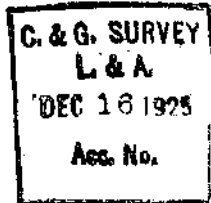


4504

4504

Form 504	
U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	<i>Hydrographic</i>
Field No.	Office No. <i>4504</i>
LOCALITY	
State	<i>California</i>
General locality	<i>off Santa</i>
Locality	<i>Catalina Island</i> <i>Eastward.</i>
<u>1925</u>	
CHIEF OF PARTY	
<i>J. J. Maher</i>	
LIBRARY & ARCHIVES	
DATE	

DEC 16 12 11 PM 25



DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

Col. E. Lester Jones, Director.

DESCRIPTIVE REPORT OF HYDROGRAPHIC SURVEY OF  
AREA EASTWARD OF SANTA CATALINA ISLAND, CALIFORNIA.

Steamer GUIDE, May 1925.

Thos. J. Maher,  
Commanding Officer



Descriptive report to accompany Hydrographic Sheet  
of area eastward of Santa Catalina Island, California.

The survey was controlled entirely by visual fixes. In a few instances when visibility was poor, dead reckoning was relied on, but only for short distances. While there is always some uncertainty regarding the accuracy of dead reckoning positions, the closeness with which soundings and sounding lines have been spaced, remove any uncertainty about the area being thoroughly covered.

The waters are generally deep, and present no problems to the navigator in the way of dangers or currents. The sonic apparatus was used for sounding in deeper waters; tubes were used for the shoaler waters. A few sounding lines were run almost to the entrance to San Pedro Harbor. Tubes were used, but the depths are generally considered as too shoal for accurate tube soundings. These soundings can be rejected or kept, as considered desirable; they cost nothing to obtain as the vessel passed over this area to and from the working ground.

No corrections to sonic soundings have been made for temperature. The personal errors of some observers is such that all other errors appear small in comparison.

The following tabulations are appended.

- (a) 4 pages - Depths and temperatures.
- (b) 1 page - Surface temperatures.
- (c) 3 pages - Comparisons of wire and sonic soundings.

- 1 - Summary Tabulation.
- 1 - Tabulation of Results by operators.
- 1 - Table of Statistics.
- 1 - Temperature, Depth Curve.
- 1 - Page - Velocities.

The tabulations mentioned were made from data from two surveys, viz - the one to which this report refers and, that westward of San Clemente Island. Conditions were practically the same in each area, so the data can be readily combined. Automatic tide gauges were maintained in operation at La Jolla and at San Pedro, California.

*J. Fisher.*

*Survey started Feb 11, 1925  
Completed May 9, 1925.  
Shut forward. Dec. 10, 1925.*

DATE	Fbs. No.	DEPTH in fms.	TIME		Temp. + Depth	DATE	Fbs. No.	DEPTH in fms.	TIME		Temp. + Depth
			STOP	AHEAD					STOP	AHEAD	
1/29/25	34G		5 <sup>48</sup>	5 <sup>54</sup>		2/9/25	8M	634	6 <sup>59</sup>	7 <sup>29</sup>	0-56°F
	52G		8 <sup>13</sup>	8 <sup>23</sup>			13M	826	7 <sup>21</sup>	8 <sup>13</sup>	0-56°F
	58G	829	9 <sup>22</sup>	10 <sup>12</sup>	0-57°F	19M	935	9 <sup>22</sup>	9 <sup>42</sup>	0-55.5°F	
	64G	856	11 <sup>02</sup>	11 <sup>12</sup>	0-55°F	2/11/25	11N	100	6 <sup>14</sup>	6 <sup>19</sup>	0-57°F
	73G		12 <sup>24</sup>	12 <sup>41</sup>	0-57°F		15N	635	8 <sup>1</sup>	8 <sup>26</sup>	0-57°F
	78G	225	1 <sup>22</sup>	1 <sup>21</sup>	0-57°F	22N	439	7 <sup>25</sup>	10 <sup>14</sup>	0-56°F	
	81G	224	1 <sup>21</sup>	—	0-57°F	25N	773	10 <sup>28</sup>	11 <sup>12</sup>	0-56°F	
1/30/25	1H		12 <sup>41</sup>	12 <sup>53</sup>		2/12/25	2P	244	12 <sup>12</sup>	12 <sup>53</sup>	0-56°F
	7H	697	1 <sup>42</sup>	1 <sup>57</sup>	0-57°F - 20-13.5°C		10P	723	1 <sup>27</sup>	2 <sup>14</sup>	0-56°F
	11H		2 <sup>28</sup>	3 <sup>22</sup>		16P	475	3 <sup>22</sup>	3 <sup>32</sup>	0-56°F	
	17H	791	4 <sup>25</sup>	4 <sup>25</sup>	0-57°F	30P	478	5 <sup>22</sup>	5 <sup>32</sup>	0-57°F	
	23H	62	5 <sup>42</sup>	5 <sup>59</sup>	0-57°F	37P	269	6 <sup>22</sup>	7 <sup>11</sup>	0-58°F	
	33H	894	7 <sup>22</sup>	—	0-55°F	39P	50	7 <sup>22</sup>	7 <sup>33</sup>	0-57°F	
	2/3/25	1J	839	4 <sup>42</sup>	5 <sup>12</sup>	0-56°F	23P	636	4 <sup>59</sup>	4 <sup>24</sup>	0-56.5°F
5J		954	5 <sup>24</sup>	6 <sup>12</sup>	0-57°F	40P		8 <sup>2</sup>	8 <sup>22</sup>		
11J		840	7 <sup>21</sup>	7 <sup>25</sup>	0-56.5°F	41P	354	11 <sup>12</sup>	11 <sup>22</sup>	0-57°F	
17J		135	8 <sup>15</sup>	8 <sup>25</sup>	0-54.5°F	45P		12 <sup>12</sup>	12 <sup>22</sup>		
29J			9 <sup>1</sup>	9 <sup>12</sup>		52P	114	1 <sup>25</sup>	2 <sup>12</sup>	0-57°F	
37J		500	10 <sup>29</sup>	11 <sup>12</sup>	0-54°F	59P	430	3 <sup>12</sup>	—	0-58°F	
2/4/25		3K	680	12 <sup>12</sup>	12 <sup>22</sup>	0-55°F	60P	539	4 <sup>22</sup>	5 <sup>22</sup>	0-57°F
	11K		1 <sup>15</sup>	2 <sup>22</sup>		67P	79	6 <sup>22</sup>	6 <sup>32</sup>	0-56.5°F	
	27K		4 <sup>15</sup>	5 <sup>22</sup>		75P	131	7 <sup>22</sup>	8 <sup>22</sup>	0-56°F	
	55K		7 <sup>15</sup>	7 <sup>22</sup>		77P	67	9 <sup>22</sup>	9 <sup>22</sup>	0-56°F	
	63K	738	11 <sup>22</sup>	11 <sup>22</sup>	0-56°F	83P	529	9 <sup>22</sup>	10 <sup>12</sup>	0-56°F	
	83K	58	2 <sup>12</sup>	2 <sup>22</sup>	0-56°F	87P		10 <sup>22</sup>	11 <sup>22</sup>		
	88K	316	3 <sup>12</sup>	3 <sup>22</sup>	0-56°F	2/13/25	2Q	780	12 <sup>15</sup>	12 <sup>22</sup>	0-57°F
	96K	431	4 <sup>22</sup>	4 <sup>54</sup>	0-55.5°F		20Q	1319	3 <sup>22</sup>	4 <sup>22</sup>	0-56°F
	104K		6 <sup>22</sup>			26Q	575	5 <sup>22</sup>	5 <sup>22</sup>	0-56°F	
	2/5/25	1L	456	6 <sup>22</sup>	7 <sup>22</sup>	0-57°F	30Q	550	6 <sup>22</sup>	6 <sup>22</sup>	0-56°F
8L		581	8 <sup>22</sup>	8 <sup>12</sup>	0-56.5°F	37Q	766	7 <sup>22</sup>	7 <sup>22</sup>	0-56°F	
16L		625	9 <sup>12</sup>	9 <sup>22</sup>	0-56°F	45Q	755	9 <sup>22</sup>	9 <sup>12</sup>	0-57°F	
23L		269	10 <sup>22</sup>	10 <sup>22</sup>	0-56°F	49Q	810	9 <sup>22</sup>	10 <sup>22</sup>	0-56°F	
30L		697	11 <sup>22</sup>	11 <sup>22</sup>	0-56°F	59Q	980	12 <sup>22</sup>	1 <sup>22</sup>	0-57°F	
38L		485	1 <sup>22</sup>	1 <sup>22</sup>	0-57°F	67Q	266	2 <sup>12</sup>	2 <sup>22</sup>	0-57°F	
45L		560	2 <sup>22</sup>	2 <sup>22</sup>	0-57°F	71Q	627	3 <sup>22</sup>	3 <sup>22</sup>	0-57.5°F	
2/9/25	1M	178	5 <sup>22</sup>	5 <sup>22</sup>		76Q	104	4 <sup>22</sup>	4 <sup>22</sup>	0-57.5°F	

