.70	3.90		44.60	3.80				Bomb
11	9:30:25	4:50	38.50	.80		45.32	.72			1	c/c
12	9:46:20	15:55	41.10	2.60		47.72	2.40				Bomb
13	9:52:45	6:25	42.20	1.10		48.70	.98			89T	c/c
14	9:54:10	1:25	42.38	.18		48.88	.18				on/c
15	10:00:45	6:35	43.45	1.07		49.90	1.02				Bomb
16	10:21:35	20:50	47.00	3.55		53.12	3.22				Bomb
17	10:26:30	4:55	47.92	.92		53.91	.79			95T	c/c
18	10:43:55	17:25	51.00	3.08		56.69	2.78			178T	Bomb c/c
19	10:45:15	1:20	51.17	.17		56.83	.14				on/c
20	11:01:40	15:25	54.02	2.85		59.40	2.57				Bomb
21	11:20:15	18:35	57.32	3.30		62.27	2.87				Bomb
22	11:39:00	18:45	60.62	3.30		65.21	2.94				Bomb
23	11:46:00	7:00	62.05	1.43		66.30	1.09			270	c/c
24	11:47:30	1:30	62.25	.20		66.48	.18				on/c
25	11:55:05	7:35	63.55	1.30		67.60	1.12				Bomb
26	11:58:00	2:55	64.07	.52		68.10	.50			260T	c/c
27	12:05:20	7:20	65.33	1.26		69.20	1.10			270T	c/c
28	12:18:00	12:40	67.53	2.20		71.10	1.90				Bomb
29	12:22:10	4:10	68.35	.82		71.75	.65			260T	c/c
30	12:39:40	17:30	71.30	2.95		74.38	2.63			268T	c/c
31	12:45:40	6:00	72.30	1.00		75.30	.92				Bomb
32	12:49:15	3:55	72.87	.57		75.83	.53			265T	c/c
33	1:15:00	25:45	77.23	4.36		79.75	3.92				Bomb
34	1:18:00	3:00	77.75	.32		80.20	.45			272T	c/c
35	1:23:30	5:30	78.63	.88		81.05	.85				c/c
36	1:24:30	1:00	78.88	.25		81.10	.05			180T	on/c
37	1:33:50	9:20	80.47	1.59		82.55	1.45				Bomb
38	1:34:30	:40				82.70	.15				c/c
39	1:36:00	1:30				82.80	.10			91T	on c
40	1:41:15	5:15				83.70	.90				c/c
41	1:42:30	1:15	81.92			83.88	.18			180T	on/c
42	1:44:00	1:30	82.22	.30		84.20	.32				c/c
	1:46:10	2:10	82.42	.20		84.35	.15			91T	on/c Bomb
44	1:49:40	3:30				84.93	.58			88T	c/c
45	1:54:30	4:50				85.71	.78			94T	c/c
46	1:59:20	4:50	85.00			86.47	.76			91T	c/c Bomb
47	2:03:30	4:10	85.60	.60		87.10	.63			81T	c/c
48	2:14:10	10:40	87.22	1.62		88.85	1.75			90T	Bomb c/c

Y Day Sheet 122 (Con't)
July 18, 1933

Pos No.	Time	Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum	True Log Crs	Remarks
49	2:17:45	3:35	87.77	.55		89.40	.55			88T	
50	2:30:00	12:15	89.55	1.78		91.35	1.95				Bomb
51	2:34:30	4:30	90.22	.67		92.10	.75			80T	c/c
52	2:44:20	9:50	91.68	1.46		93.65	1.55			88T	Bomb c/c
53	2:59:50	14:30	94.06	2.38		96.17	2.52				Bomb
54	3:03:45	3:55	94.65	.59		96.80	.63			90T	c/c
5	3:19:30	15:45	97.15	2.50		99.30	2.50				Bomb
56	3:23:00	3:30	97.74	.59		99.90	.60			92T	c/c
57	3:38:30	15:30	00.27	2.53		02.35	2.45				Bomb
58	3:43:30	5:00	1.10	.83		3.15	.80			85T	c/c
59	3:53:30	10:00	2.70	1.60		4.75	1.60			89T	Bomb c/c
60	3:58:00	4:30	3.45	.75		5.45	.70			87T	c/c
✓61	4:04:30	6:30	4.47	1.02		6.45	1.00				Bomb
62	4:07:30	3:00	4.95	.48		6.90	.45			89	c/c
63	4:14:30	7:00	6.10	1.15		8.02	1.12				Bomb
64	4:17:30	3:00	6.57	.47		8.50	.48			330	c/c
65	4:19:00	1:30	6.80	.23		8.70	.20				on/c
66	4:31:00	12:00	8.60	1.80		10.45	1.75			270	c/c
67	4:31:45	:45	8.72	.12		10.53	.08				on/c
68	4:32:20	:35	8.82	.10		10.62	.09				Bomb
69	4:44:50	12:30	10.80	1.98		12.60	1.98				Bomb
70	4:59:10	14:20	13.08	2.28		14.85	2.25				Bomb
71	5:02:45	3:35	13.62	.54		15.38	.53			268	c/c
72	5:17:10	14:25	15.95	2.33		17.68	2.30			270	c/c
73	5:23:30	6:20	16.98	1.03		18.68	1.00				Bomb
74	5:36:30	13:00	18.98	2.00		20.62	1.94				c c
75	5:37:40	1:10	19.15	.17		20.77	.15			178T	on/c
76	5:45:00	7:20	20.30	1.15		21.90	1.13				Bomb
77	5:59:00	14:00	22.60	2.30		24.12	2.28				Bomb
78	6:27:30	28:30	27.30	4.70		28.66	4.54				Bomb
79	6:36:00	8:30	28.72	1.42		30.07	1.41			173T	c/c
80	6:49:20	13:20	30.92	2.20		32.20	2.13				Bomb