DATE	Pos. No.	DEPTH in fms.	TIME		Temp. + Depth	DATE	Pos. No.	DEPTH in fms.	TIME		Temp. + Depth		
			STOP	ANEAD					STOP	ANEAD			
2/13/25	83Q	737	5 <sup>25</sup>	5 <sup>25</sup>	0-57°F	3/5/25	25X	938	10 <sup>21</sup>	11 <sup>22</sup>	0-58°F		
	86Q	384	6 <sup>25</sup>	6 <sup>25</sup>	0-57°F		50X		3 <sup>25</sup>	3 <sup>25</sup>			
	93Q	602	7 <sup>25</sup>	8 <sup>25</sup>	0-57°F	3/5/25	13Y		8 <sup>25</sup>	8 <sup>25</sup>			
	97Q	547	9 <sup>25</sup>	9 <sup>25</sup>	0-56.5°F		20Y		9 <sup>25</sup>	9 <sup>25</sup>			
2/18/25	1T		9 <sup>25</sup>	9 <sup>25</sup>			25Y	296	10 <sup>25</sup>	10 <sup>25</sup>	0-58°F		
	8T		10 <sup>25</sup>	11 <sup>25</sup>		33Y		11 <sup>25</sup>	12 <sup>25</sup>				
	20T	629	12 <sup>25</sup>	1 <sup>26</sup>	0-53°F	40Y	63	1 <sup>26</sup>	1 <sup>26</sup>	0-56°F			
	32T		3 <sup>25</sup>	3 <sup>25</sup>		47Y	368	2 <sup>25</sup>	2 <sup>25</sup>	0-56°F			
2/19/25	39T	534	4 <sup>25</sup>	4 <sup>25</sup>	0-58°F	63Y	549	4 <sup>25</sup>	4 <sup>25</sup>	0-58°F			
	1U		8 <sup>25</sup>	8 <sup>25</sup>		66Y	403	5 <sup>25</sup>	5 <sup>25</sup>	0-58°F			
	7U	560	9 <sup>25</sup>	9 <sup>25</sup>	0-57°F	69Y	269	6 <sup>25</sup>	6 <sup>25</sup>	0-57.5°F			
	14U	817	10 <sup>25</sup>	11 <sup>25</sup>	0-58°F	71Y	249	6 <sup>25</sup>	7 <sup>25</sup>	0-57°F			
	20U	493	11 <sup>25</sup>	12 <sup>25</sup>	0-58°F	77Y	633	8 <sup>25</sup>	9 <sup>25</sup>	0-57°F			
	29U	810	1 <sup>26</sup>	2 <sup>26</sup>	0-57.5	84Y	173	10 <sup>25</sup>	10 <sup>25</sup>	0-57°F			
	36U	668	3 <sup>25</sup>	4 <sup>25</sup>	0-57°F	92Y		12 <sup>25</sup>	12 <sup>25</sup> 12 <sup>25</sup>				
	43U	930	5 <sup>25</sup>	6 <sup>25</sup>	0-57°F	3/6/25	11Z		1 <sup>26</sup>	2 <sup>26</sup>			
	49U	942	7 <sup>25</sup>	7 <sup>25</sup>	0-56°F		21Z	794	3 <sup>26</sup>	4 <sup>26</sup>	0-57°F		
	2/20/25	2V	784	12 <sup>25</sup>	12 <sup>25</sup>		0-57°F	31Z	814	5 <sup>26</sup>	6 <sup>26</sup>	0-58°F	
5V		832	1 <sup>26</sup>	2 <sup>26</sup>	0-52°F		41Z		7 <sup>26</sup>	8 <sup>26</sup>			
12V			3 <sup>26</sup>	3 <sup>26</sup>			47Z		9 <sup>26</sup>	9 <sup>26</sup>			
19V		870	4 <sup>26</sup>	4 <sup>26</sup>	0-56°F		52Z	81	9 <sup>26</sup>	9 <sup>26</sup>	0-57°F		
26V		925	5 <sup>26</sup>	6 <sup>26</sup>	0-56°F		57Z	41	10 <sup>26</sup>	10 <sup>26</sup>	0-58°F		
30V		955	6 <sup>26</sup>	7 <sup>26</sup>	0-56°F		60Z	16	10 <sup>26</sup>	12 <sup>26</sup>	0-57°F		
36V		824	8 <sup>26</sup>	8 <sup>26</sup>	0-56.5°F		61Z		1 <sup>27</sup>	3 <sup>27</sup>			
43V		711	9 <sup>26</sup>	10 <sup>26</sup>	0-56.5°F		74Z		5 <sup>26</sup>	5 <sup>26</sup>			
48V		824	11 <sup>26</sup>	11 <sup>26</sup>	0-57°F	91Z	953	8 <sup>26</sup>	8 <sup>26</sup>	0-56°F			
56V		713	12 <sup>26</sup>	1 <sup>27</sup>	0-58°F	99Z		9 <sup>26</sup>	-				
2/24/25	63V	376	2 <sup>27</sup>	2 <sup>27</sup>	0-58°F	3/10/25	8A'		1 <sup>27</sup>	1 <sup>27</sup>			
	70V	805	3 <sup>27</sup>	4 <sup>27</sup>	0-58°F		18A'	587	4 <sup>27</sup>	4 <sup>27</sup>	0-58°F		
	76V	637	5 <sup>27</sup>	5 <sup>27</sup>	0-58°F		23A'	312	5 <sup>27</sup>	5 <sup>27</sup>	0-56°F		
	84V	611	6 <sup>27</sup>	7 <sup>27</sup>	0-56°F		28A'		6 <sup>27</sup>	7 <sup>27</sup>			
	2/24/25	8W		9 <sup>27</sup>	10 <sup>27</sup>			33A'	780	8 <sup>27</sup>	8 <sup>27</sup>	0-57°F	
		13W		10 <sup>27</sup>	11 <sup>27</sup>			41A'	939	10 <sup>27</sup>	11 <sup>27</sup>	0-57°F	
		40W		3 <sup>28</sup>	3 <sup>28</sup>			3/11/25	2B'		12 <sup>27</sup>	12 <sup>28</sup>	
	3/3/25	15X	596	8 <sup>28</sup>	8 <sup>28</sup>		0-58°F		11B'		2 <sup>28</sup>	3 <sup>28</sup>	
		22X	796	9 <sup>28</sup>	10 <sup>28</sup>		0-58°F		22B'		5 <sup>28</sup>	5 <sup>28</sup>	