Z Day, Sheet 122
July 19, 1933

Pos No.	Time	Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum True Log	Crs	Remarks
1	7:18:40		59.95			36.20					Bomb
2	7:28:05	9:25	61.35	1.40		37.62	1.42				Bomb
3	7:49:25	21:20	64.75	3.40		40.98	3.36				Bomb
4	7:52:35	3:10	65.21	.46		41.48	.50			267T	
5	8:01:40	9:05	66.72	1.41		42.91	1.43				Bomb
6	8:12:45	11:05	68.50	1.78		44.66	1.75				Bomb
	8:17:00	4:15	69.18	.68		45.32	.66				c/c
8	8:18:30	1:30	69.35	.17		45.50	.18			0T	on/c
9	8:29:30	11:00	71.10	1.75		47.22	1.72			92T	c/c
10	8:31:00	1:30	71.28	.18		47.39	.17				on/c
11	8:31:30	:30	71.35	.07		47.48	.09				Bomb
12	8:36:00	4:30	71.90	.55		48.05	.57			94T	c/c
13	8:44:50	8:50	73.52	1.62		49.61	1.56				Bomb
14	8:48:00	3:10	74.00	.48		50.10	.49			92	c/c
15	9:00:00	12:00	76.05	2.05		52.07	1.97				Bomb
16	9:04:15	4:15	76.80	.75		52.76	.69			90	c/c
17	9:15:30	11:15	78.78	1.98		54.53	1.77				Bomb
18	9:25:30	10:00	80.60	1.82		56.20	1.67			0T	c/c
19	9:27:00	1:30	80.82	.22		56.40	.20				on/c
20	9:28:50	1:50	81.15	.33		56.70	.30				Bomb
21	9:37:30	8:40	82.65	1.50		58.08	1.38				c/c
22	9:39:00	1:30	82.85	.20		58.20	.12			269	on/c
23	9:45:50	6:50	84.05	1.20		59.31	1.11				Bomb
24	10:00:50	15:00	86.60	2.51		61.62	1.31				Bomb
25	10:04:00	3:10	87.18	.58		62.20	.58			271	c/c
26	10:15:20	11:20	89.10	1.92		63.93	1.73			270	c/c
27	10:17:35	2:35	89.48	.38		64.28	.35				Bomb
28	10:29:40	12:05	91.55	2.07		66.20	1.92				Bomb
29	10:32:30	2:50	92.02	.47		66.62	.42			269	c/c
30	10:44:55	12:25	94.15	2.13		68.58	1.96				Bomb
31	10:48:00	3:05	94.62	.47		69.08	.40			265	c/c
32	11:00:45	12:45	96.65	2.03		71.07	1.99				Bomb c/c
33	11:02:10	1:25	96.85	.20		71.23	.16			0T	on/c
34	11:03:20	1:10	97.00	.15		71.40	.17				Bomb
35	11:13:15	9:55	98.55	1.55		72.93	1.53				c/c
36	11:14:25	1:10	98.75	.20		73.11	.18			90T	on/c
37	11:15:50	1:25	98.98	.23		73.33	.22				Bomb
38	Bomb N G										
39	11:31:35	15:45	1.60	2.62		75.92	2.59				Bomb
40	11:45:30	13:55	3.90	2.30		78.18	2.26			88T	Bomb c/c
41	12:01:20	15:50	6.52	2.62		80.75	2.57				Bomb
42	12:07:30	6:10	7.52	1.00		81.78	1.03			90T	c/c
[illegible]	12:15:20	7:50	8.85	1.33		83.02	1.24				Bomb
44	12:18:00	2:40	9.25	.40		83.40	.38			87T	c/c
45	12:28:10	10:10	10.92	1.67		85.06	1.64				Bomb
46	V C										STop for VC