DATE	Pos. No.	DEPTH in FATHOMS	TIME		Temp. + Depth	DATE	Pos. No.	DEPTH in FATHOMS	TIME		Temp. + Depth
			STOP	AHEAD					STOP	AHEAD	
2/11/25	23A	661	2 <sup>20</sup>	3 <sup>05</sup>	0° 58' F	- SOUTHERN CALIFORNIA OFFSHORE -					
2/16/25	1B	119	12 <sup>27</sup>	12 <sup>27</sup>	0° 57' F	1/15/25	31A	12 <sup>23</sup>	12 <sup>29</sup>		
3/9/25	8E		1 <sup>25</sup>	2 <sup>12</sup>			44A	1 <sup>37</sup>	1 <sup>54</sup>		
	40E	635	6 <sup>42</sup>	6 <sup>59</sup>	0° 56' F		60A	3 <sup>37</sup>	3 <sup>57</sup>		
3/18/25	10F		3 <sup>07</sup>	3 <sup>15</sup>		1/19/25	1B	11 <sup>12</sup>	11 <sup>35</sup>		
3/19/25	1G		11 <sup>25</sup>	11 <sup>22</sup>			19B	12 <sup>24</sup>	1 <sup>22</sup>		
	10G		12 <sup>27</sup>	12 <sup>27</sup>			34B	2 <sup>20</sup>	2 <sup>25</sup>		
	18G		2 <sup>22</sup>	2 <sup>19</sup>		1/21/25	1C	7 <sup>13</sup>	7 <sup>13</sup>		
	23G		2 <sup>45</sup>	2 <sup>44</sup>			8C	8 <sup>25</sup>	8 <sup>24</sup>		
	31G	454	4 <sup>22</sup>		0° 60' F - 200 = 7.7° 454 = 5.1°		16C	9 <sup>25</sup>	9 <sup>25</sup>		
3/20/25	1H	463	7 <sup>10</sup>	7 <sup>22</sup>	0° 58' F - 412 = 5.4°	1/22/25	1D	7 <sup>28</sup>	7 <sup>25</sup>		
	16H	610	8 <sup>14</sup>	8 <sup>28</sup>	110 = 4.6°		14D	8 <sup>27</sup>	9 <sup>25</sup>		
	21H		9 <sup>44</sup>	1 <sup>12</sup>			24D	10 <sup>12</sup>	10 <sup>27</sup>		
	30H	482	2 <sup>04</sup>	2 <sup>23</sup>	240 = 7.6° - 482 = 6.2°		35D	11 <sup>33</sup>	11 <sup>27</sup>		
	38H	331	3 <sup>21</sup>	3 <sup>27</sup>	150 = 2.4° - 331 = 6.3°		49D	1 <sup>22</sup>	1 <sup>15</sup>		
3/23/25	9K	393	1 <sup>03</sup>	1 <sup>12</sup>	393 = 6.5°	1/23/25	1E	7 <sup>39</sup>	7 <sup>43</sup>		
	23K	149	4 <sup>15</sup>	4 <sup>22</sup>	0° 58' F - 149 = 8.5°		10E	6 <sup>48</sup>	8 <sup>27</sup>	9 <sup>25</sup>	0° 56' F
	34K	352	6 <sup>24</sup>	-	0° 57' F - 352 = 5.8°		15E	7 <sup>27</sup>	10 <sup>21</sup>	10 <sup>21</sup>	0° 56' F
3/31/25	1L	356	-	1 <sup>45</sup>	356 = 7.2°		19E	8 <sup>06</sup>	10 <sup>24</sup>	10 <sup>42</sup>	0° 56' F
	10L	289	3 <sup>07</sup>	3 <sup>20</sup>	289 = 6.8°		22E	5 <sup>49</sup>	11 <sup>12</sup>	11 <sup>27</sup>	0° 54' F
	17L	412	3 <sup>23</sup>	3 <sup>24</sup>	0° 57' F - 412 = 7.0°		26E	5 <sup>2</sup>	11 <sup>54</sup>	12 <sup>22</sup>	0° 56' F
4/1/25	1M	194	7 <sup>24</sup>	7 <sup>21</sup>	0° 57' F - 194 = 8.0°		31E	5 <sup>8</sup>	12 <sup>24</sup>	12 <sup>45</sup>	0° 54.5' F
	10M		8 <sup>23</sup>	8 <sup>21</sup>	0° 57' F - 323 = 9.5° - 100 = 9.0°		35E	1 <sup>20</sup>	1 <sup>25</sup>	1 <sup>25</sup>	0° 54.5' F
	22M	323	10 <sup>24</sup>	11 <sup>21</sup>	200 = 7.3° - 50 = 7.5° - 20 = 11.4° 376 = 5.5° - 50 = 3.5° - 100 = 10.2°		45E	2 <sup>23</sup>	3 <sup>27</sup>	3 <sup>27</sup>	0° 55' F
	33M	396	12 <sup>11</sup>	12 <sup>25</sup>	200 = 8.0° - 22 = 11.2° 0° 58' F - 100 = 10.0° - 50 = 9.5°		55E	5 <sup>05</sup>	4 <sup>22</sup>	4 <sup>22</sup>	0° 57' F
	41M	486	1 <sup>27</sup>	3 <sup>12</sup>	200 = 7.5° - 486 = 5.0° - 20 = 10.1°		65E	5 <sup>15</sup>	5 <sup>42</sup>	5 <sup>42</sup>	0° 56.5' F - 26 = 12°
	54M	578	4 <sup>43</sup>	5 <sup>21</sup>	578 = 4.0° - 100 = 10.2° - 20 = 12.4°		74E	6 <sup>31</sup>	6 <sup>45</sup>	6 <sup>45</sup>	0° 57' F
4/2/25	1N	465	7 <sup>33</sup>	7 <sup>48</sup>	465 = 4.4° - 0° 55' F 0° 55' F - 200 = 7.4° - 100 = 9.8°		85E	7 <sup>24</sup>	-	-	0° 57' F
	5N	453	8 <sup>12</sup>	8 <sup>52</sup>	50 = 7.6° - 20 = 11.2° - 453 = 6.5°	1/28/25	1F	7 <sup>12</sup>	7 <sup>12</sup>	7 <sup>35</sup>	
	12N	253	9 <sup>23</sup>	10 <sup>22</sup>	0° 55' F - 253 = 8.1° 0° 56' F - 274 = 7.5° - 200 = 7.0°		8F	8 <sup>22</sup>	8 <sup>27</sup>	8 <sup>27</sup>	0° 55' F
	19N	294	11 <sup>02</sup>	11 <sup>25</sup>	100 = 8.5° - 50 = 9.5° - 20 = 10.5°		15F	9 <sup>23</sup>	10 <sup>23</sup>	10 <sup>23</sup>	0° 55' F
	30N	366	1 <sup>21</sup>	1 <sup>13</sup>	0° 57' F - 366 = 6.3°		22F	11 <sup>23</sup>	-	-	0° 54' F
	38N	385	2 <sup>23</sup>	3 <sup>21</sup>	0° 58' F - 200 = 7.5° 100 = 9.3° - 20 = 10.5°	1/29/25	1G	2 <sup>15</sup>	-	12 <sup>12</sup>	0° 54' F
	51N	532	4 <sup>42</sup>	4 <sup>22</sup>	0° 56' F - 532 = 5.8°		9G	1 <sup>24</sup>	1 <sup>21</sup>	1 <sup>21</sup>	0° 54' F
	62N		6 <sup>05</sup>	6 <sup>12</sup>			17G	2 <sup>20</sup>	3 <sup>23</sup>	3 <sup>23</sup>	0° 55' F
							26G	4 <sup>12</sup>	4 <sup>22</sup>	4 <sup>22</sup>	

DATE	Fog. No.	DEPTH in fms.	TIME		Temp + Depth	DATE	Fog. No.	DEPTH in fms.	TIME		Temp. + Depth
			STOP	AHEAD					STOP	AHEAD	
3/11/25	28B'	265	6:58	7:05	0-57°F	3/13/25	82D'		5:24	5:31	
	33B'	865	7:05	8:33	0-57°F		85D'	216	6:22	6:32	0-58°F
	38B'	731	7:38	10:24	0-57°F		91D'		7:23	7:40	
	87B'		2:22	3:22			99D'		7:12	7:12	
	94B'	452	4:22	4:54	0-55°F		107D'		10:22	10:33	
	99B'	930	5:04	6:22	0-55°F	3/25/25	1F'		1:44	2:24	
	102B'		6:58	7:18			8F'		3:22	3:52	
	111B'	1890	9:22	10:2	0-56°F		27F'	10	6:24	6:26	10-13.5°C
3/12/25	1C'		11:33	12:24		3/26/25	9G'		8:02	8:20	
	7C'		2:01	2:24			17G'	740	9:52	11:28	0-60°F - 100 = 9.2°C - 50 = 10.8°C 740 = 4.0°C - 400 = 6.0°C - 200 = 7.8°C 0-59°F - 50 = 11°C - 100 = 8.4°C
	16C'	1923	4:12	4:42	0-56°F		25G'	919	12:22	1:12	200 = 6.7°C - 100 = 5.8°C - 10 = 3.1°C
	44C'		7:24	9:22			28G'	886	2:25	3:02	0-57°F - 80 = 2.0°C 0-57°F - 50 = 4°C - 100 = 8.4°C
	46C'	500	10:12	10:22	0-55°F		31G'	1307	3:22	4:45	200 = 6.6°C - 1307 = 2.4°C 0-57°F - 50 = 10.6°C - 100 = 8.8°C
	48C'		10:48	11:22			37G'	1390	5:22	7:12	200 = 6.6°C - 1390 = 3.1°C
	51C'		11:22	11:49			48G'	760	9:22	9:22	0-57°F - 760 = 4.6°C
	634C'		12:12	12:22		3/27/25	62H'	815	8:22	9:12	815 = 3.0°C
	57C'		1:02	1:22			68H'	700	10:22	11:22	700 = 3.4°C
	69C'	132	4:22	4:42	0-58°F		74H'	306	12:22	12:22	306 = 3.8°C
	72C'		5:12	5:22			79H'	623	1:12	1:22	0-60°F - 623 = 3.5°C
	78C'	81	6:22	6:52	0-58°F		95H'	229	4:22	4:22	0-59°F
	81C'	46	7:22	7:52	0-56°F		112H'	247	6:12	6:32	0-59°F
	86C'		8:22	10:22			121H'		8:12	8:36	0-53°F - 431 = 4.5°C - 0 = 12.6°C 150 = 9.6°C - 100 = 8.9°C - 200 = 7.7°C 20 = 12.0°C
3/13/25	10D'		2:22	3:12			J'	431	7:22	7:22	
	19D'		4:22	5:22			10J'		12:22	1:02	
	30D'	864	7:22	7:42	0-57°F		12J'		1:32	2:00	
	36D'	538	8:42	9:12	0-57°F	4/10/25	30K'		12:22	12:22	
	42D'	45	10:12	10:22	0-57°F	4/14/25	1L'		8:02	8:16	
	51D'		11:12	11:22			5L'		9:02	9:21	
	59D'		12:22	12:22			11L'		10:22	10:22	
	62D'		1:22	1:22			15L'		11:22	11:56	
	65D'	189	1:22	1:22	0-58°F	4/16/25	128N'		5:12	5:22	0-57°F - 20 = (12.0°C - 50 = 12°C 16.7°C)
	68D'		2:12	2:22		4/29/25	20T'	238	9:22	10:22	100 = 10°C - 238 = 7.4°C
	72D'		3:22	3:22		5/6/25	47W'	249	4:22	5:02	0-58°F - 64 = 9.4°C - 94 = 8.8°C 249 = 6.5
	73D'		3:24	3:42							
	76D'		4:22	4:22							
	79D'		4:22	4:27							