Z Day Sheet 122 (Con't)
July 19, 1933

Pos No.	Time	Diff	E Log	Diff	Corr'd	B Log	Diff	Corr'd	Sum Log	True Crs	Remarks
47	12:51:35		12.35			86.18				180T	Bomb
48	1:03:10	11:45	14.15	1.80		88.03	1.85				Bomb
49	1:08:20	5:10	15.00	.85		88.88	.85			175 T	c/c
50	1:25:12	16:52	17.70	2.70		91.55	2.67				Bomb
51	1:44:30	19:18	20.77	3.07		94.60	3.05				Bomb
52	1:49:15	4:45	21.52	.75		95.38	.78			173T	c/c
53	1:58:15	9:00	23.00	1.48		96.80	1.42				Bomb
54	1:59:10	:55	23.12	.12		96.96	.16				c/c
55	2:00:30	1:20	23.32	.20		97.10	.14			270T	on/c
56	2:03:00	2:30	23.67	.35		97.49	.39			260T	c/c
57	2:11:00	8:00	24.97	1.30		98.78	1.29				c/c
58	2:12:10	1:10	25.12	.15		98.86	.08			180T	on/c
59	2:13:15	1:05	25.27	.15		99.05	.19				c/c
60	2:15:00	1:45	25.45	.18		99.20	.15			90T	on/c Bomb
61	2:19:15	4:15	26.17	.72		99.95	.75			95T	c/c
62	2:29:40	10:25	27.90	1.73		01.64	1.69				Bomb
63	2:41:15	11:35	29.77	1.83		3.47	1.83				Bomb
64	2:49:20	8:05	31.07	1.30		4.75	1.28				c/c
65	2:50:30	1:10	31.25	.18		4.90	.25			0T	on/c
66	2:52:00	1:30	31.35	.10		5.00	.10				Engine Stop
67	2:56:45	4:45	31.82	.47		5.25	.25				Bomb
68	3:05:20	8:35	33.12	1.30		6.55	1.30				c/c
69	3:07:00	1:40	33.27	.15		6.65	.10			270T	on/c
70	3:16:00	9:00	34.65	1.38		8.05	1.40				Bomb
71	3:19:00	3:00	35.10	.45		8.50	.45			265T	c/c
72	3:25:15	6:15	36.07	.97		9.45	.95				Bomb
73	3:38:35	13:20	38.12	2.05		11.45	2.00				Bomb
74	3:42:15	3:40	38.67	.55		12.02	.57				c/c
75	3:43:20	1:05	38.82	.15		12.12	.10			180T	on/c
76	3:45:15	1:55	39.12	.30		12.44	.32				c/c
77	3:46:30	1:15	39.30	.18		12.62	.18			267T	on/c
78	3:49:00	2:30	39.65	.35		12.97	.35				Bomb
79	3:53:00	4:00	40.22	.57		13.54	.57			270T	c/c
80	4:00:35	7:35	41.42	1.20		14.70	1.16				Bomb & fire Drill
81	4:07:15	6:40	42.42	1.00		15.68	.98				c/c
82	4:08:30	1:15	42.58	.16		15.82	.14			0T	on/c
83	4:14:00	5:30	43.42	.84		16.68	.86				Bomb
84	4:20:00	6:00	44.38	.96		17.61	.93				c/c
85	4:21:00	1:00	44.57	.19		17.79	.18			91T	on/c
86	4:30:25	9:25	46.05	1.48		19.22	1.43				Bomb
87	4:33:45	3:20	46.58	.53		19.70	.48			87	c/c
88	4:43:25	9:40	48.10	1.52		21.25	1.55			88	Bomb c/c
89	4:47:00	3:35	48.57	.47		21.80	.55			87	c/c
90	4:59:10	12:10	50.60	2.03		23.70	1.90				Bomb
91	5:01:45	2:35	51.00	.40		24.11	.41			89T	c/c
92	5:18:20	16:35	53.68	2.68		26.75	2.64				Bomb

Sheet 122 - AA Day - August 1, 1933.

Pos. No.	Time	Time Diff.	Elec. Log	Diff.	B Log	Diff.	Course	Remarks
1	7:35:37		37.25		56.07		267	Bomb
2	41	5:23	38.05	.80	56.85	.78	270	c/c
3	53	12:00	39.85	1.80	58.60	1.85	268	Bomb
4	7:56:15	3:15	40.32	.47	59.08	.48	265	c/c
5	8:00:15	4:00	40.92	.60	59.65	.57		Bomb
6	8:04:00	3:45	41.50	.58	60.20	.55		c/c
7	8:05:10	1:10	41.65	.15	60.33	.13	0	o/c
8	8:12:20	7:10	42.75	1.10	61.45	1.12		c/c
9	8:13:30	1:10	42.90	.15	61.60	.15	90	o/c
10	8:14:40	1:10	43.08	.18	61.75	.15		Bomb
11	8:27:40	13:00	45.12	2.04	63.77	2.02		Bomb
12	8:30:30	2:50	45.58	.46	64.18	.41	88	c/c
13	8:40:20	9:50	47.15	1.57	65.70	1.52		Bomb Stop sdg.
14	9:39:40		55.88		74.10			Bomb Resume sdg/
15	9:44:00	4 :20	56.52	.64	74.73	.63		c/c
16	9:44;45	:45	56.62	.10	74.75	.02	270	Bomb on/c
17	10:01:20	16:35	59.02	2.40	77.09	2.34		Bomb
18	:05:20	4:00	59.65	.63	77.67	.58	275	c/c
19	14:30	9:10	61.00	1.35	79.00	1.33		Bomb
20	18	3:30	61.52	.52	79.45	.45	266	c/c
21	29:35	10:35	63.28	1.76	81.20	1.75	270	Bomb and c/c
22	34:20	4:45	63.99	.71	81.90	.70	268	c/c
23	43:40	9:20	65.40	1.41	83.29	1.39		Bomb
24	48	4:20	66.10	.70	83.98	.69	266	c/c
25	59:45	11:45	67.88	1.78	85.70	1.72	268	Bomb and c/c
26	11:15:00	15:15	70.22	2.34	87.98	2.28		Bomb
27	:17:20	2:20	70.60	.38	88.30	.32	271	c/c
28	29:25	12:05	72.45	1.85	90.15	1.85	270	Bomb and c/c
29	45:20	15:55	74.95	2.50	92.55	2.40		Bomb
30	55:00	9:40	76.55	1.60	94.15	1.60	267	c/c
31	12:00:40	5:40	77.32	.77	94.90	.75		Bomb
32	:15:50	15:10	79.70	2.38	97.22	2.32		Bomb
33	:19:00	3:10	80.20	.50	97.71	.49	269	c/c
34	:28:50	9:50	81.72	1.52	99.19	1.48		Bomb
35	:44:15	15:25	84.10	2.38	1.49	2.30		Bomb
36	:49:20	5:05	84.90	.80	2.29	.80	270	c/c
37	:59:45	10:25	86.50	1.60	3.83	1.54		Bomb
38	1:12:50	13:05	88.47	1.97	5.79	1.96		Bomb
39	20:00	7:10	89.57	1.10	6.82	1.03	272	c/c
40	29:20	9:20	91.00	1.43	8.23	1.41		Bomb
41	44:30	15:10	93.35	2.35	10.51	2.28		Bomb
42	48:45	4:15	93.97	.62	11.17	.66	269	c/c
43	2:00:25	11:40	95.75	1.78	12.90	1.73	270	Bomb & c/c
44	07	6:35	96.75	1.00	13.83	.93	271	c/c
45	:14:25	7:25	97.87	1.12	14.96	1.13		Bomb
46	Stopped to test deep sea hydrophone							
47	3:14:45		99.52		16.15			Bomb
48	:20:00	7:15	00.27	.75	17.05	.90	360	c/c
49	:21:20	1:20	0.42	.15	17.13	.08		On/ c
50	:28:00	6:40	1.40	.98	18.13	1.00		Bomb
51	:32:20	4:20	2.10	.70	18.83	.70		Bomb
52	:33:10	:50	2.22	.12	18.96	.13	269	
53	:34:10	1:00	2.35	.13	19.05	.09		On/c
54	:46:15	12:05	4.17	1.82	20.89	1.84		Bomb
55	4:01: 12	14:57	6.50	2.30	23.18	2.29		Bomb