Day	Sonic Sounding	Wire Sounding	Corrected Sonic Sounding	Improved or Unimproved	Sonic Greater or Less	Operator	Day	Sonic Sounding	Wire Sounding	Corrected Sonic Sounding	Improved or Unimproved	Sonic Greater or Less	Operator
(Southern Calif. Inshore Sheet)							N	369	366	378	U	G	Brown
A	91	96	94	1		Tatchell		385	385	394	U	G	"
	634	636	650	U	=	"		523	532	535	1		Tatchell
	586	661	601	1		"	(Southern Calif. Offshore Sheet)						
	672	679	699	U	L	"	A	575	585	588	1		Service
B	110	119	114	1		"		620	620	636	U	G	"
E	400	396	410	U	G	Forcher		293	310	301	1		"
	605	635	621	1		Brown	B	460	488	473	1		Forcher
F	111	114	115	1		"		670	677	687	U	L	Brown
	396	381	406	U	G	"		140	143	145	1		"
G	228	218	234	U	G	Service	C	178	189	183	1		Service
	416	422	426	1		Tatchell		243	249	252	1		"
	435	445	446	1		"		221	214	227	U	G	"
	186	190	192	1		"	D	152	155	157	1		"
	443	447	454	1		"		493	490	516	U	G	Tatchell
H	413	463	423	1		Brown		816	817	840	U	G	"
	606	610	622	U	L	Forcher		144	144	149	U	G	Brown
	543	573	565	1		"		123	125	126	1		"
	480	482	492	U	G	Tatchell	E	112	112	116	U	G	"
	317	331	325	1		"		632	648	648	1		"
K	406	393	416	U	G	Brown		779	787	800	U	L	"
	157	149	161	U	G	Tatchell		542	549	555	1		"
	362	352	371	U	G	"		113	103	117	U	G	Tatchell
L	346	356	355	1		"		560	565	575	U	L	"
	291	289	299	U	G	"		636	643	652	U	L	"
	410	412	419	U	"	Brown		440	436	451	U	G	"
M	195	194	201	U	G	Tatchell		238	242	244	1		"
	420	429	430	1		Brown	F	711	703	731	U	G	"
	315	323	323	1		"		941	944	970	U	L	Forcher
	406	396	416	U	G	"		866	849	892	U	G	"
	484	486	496	U	"	Tatchell		203	215	209	1		"
	574	578	587	U	L	"	G	575	592	590	1		Brown
N	454	465	465	1		"		654	672	671	1		Tatchell
	451	453	462	U	"	Brown		203	194	209	U	G	"
	258	253	263	U	G	"		171	172	176	U	G	Forcher
	294	294	302	U	G	"		813	829	837	1		"

Day	Sonic Sounding	Wire Sounding	Corrected Sonic Sounding	Improved or Unimproved	Sonic Chapter List	Operator	Day	Sonic Sounding	Wire Sounding	Corrected Sonic Sounding	Improved or Unimproved	Sonic Chapter List	Operator
G	873	856	909	U	G	Parcher	P	463	478	475	1		Brown
	158	160	163	U	=	Brown		271	269	278	U	G	"
	216	225	222	1		"		245	226	252	U	G	Tatchell
	223	224	229	U	G	"		121	114	125	U	G	"
H	223	230	229	1		"		430	430	441	U	G	"
	674	697	692	1		"		536	539	550	U	L	Brown
	803	791	827	U	G	Tatchell		134	131	138	U	G	"
	883	894	909	U	L	"		450	529	462	1		Parcher
J	819	839	843	1		Parcher		512	518	525	1		"
	125	135	129	1		"	Q	811	780	825	U	G	Tatchell
	293	288	301	U	G	Tatchell		686	692	705	U	L	"
	553	550	567	U	G	"		1288	1319	1331	1		"
K	671	680	690	U	L	Brown		563	575	575	1		Brown
	717	716	737	U	G	"		544	550	554	1		"
	1188	1321	1228	1		Parcher		754	766	775	1		"
	1240	1320	1283	1		"		730	755	751	1		Parcher
	461	500	472	1		"		819	810	843	U	G	"
	751	786	772	1		Tatchell		974	980	1005	U	L	Tatchell
	506	518	518	1		"		275	266	282	U	G	"
	741	738	763	U	G	"		714	737	734	1		Brown
	429	431	439	U	=	Parcher		376	384	406	U	G	"
	625	632	644	U	G	Tatchell		606	602	612	U	G	"
L	442	456	453	1		Parcher		524	547	536	1		Parcher
	560	581	574	1		Tatchell	T	224	220	230	U	G	Brown
	626	625	643	U	G	"		595	612	610	1		"
	270	269	277	U	G	"		630	629	647	U	G	Parcher
	687	697	705	1		"		650	644	668	U	G	"
	476	485	491	1		Brown		525	534	539	1		Tatchell
	545	560	559	1		"	U	647	665	665	1		Brown
M	172	178	179	1		Parcher		539	560	553	1		"
	632	635	643	U	L	"		808	817	832	U	L	"
N	412	439	422	1		"		493	493	506	U	G	Parcher
P	236	244	243	1		Tatchell		814	810	838	U	G	"
	722	723	743	U	G	"		660	668	684	U	=	Tatchell
	472	475	484	U	L	"		930	930	958	U	G	"
	620	636	637	1		Brown		921	942	949	1		"

Day	Sonic Sounding	Wing Sounding	Corrected Sonic Sounding	Improved or Unimpaired	Sonic Greater or Less	Operator	Day	Sonic Sounding	Wing Sounding	Corrected Sonic Sounding	Improved or Unimpaired	Sonic Greater or Less	Operator	
V	751	784	773	1		Porcher	A'	576	587	570	1		Brown	
	821	831	843	U	L	"		308	312	314	1		"	
	787	789	810	U	=	"		714	792	762	1		Porcher	
	851	877	876	1		Tatchell		937	980	966	1		Tatchell	
	930	925	958	U	G	"		937	939	966	U	=	"	
	927	955	955	1		"		D'	516	538	529	1		Porcher
	821	824	849	U	L	Brown			333	370	341	1		Tatchell
	699	713	718	1		Porcher		F'	550	552	565	U	=	Brown
	378	370	388	U	G	"			528	530	542	U	=	"
	763	805	782	1		"		G'	687	696	706	1		Service
	648	637	666	U	G	Tatchell			727	740	747	1		"
	617	611	633	U	G	"		719	719	747	U	G	Brown	
	W	617	616	633	U	G		"	860	886	886	1		"
X		716	736	736	1		Brown	1286	1307	1331	1		"	
	915	938	942	1		"	1340	1390	1395	1		Service		
Y		784	809	807	1		Tatchell	H'	762	760	784	U	G	"
	795	796	819	U	G	Brown	828		815	853	U	G	"	
	296	294	304	U	G	"	625		700	643	1		"	
	113	111	117	U	G	"	640		707	657	1		"	
	362	368	371	1		Porcher	292		306	300	1		"	
	615	549	631	U	G	Tatchell	609		633	625	1		Brown	
	378	403	388	1		"	246		247	253	U	G	Service	
	248	269	255	1		Brown	J'		405	431	416	1		Brown
	226	249	232	1		Tatchell			N'	378	381	388	U	L
	622	633	638	1		Brown	W'			190	249	196	1	
	166	173	171	1		"								
	832	900	856	1		"								
	Z	856	865	883	U	L	Porcher							
774		794	797	1		Tatchell								
790		814	813	1		"								
844		821	869	U	G	"								
117		107	121	U	G	Brown								
A'	952	953	980	U	G	Tatchell								
	151	156	156	1		"								
	644	628	662	U	G	"								
458	481	470	1		"									

DEPTH	Number of Soundings	No. of sidgs where sonic was > than wire sidg.	No. of sidgs where correction for temperature was applied.	No. of sidgs where the comparison between sonic and wire sidg is not improved by correction.	No. of sidgs where the comparison between the sonic and wire sidg is improved by the correction.	% of sidgs where sonic was < wire sidg improved by correction.	% of sidgs improved by correction.
100-200	24	11	13		13	100	54
200-300	25	15	10		10	100	40
300-400	14	6	8	1	7	87	50
400-500	28	12	16	1	15	94	54
500-600	24	4	20	3	17	85	71
600-700	32	12	20	8	12	60	37
700-800	20	6	14	1	13	93	65
800-900	19	9	10	5	5	50	27
900-1000	12	5	7	2	5	71	42
1000-1400	5	0	5		5	100	100
	203	80	123	21	102	91	50.3

OPERATOR	Number of Soundings	No. of sidgs where sonic was > than wire sidg.	No. of sidgs where correction for temperature was applied.	No. of sidgs where the comparison between sonic and wire sidg is not improved by the correction.	No. of sidgs where the comparison between the sonic and wire sidg is improved by the correction.	% of sidgs where sonic was < wire sidg improved by correction.	% of sidgs improved by correction.
Brown	68	26	42	7	35	83	52
Tatchell	78	37	41	9	32	78	41
Porcher	39	11	28	5	23	82	60
Service	17	6	11		11	100	65
Wilson	1	0	1		1	100	100
	203	80	123	21	102	91	50.3

TABLE OF STATISTICS TO ACCOMPANY SHEET NO. \_\_\_\_\_

DATE, 1925	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL
				5-wire		
Feb. 11	A	1	27	73-sonic	38.0	GUIDE
				1-wire		
Feb. 16	B	1	26	64-sonic	36.8	"
" 26	C	1	26	68-sonic	39.4	"
March 2	D	1	35	92-sonic	51.5	"
" 9	E	1	40	106-sonic	55.0	"
" 18	F	1	25	75-sonic	36.0	"
" 19	G	1	47	125-sonic	65.8	"
" 20	H	1-2	52	98-sonic	44.3	"
" 23	K	2	34	96-sonic	40.0	"
" 31	L	2	37	97-sonic	52.0	"
April 1	M	2	64	158-sonic	77.6	"
" 2	N	2-3	67	167-sonic	90.3	"
" 18	P	3	18	44-sonic	19.3	"
" 20	Q	3	58	77-sonic	52.9	"
" 25	R	3	18	36-sonic	19.0	"
" 27	S	3	23	13-sonic	19.0	"
" 28	T	3	17	40-sonic	23.0	"
May 4	U	3	8	26-tube	5.5	"
" 9	V	3	5	12-sonic	5.2	"
TOTAL		628		40-wire 209-tube 1441-sonic	770.6	