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Sheet 122 - AA Day - August 1, 1933 (continued)

Pos. No.	Time	Time Diff.	Elec. Log	Diff.	B Log	Diff.	Course	Remarks
56	4:15:50	14:33	08.80	2.30	25.40	2.22		Bomb
57	4:23:20	7:30	09.92	1.12	26.57	1.17	275	c.c
58	4:30:45	7:25	11.05	1.13	27.68	1.11		Bomb
59	4:32:30	1:45	11.30	.25	27.90	.22		c/c
60	4:33:30	1:00	11.42	.12	28.00	.10	180	on.c
61	4:45:15	11:45	13.32	1.90	29.90	1.90		Bomb
62	4:52:00	6:45	14.42	1.10	30.95	1.05		c.c
63	4:53:00	1:00	14.57	.15	31.10	.15	272	o/c
64	5:00:50	7:50	15.72	1.15	32.22	1.12		Bomb
65	5:09:45	8:55	17.05	1.33	33.50	1.20	275	c.c
66	5:30:05	20:20	20.07	3.02	36.47	2.97		Bomb
67	6:23:00	52:55	28.00	7.93	44.20	7.73		Bomb
68	6:30:40	7:40	29.15	1.15	45.30	1.10	270	c.c
69	6:36:45	6:05	30.08	.93	46.20	.90	260	
70	6:46:30	9:45	31.55	1.47	47.62	1.42		Bomb
71	6:50:45	4:15	32.20	.65	48.27	.65		bomb
72	6:55:00	4:15	32.80	.60	48.90	.63	270	c/c
73	7:15:10	20:10	35.85	3.05	51.94	3.04		Bomb

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Sheet 122 - BB Day - August 2, 1933

Pos. No.	Time	Time Diff.	Elec. Log	Diff.	B Log	Diff	True Crs.	Remarks
1	7:16:10		53.50		54.15			Bomb
2	7:31:10	15:00	55.90	2.40	56.50	2.35	180	Bomb
3	8:06:10	35:00	61.37	5.47	61.88	5.38		Bomb
4	:32:30	26:20	65.55	4.18	65.99	4.11		Bomb
5	:33:15	1:45	65.67	.12	66.10	.11		c/c
6	:34:20	1:05	65.82	.15	66.20	.10	272	on/c
7	9:01: 40	27:20	69.90	4.08	70.20	4.00		Bomb
8	03:15	1:35	70.12	.22	70.42	.22		c/c
9	:04:30	1:15	70.27	.15	70.49	.07	0	on/c
10	:28:00	23:30	73.87	3.60	74.04	3.55		c/c
11	:29:00	1:00	74.00	.13	74.10	.06	272	on.c
12	:31:00	2:00	74.27	.27	74.37	.27		Bomb
13	10:11:30	40:30	80.37	6.10	80.38	6.01		Bomb
14	:20:00	8:30	81.67	1.30	81.62	1.24		c/c
15	:21:20	1:20	81.80	.13	81.70	.08	0	on.c
16	:34:30	13:10	83.80	2.00	83.70	2.00		c/c
17	:35:45	1:15	83.95	.15	83.72	.02	272	on/c
18	:44:35	8:50	85.22	1.27	85.06	1.34		Bomb
19	:15:40	31:05	89.87	4.65	89.60	4.54		Bomb
20	:22:30	6:50	90.85	.98	90.56	.96	270	c/c
21	:46:30	24:00	94.32	3.47	93.95	3.39		Bomb