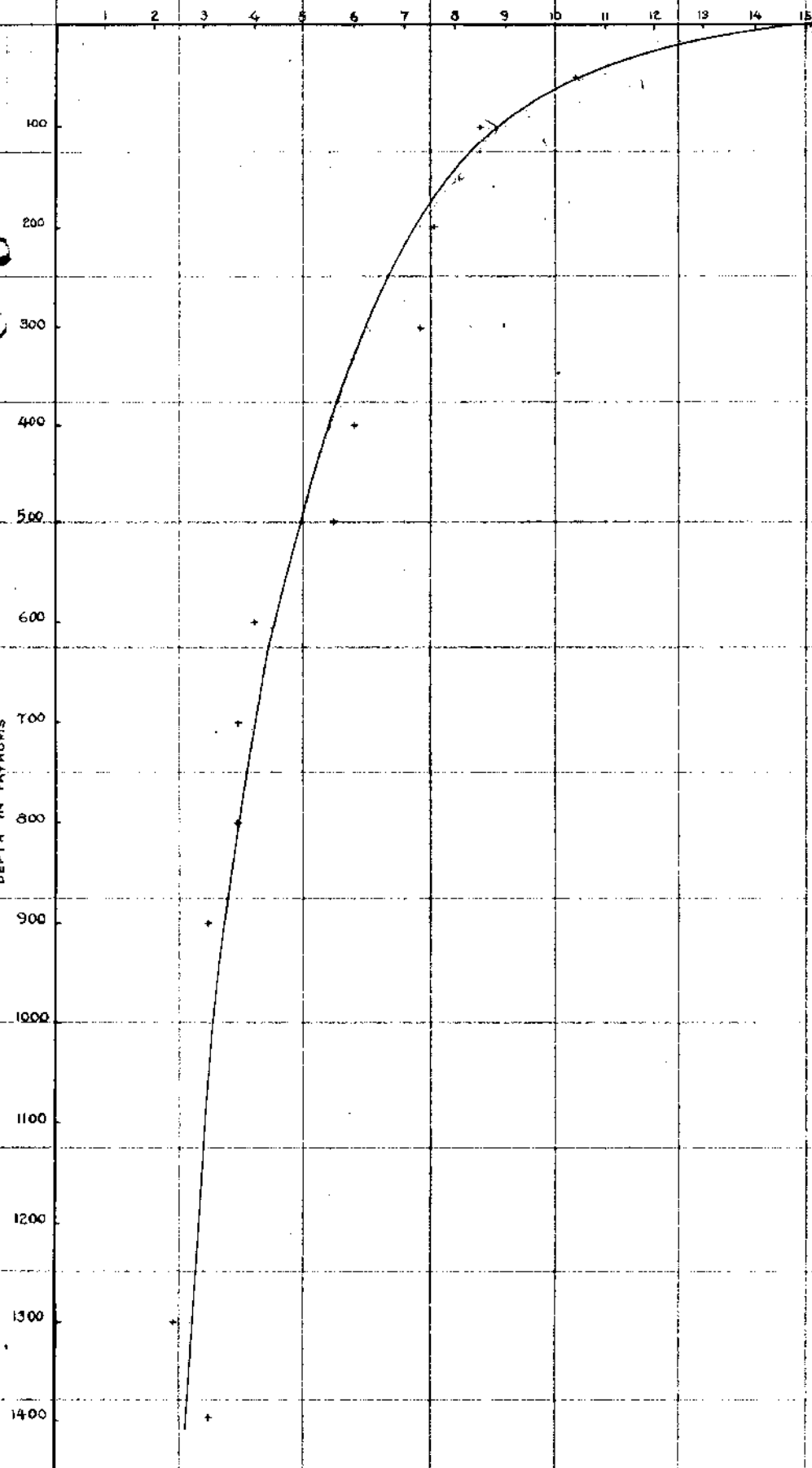
Soundings in fathoms.

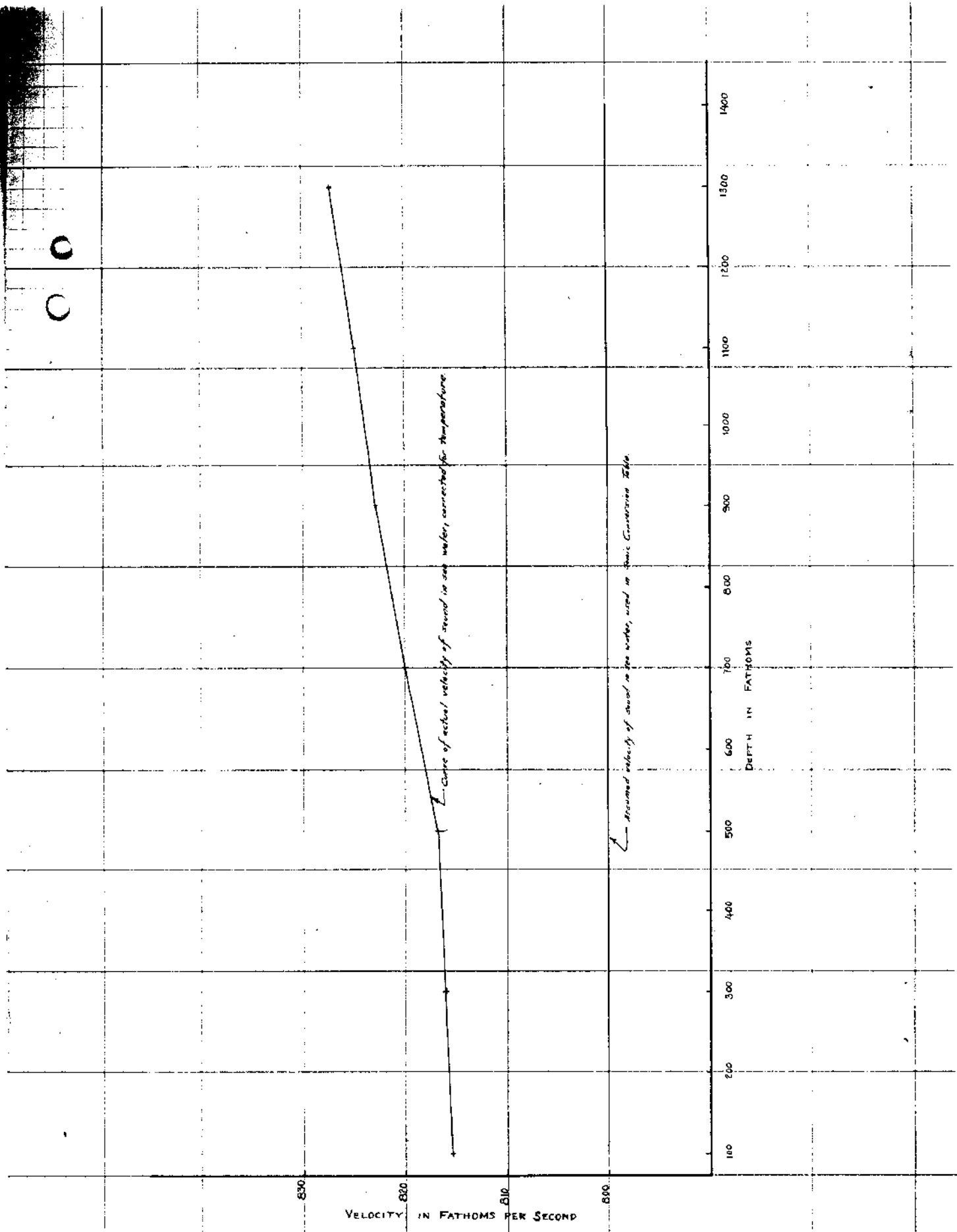
Tide gauge at La Jolla, California.

Plane of Reference M.L.L.W.

TEMPERATURE IN °C.

DEPTH IN FATHOMS





Course of actual velocity of sound in sea water, corrected for temperature

Assumed velocity of sound in sea water, used in Sonic Conversion Table

VELOCITY IN FATHOMS PER SECOND

DEPTH IN FATHOMS



ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON

July 31, 1926.

REPORT ON HYDROGRAPHIC SHEET 4504

The protracting and plotting on this sheet were fair.

There are no comparative soundings for the tube work on V day and part of Q day. These soundings were left in pencil. This area is covered by H. 4547 and H. 4162.

The records were not kept according to the regulations inasmuch as the corrected tube soundings and a mean of the corrected tube soundings were omitted.

The shoalest soundings ~~was~~ plotted on the smooth sheet instead of the mean of the two tube soundings.

A large number of three point fixes were entered in the records using "Fermin" as one object. The smooth sheet was protracted as if "San Pedro" was the signal "Fermin" but no note was made in the records as to why this was done.

There is no boat sheet for this sheet.

A number of questions came up on this sheet where the boat sheet would have helped in the decision.

Where there was a sonic and wire sounding on the same position, the wire sounding was plotted.

  
H. R. Edmonston, Field Records Section.

ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON August 16, 1926.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4504

Off Santa Catalina Island, California

Surveyed in 1925

Instructions dated January 12, 1924 (GUIDE)

Chief of Party, T. J. Maher.

Surveyed by T. J. M., G. D. Cowie, L. P. Raynor, J. H. Service.

Protracted by K. C. Wilson, V. A. Powell, W. F. Malnate.

Soundings plotted by W. F. Malnate.

Verified and inked by H. R. Edmonston.

1. The records conform to the requirements of the General Instructions except that the means of the two corrected tube readings were not entered.
2. The plan and character of the survey conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions except that the lines were run 0° and 180° and 90° and 270° instead of 65° and 245° as called for.
4. The information is sufficient for drawing the usual depth curves.
5. The usual field work was done by the field party, but was defective in the following respects:
  - a. The shoaler of two tube soundings was plotted instead of the mean of the two.
  - b. Many of the positions were protracted using "San Pedro" as an object instead of "Fermin" as recorded. No note was entered in the record as to the reason for the change. It was probably so plotted on the boat sheet as the sounding lines show a better agreement when such change is made.

6. The junctions with H. 4366, H. 4162 and H. 4447 are satisfactory. That with H. 4547 will be taken up in the review for that sheet.
7. The sounding line crossings are adequate.
- \*8. No additional work is required within the limits of the survey except possibly to closer develop the 200 fathom bank in Lat. 33° 24', Long. 118° 00'.
- \*9. The work as called for in the instructions is not yet complete. Westward of the western limit of this work on this sheet the hydrography is to be extended to fill a large gap between Santa Catalina and San Clemente Islands. Also eastward of the eastern limit of this survey the work is to be extended to the shore.
10. On portions of Q, U and S days, tube work was done in depths under 20 fathoms. This area has been amply covered by H. 4162 on a 20,000 scale which was surveyed with the leadline. It therefore afforded a good means of comparing the value of tube work in shoal water. The results were surprising, the agreement being practically perfect. The soundings were therefore accepted.
11. This survey is primarily a sonic survey. The results obtained are excellent.  
The descriptive report contains valuable information relating to surveying with the sonic depth finder.
12. No boat sheet was submitted with this sheet.
13. Character and scope of field operations - ~~excellent~~. *good*  
Field drafting - excellent.
14. Reviewed by A. L. Shalowitz, August, 1926.

*\* The additional work mentioned will be taken care of by later surveys.*

*Approved -*

*A. F. G.  
L. O.*

Changes made on H 4504

Line 17K to 27K was changed to fit boat sheet & compass course. The fixes on this line were close to swingers.

The 100 fathom curve was transferred from H 4560 add'l work and placed within the 200 fathom curve on 4504.

Three soundings 353, 391 & 406 fathoms were rejected on line 2A to 4A. Later development on H 4560 showed these sdgs. to be erroneous.

all changes made with the approval of Capt Bordin & Capt Sabierski

Francis B. Kelly

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

4504

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4504

State California

General locality Southern California

Locality Off Santa Catalina Island

Chief of party Lt. Com'd T.J. Maher

Surveyed by T.J.M., G.D.C., L.P.R., and J.H.S.

Date of survey February 11 to May 9, 1925

Scale 120,000

Soundings in Fathoms

Plane of reference M.L.L.W.

Protracted by K.C.W., V.A.P., <sup>W.F. Malin</sup> Soundings in pencil by W.F. Malin  
owell

Inked by . . . . . Verified by . . . . .

Records accompanying sheet (check those forwarded):

Des. report, \_\_\_\_\_ Tide books, \_\_\_\_\_ Marigrams, \_\_\_\_\_ Boat sheets,

3 \_\_\_\_\_ Sounding books, \_\_\_\_\_ Wire-drag books, \_\_\_\_\_ Photographs.

Data from other sources affecting sheet 8 Tide Correction Graphs

Remarks:

WWS  
June 10, 1926.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
3 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4504

Locality: **SOUTHERN CALIFORNIA.**

Chief of Party: **T. J. Maher in 1925.**

Plane of reference is **MLLW**  
**5.8** ft. on tide staff at **La Jolla.**

For reduction of soundings, condition of records satisfactory  
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A. M. or P. M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.