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

SHeet 122 - CC Day - August 4, 1933

Pos. No.	Time	Diff.	Elec.Log	Diff.	B Log	Diff.	True Course	Remarks
1	7:23:40		23.45		80.50		260	Bomb
2	7:26;30	2:50	23.82	.37			180	c/c
3	7:28:50	2:20	24.12	.30	81.14		260	c/c
4	7:30:20	1:30	24.32	.20	81.35	.21		Bomb
5	7:33:15	2:55	24.75	.43	81.80	.45	272	c/c
6	44:45	11:30	26.38	1.57	83.32	1.52		
7	45	:15	26.42	.10				c/c
8	46:20	1:20	26.52	.10	83.45	.13	0	on.c
9	51:30	5:10	27.22	.70	84.20	.75		c/c
10	52:30	1:00	27.35	.13	84.30	.10	86	on/c
11	53:10	:40	27.42	.07	84.40	.10		Bomb
12	8:08:10	15:00	29.70	2.28	86.54	2.14		Visual fix
13	08:45	:35	29.78	.08	86.60	.06		Bomb
14	15:50	7:05	30.88	1.10	87.72	1.12		Visual fix
15	17:15	1:25	31.05	.17	87.80	.08	355	on/c
16	21:00	3:45	31.55	.50	88.30	.50	272	c/c visual fix
17	22:10	1:10	31.68	.13	88.35	.05		on/c
18	30:10	8:00	32.72	1.04	89.45	1.10		Bomb
19	34:00	3:50	33.25	.53	90.00	.55	268	c/c
20	39:50	5:50	34.08	.83	90.78	.78	270	Bomb & c/c
21	49:00	9:10	35.52	1.44	92.20	1.42		Bomb
22	51:20	2:20	35.68	.16	92.33	.13		c/c
23	52.40	1 :20	35.82	.14	92.45	.12	0	on/c
24	57:15	4:35	36.42	.60	93.10	.65		c/c
25	58:30	1:15	36.58	.16	93.21	.11	88	on/c
26	9:00:15	1:45	36.82	.24	93.46	.25		Bomb
27	04:00	3:45	37.40	.58	94.05	.59	86	c/c
28	19;00	:15	39.77	2.37	96.30	2.25		Visual fix
29	20:15	1:15	39.95	.18	96.47	.17		Bomb & Visual
30	24:10	3:55	40.58	.63	97.12	.65		c/c
31	25:30	1:20	40.72	.14	97.20	.08	0	on/c
32	32:30	7:00	41.62	.90	98.12	.92		c/c
33	33:30	1:00	41.77	.15	98.18	.06	272	on/c
34	34:00	:30	41.82	.05	98.20	.02		Bomb
35	38:20	4:20	42.18	.36	98.56	.36	270	c/c
36	42:40	4:20	42.78	.60	99.20	.64		Bomb
37	51:00	8:20	43.92	1.14	00.32	1.12		Bomb
38	10:00:20	9:20	45.20	1.28	01.60	1.28		Bomb
39	05:40	5:20	45.92	.72	02.30	.70		c/c
40	07:00		46.05	.13	02.40	.10	0	on/c
41	10:35	3:31	46.50	.45	02.90	.50		Bomb
42	13:00	2:25	46.80	.30	03.20	.30		c/c
43	14:00	1:00	46.95	.15	03.30	.10	89	on/c
44	20:55	6:55	47.98	1.03	04.30	1.00		Bomb
45	24:15	3:20	48.50	.52	04.80	.50	85	c/c
46	30:00	5:45	49.38	.88	05.63	.83		Bomb
47	35:45	5:45	50.28	.90	06.50	.87		c/c
48	37:00	1:15	5042	.14	06.62	.12	0	on/ c
49	39:25	2:25	50.78	.36	06.99	.37		Bomb
50	43:00	3:35	51.28	.50	07.46	.47		c/c
51	44:30	1:30	51.42	.14	07.52	.06	271	on/c
52	49:40	5:10	52.12	.70	08.28	.76		Bomb
53	59:55	10:15	53.53	1.41	09.65	1.37		Bomb
54	04:00	4:05	54.10	.57	10.20	.55	273	c/c
55	11:10:25	6:25	54.95	.85	11.09	.89		Bomb
56	16:30	6:05	55.72	.77	11.88	.79	276	c/c

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Sheet 122 - CC Day - August 4, 1953 (Continued)

Pos.No.	Time	Diff.	Elec.Log	Diff.	B Log	Diff.	True Crs.	Remarks
57	11:19;50	3:20	56.20	.48	12.30	.42		Bomb
58	11:21:30	1:40	56.45	.25	12.55	.25		c/c
59	11:22:45	1:15	56.60	.15	12.66	.11	0	on/c
60	LL;29:30	6:45	57.45	.85	13.50	.84		Bomb
61	11:30:00	0:30	57.50	.05	13.53	.03		c/c
62	11:31:15	1:15	57.65	.15	13.70	.17	87	on/c
63	11:40:20	9:05	59.05	1.40	14.10	.40	85	c/c
64	11:42:00	1:40	59.32	.27	14.32	.22		Bomb
65	11:45:45	3:45	59.92	.60	15.95	1.63	92	c/c
66	11:53:00	9:15	61.08	1.16	17.05	1.10	88	on/c Bomb
	12:01:15	8:15	62.38	1.30	18.31	1.26	0	Bomb & c/c
68	12:02:30	1:15	62.55	.17	18.42	.11		on/c
69	12:06:45	4:15	63.15	.60	19.07	.65		c/c
70	12:08:55	2:10	63.30	.15	19.17	.10		Bomb & on/c
71	12:19:50	10:55	64.97	1.67	20.82	1.65		Bomb
72	12:22:20	2:30	65.35	.38	21.18	.36	280	8/c
73	12:28:45	6:25	66.17	.82	22.00	.82	275	Bomb & c/c
74	12:34:00	5:15	66.87	.70	22.70	.70	282	c/c
75	12:38:15	4:15	67.45	.58	23.27	.57		Bomb
76	12:43:40	5:25	68.17	.72	23.99	.72		c/c
77	12:44:40	1:00	68.30	.13	24.02	.03	0	on/c
78	12:48:30	3:50	68.80	.50	24.59	.57	--	Bomb
79	12:55:30	7:00	69.80	1.00	25.55	.96		c/c
80	12:56:40	1:10	69.95	.15	25.62	.07	272	On/c
81	12:59:50	3:10	70.38	.43	26.10	.48		Bomb
82	1:04:00	4:10	70.95	.57	26.65	.55	265	c/c
83	1:10:00	6:00	71.77	.82	27.48	.83		Bomb
84	1:13:30	3:30	72.30	.53	27.97	.49	268	c.c
85	1:24:10	10:40	73.35	1.45	29.40	1.43	[illegible]	Bomb
86	1:28:15	4:05	74.32	.57	29.99	.59	275	c/c
87	1:38:30	10:15	75.77	1.45	31.40	1.41	270	Bomb &c/c
88	1:54:05	15:35	77.77	2.00	33.53	2.13		Bomb
89	2:00:00	5:55	78.55	.78	34.40	.87	272	c/c
90	2:09:00	9:00	79.70	1.15	35.62	1.22		Bomb
91	2:13:15	4:15	80.25	.55	36.22	.60	275	c/c
92	2:24:40	11:25	81.70	1.45	37.80	1.58		Bomb
93	2:36:20	11:40	83.22	1.52	39.41	1.61	300	c/e
94	2:39:10	2:50	83.57	.35	39.84	.43		Bomb
95	2:44:10	5:00	84.22	.65	40.50	.66		c/c
96	2:44:40	:30	84.27	.05	40.56	.06	270	on/c
97	2:53:45	9:05	85.45	1.18	41.81	1.25		c/c Bomb
98	2:54:50	1:05	85.55	.10	41.90	.09	180	on/c
99	2:58:30	3:40	86.05	.50	42.49	.59		c/e
100	2:59:00	:30	86.22	.17	42.59	.10	83	on/c
101	3:11:35	12:35	87.90	1.68	44.40	1.81		Bomb c/c
102	3:13:00	1:25	88.17	.27	44.53	.13	180	on/c
103	3:20:45	7:45	89.17	1.00	45.80	1.27		c/c
104	3:22:00	1:15	89.32	.15	45.91	.11	273	on/c
105	3:29:00	7:00	90.22	.90	46.91	1.00		Bomb
106	3:31:30	2:30	90.55	.33	47.24	.33	280	c/c
107	3:38:30	7:00	91.45	.90	48.18	.94		Bomb c/c
108	3:39:30	1:00	91.55	.10	48.22	.04	0	on/c
109	3:53:00	13:30	93.25	1.70	50.02	1.80		c/c
110	3:54:00	1:00	93.37	.12	50.10	.08	275	on/c
111	3:59:10	5:10	94.00	.63	50.80	.70		Bomb
112	4:14:30	15:20	95.92	1.92	52.90	2.10		Bomb

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

DD DAY, Sheet 122, Sept. 12, 1935.

Pos. No.	Time	Time Diff	E log	Diff	Cortd	B log	Diff	Cortd	Sum log	True Crs	REMARKS
1	8:22:00		82.70			12.47				270	on crs
2	26	4:00	83.25	.55		13.08	.61				B omb
3	39:35	13:35	85.20	1.95		15.08	2.00				"
4	46:35	7:00	86:20	1.00		16.10	1.02				c/c
5	47:50	1:15	86.35	.15		16.23	.13			0	o/c
6	58	10:10	87.80	1.45		17.80	1.57				c/c
7	59	1:00	87.95	.15		17.90	.10			89	o/c
	9:00:55	1:55	88:20	.25		18.20	.30				Bomb
9	04:00	3:05	88:65	.45		18.67	.47			90	c/c
10	16:15	12:15	90.68	2.03		20.59	1.92				Bomb
11	19:00	2:45	91:00	.32		21.03	.44			88	c/c
12	20:45	1:45	91.25	.25		21.30	.27				o/c
13	21:50	1:50	91.40	.15		21.38	.08			0	o/c
14	25:45	3:55	91.95	.55		22.00	.62				Bomb
15	26:10	:25	92.00	0.05		22.05	.05				c/c
16	27:15	1:05	92:15	.15		22.13	.08			270	on crs.
17	29:15	2:00	92:42	.27		22.47	.34			280	c/c
18	36:20	7:05	93:48	1.06		23.59	1.12			272	Bmb c/c
19	39:50	3:30	94.00	.52		24.12	.53			268	c/c
20	49:10	9:20	95:50	1.50		25.68	1.56				Bmb
21	51:00	1:50	95.78	.28		25.98	.30				c/c
22	52:20	1:20	95.98	.20		26.12	.14			0	on crs.
23	53:45	1:26	96.15	.17		26.32	.20				c/c
24	55:00	1:15	96.32	.17		26.44	.12			92	on crs.
25	10:01:50	6:50	97:40	1.08		27.60	1.16				Bmb
26	04:45	2:55	97.85	,45		28.05	.45			88	c/c
27	12:30	7:45	99.10	1.25		29.32	1.27				Bmb
28	20:55	8:25	00.40	1.30		30.60	1.28				c/c
29	22:05	1:10	00.58	.18		30.72	.12			0	on crs.
30	25:05	3:00	00.83	.25		31.07	.35				c/c
31	25:40	:35	.92	.09		31.12	.05				Bmb
32	26:10	:30	1.00	.08		31.15	.03			270	oncrs
33	36:55	:45	2.75	1.75		33.01	1.86				Bmb
34	39:30	2:35	3.15	.40		33.39	.38			274	c/c
35	48:55	9:20	4.60	1.45		34.90	1.51				Bmb
36	51:40	2:45	5.02	.42		35.32	.42				c/c
37	52:50	1:10	5.15	.13		35.45	.13			0	on crs.
38	54:30	1:40	5.40	.25		35.73	.28				c/c
39	55:40	1:10	5.55	.15		35.88	.15			88	on crs.
40	11:01:05	5:25	6.38	.83		36.73	.85				Bmb
41	13:15	12:45	8.40	2.02		38.80	2.07				Bmb
42			10.30	1.90		40.72	1.90				
43											
44	2:12:45		30.88								Bmb
45	2:16:30	3:45	31.60	.72		43.59				270	c/c
46	2:20:30	4:00	32.07	.47		44.10	.61			275	c/c
47	27:10	6:40	33.07	1.00		45.14	1.04				Bmb
48	2:30:10	3:00	33.50	.43		45.60	.46				Bmb Vel. test.
49	33:00	2:50	33.90	.40		46.03	.43			270	c/c
50	34:30	1:30	34.15	.25		46.29	.26			280	c/c
51	36:30	2:00	34:42	.27		46.58	.29				Bmb
52	44:30	8:00	35.60	1.18		47.80	1.22			275	c/c
53	52:22	7:52	36.78	1.18		49.03	1.23				Bmb
54	3:00:40	8:18	38.00	1.22		50.32	1.29			265	c/c

U DAY - LOG RECORD

Pos. No.	E Leg (1.65)	B Leg (.88)	REMARKS

DD DAY, Sheet 122, Continued.

Pos. No.	Time	Time Diff	E log	Diff	Cor'td	B log	Diff	Cortd	Sum log	True Crs	REMARKS
55	3:04:30	3:50	38.57	.57		50.88	.56			268	c/c
56	04:45	:15	38.65	.08		50.93	.05				Bmb
57	07:50	3:05	39.10	.45		51.41	.48			265	c/c
58	13:45	5:55	40.00	.90		52.30	.89				Bmb
59	18:00	4:15	40.65	.65		53.00	.70			270	c/c
60	21:45	3:45	41.20	.55		53.52	.52				c/c

Trans to sheet 123.

Survey No. H5776

GEOGRAPHIC NAMES

Date. May 20, 1935 CALIFORNIA

Chart No. 526;5202;5302

Diagram No. 526;5202-2;5302-2

Approved by the Division of Geographic Names, Department of Interior. *

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	---------------	Point Conception			
	San Miguel Island	Same			
	Santa Rosa Island	"			

APPROVED NAMES UNDERLINED IN RED

H. L. Flemer

(M-136)

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5776

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	..1872
Number of positions checked	71
Number of positions revised	46
Number of soundings recorded	..9551
Number of soundings revised	...252
Number of signals erroneously plotted or transferred	......

Date: Aug. 20, 1935.

Verification by W.R.Jackson G. Risegari Time: 49 Hrs. 6 hrs.
Inked by Kilpatrick Time: 39 "
Review by G. Risegari Time: 22½ "
R.L.Johnston 9 "

HYDROGRAPHIC SURVEY NO. H5776

Smooth Sheet 1

Boat Sheet 2

Sounding Records 8 Vols. 6 Vols. Bomb Records

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes in Vol. 1

Landmarks for Charts (Form 567)

Statistics Yes

Approved by Chief of Party O. W. Swainson

Recoverable Station Cards (Form 524)

Special Chart for Lighthouse Service
(Circular Nov. 30,1933)

Remarks

Rae

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 3, 1935

Division of Hydrography and Topography:

Division of Charts: Attention Mr. E. P. Ellis

Tide Reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 5776

Locality West of Point Conception, California

Chief of Party: O. W. Swainson in 1933, 1934
Plane of reference is mean lower low water reading
3.6 ft: on tide staff at Santa Barbara
16.5 ft. below B.M. 1

Height of mean high water above plane of reference is 4.6 feet.

Condition of records satisfactory except as noted below:

Paul C. Whitney

Chief, Division of Tides and Currents.

Report of H-5776

1. The records conform to the requirements of the General Instructions.
2. The usual depth curves were completely drawn.
3. The field plotting was completed to the extent prescribed in the Hydrographic Manual.
4. No drafting was done over.
5. The junctions with contemparary adjacent sheets are satisfactory, except, (a) No junction was made at Long. 120°-30' between Lat. 34°-10 and 34°-20'. * H.5861 (1934-35) covers this area. R.
6. Remarks.

(a) It is recommended that soundings from 26-33 DD ‡ be rejected as they do not agree with H-5746. ‡ These sdgs. are evidently erroneous and have not been plotted R.

(b) On "HH" day it was noticed that FRx6* soundings were deeper than other soundings. These discrepancies could be practically corrected by not applying the 7 fm. fathometer correction. The chief of party made mention, in Descriptire Report of H-5777, that he was doubtful if the 7 fm. correction should be applied.

Respectfully submitted,

W. R. Jackson

Jr. Carto. Engr.

* Only 3 such soundings were used and the percent of error is so small that it is not worth while to make the suggested change.

R.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5776 (1933-34) - FIELD NO. 122

West of Point Conception, Offshore California Coast, California
Surveyed in 1933-34
Instructions dated April 4 and November 18, 1932 (GUIDE and PIONEER)

Fathometer Soundings.

3 Point Fixes on Shore Signals.
RAR Control.

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson.
Protracted by - P. L. Bernstein.
Soundings penciled by - H. J. Pulskamp.
Verified by - W. R. Jackson.
Inked by - Kilpatrick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual.

The Descriptive Report is complete and comprehensive and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The character and extent of the survey satisfy the instructions for the project except that no bottom characteristics were obtained in the deeper areas when vertical casts were taken. (Par. 27 GUIDE instructions)

3. Sounding Line Crossings.

The sounding lines are generally in good agreement at the crossings. There are some discrepancies scattered throughout the sheet which are not more than approximately 3 per cent of the depth. The largest crossing difference (75 fathoms) occurs at the crossing of pos. 19N-20N and 43Q-44Q in lat. 34° 22', long. 121° 38', in depths of about 2040 fathoms. Since the control of the lines in question appears to be equally strong and there was no reason to believe one more correct than the other and also because these crossings had been examined and considered by the Chief of Party, no attempt to adjust them further was made in the office.

4. Depth Curves.

The usual depth curves can be drawn satisfactorily.

5. Junctions with Contemporary Surveys.

The junction with H-5777 (1933) on the north is satisfactory.

The junction with H-5746 (1933-34) on the east is satisfactory.

The junction with H-5830 (1934) and H-5861 (1934-35) on the east will be considered in the reviews of those sheets.

The junction with H-5773 (1933-35) on the east is satisfactory.

The junction with H-5775 (1933) on the south is satisfactory.

6. Comparison with Prior Surveys.

a. H-1370 (1877).

This survey, on a scale of 1-100,000, covers the area east of long. 120° 33'. The machine soundings of this survey are in general agreement with the fathometer soundings of the present survey with the following exceptions. The 169 fathom sounding (charted) in lat. 34° 14.3', long. 120° 31.4' and the 195 fathom sounding (charted) in lat. 34° 15.5', long. 120° 31.2', both fall on the present survey in depths 100 fathoms deeper. The present soundings, combined with those on H-5861 (1934-5), cover the area fairly closely and clearly indicate that these two soundings are in error in either depth or position. For this reason both of these soundings should be disregarded in future charting.

The present survey is more detailed and should supersede the above survey within the common area.

b. H-3099 (1910).

This survey, on a scale of 1:100,000, overlaps the present survey with a few soundings on its eastern limits between lat's. 34° 25' and 34° 45'. It is in general agreement with the exception of the 218 fathom sounding (uncharted) in lat. 34° 30.03', long. 120° 48.5', which falls in depths of 252 fathoms on the present survey. The position (pos. 13B) controlling this sounding is very weak and uses a sextant located peak as the left object. For this reason the 218 is believed to be out of position and should be disregarded in future charting.

The present survey should supersede H-3099 (1910) within the common area because it is in more detail and is considered more accurately controlled.

7. Comparison with Charts No's. 5202, 5302.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs except for a few soundings in deep areas, the source of which could not be traced. No authority could be found for the following charted soundings:

The	199	fathom	sounding	in	lat.	34° 01.9',	long.	120° 36.7'
"	625	"	"	"	"	34° 01.0',	"	120° 38.5'
"	451	"	"	"	"	34° 20.8',	"	120° 54.4'
"	490	"	"	"	"	34° 36.0',	"	121° 16.0'
"	1198	"	"	"	"	34° 29.0',	"	121° 23.0'
"	1995	"	"	"	"	34° 23.0',	"	121° 32.0'

With the exception of the 199 fathom sounding which falls in depths of about 400 fathoms, these soundings are in fair agreement with the present depths. Because of their uncertain origin and the probability that their locations are only approximate, all of the above soundings should be discontinued on the chart and replaced by those of the present survey.

9. Additional Field Work Recommended.

No additional field work is necessary. However, a system of northwest and southeast lines would have been desirable across the large gorge in the general vicinity of lat. 34° 15', long. 121° 13' which was not recognized during the field work. (Inspection Report, Chief of Party, attached).

10. Superseding Old Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

H-1370 (1877) in part.
H-3099 (1910) " "

11. Reviewed by - G. Risegari, September 11, 1935, and R. L. Johnston.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

L. O. Colbert.
Chief, Division of Charts.

K. Borden
Chief, Section of Field Work.

G. T. Rude
Chief, Division of H. & T.

Applied to Chart 5116 - Dec. 1935 - [illegible]

25 Jan 7, 1936
EAK

applied to drawing of Chart 5302 - Feby. 3, 1936 - J.T.W.
" " " " 5202 - Mar 1936 R.M.J.
Applied to compilation of new chart 5020 Dec 1937 S.B.M.
Applied to new chart 5281 10-28-63 RKD
Applied to new chart 5280 11-23-63 GRJ
Applied to new chart 5066 2-3-64 RKD