

5658

U. S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 5658
Hydrographic } SC 24

LOCALITY

Santa Catalina Island
(Eastern Part)
~~Southern California Coast~~

1936

CHIEF OF PARTY

Robert W. Knox

5658

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5658

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. SC 24

REGISTER NO. 5658

State California

General locality Santa Catalina Island

Locality (Eastern Part)

Scale 1:20,000 Date of survey Mar. 10 - July 21, ~~1933~~ 1934

Vessel Chartered Launch "Romance"

Chief of Party R.W. Knox

Surveyed by R.W.K.

Protracted by K. McBean

Soundings penciled by "

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by James M. McCreary

Verified by James M. McCreary

Instructions dated Sept. 13, 1933, ~~1933~~

Remarks: No. Title sheet received from the Field. Title Sheet
executed in Office.

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET
No. SC24

Scale 1:20,000

SOUTHERN CALIFORNIA

SANTA CATALINA ISLAND

Instructions dated September 13, 1933

Surveyed by R. K. Knox

AREA, LIMITS, ETC. The area covered by this sheet comprises the in-shore waters around the southeastern portion of Santa Catalina Island, with the exception of Avalon Bay (Dakin Cove), the survey of which has previously been submitted. To the northwestward the work joins sheet SC23 of the current season and offshore it joins the hydrography of the party of the Steamer Pioneer.

It is probable that the waters around this Island will become increasingly important, not to the merchant marine as the Island is strictly a pleasure resort, but to vessels of the Navy as a maneuvering ground. The hydrography, therefore, was accomplished with the idea of fully satisfying the requirements of paragraph eight of the Director's instructions of September 13, 1933.

The inshore line of hydrography was run with an outboard motor driven whaleboat. The soundings, in many cases, plotted within a few meters of the beach or rock line. This line was run, not so much with the idea of developing the depth curves so close to the shore, but more as a final check, and search, for sunken rocks. Breakers and sunken rocks relatively close to the beach which would be of no interest to the seaman might present grave dangers to the amateur yachtsman.

Development was carried to, or nearly to, the 100 fathom curve, except in one portion where the bottom was found to have a relatively gentle slope and would therefore present no difficulties in the way of slope corrections to the fathometer soundings of the Steamer Pioneer

DISCREPANCIES: A few discrepancies were noted in the plotting and reviewing of this sheet; among the more important are:

1) Position 48f - sounding not plotted as it is apparently too deep. Recommend rejection. *Rejected*

2) Positions 65g - 66g - the sounding of 59 *N.P. (It appears doubtful)* fathoms between a 49 and a 51 appears to be too deep, but as this jump was noted at the time the soundings were taken all three soundings are obviously correct.

3) 25ee - 26ee - the soundings between these

positions not plotted on smooth sheet, and as the area is well covered by soundings on the line 30ee - 33ee it is recommended the former be rejected.

4) Positions 92hh - 113hh - there is a slight difference between smooth and boat sheet location of these positions, due to a small error in the location of signals Lon and Poi on the boat sheet.

5) Position 106ll - the left object is called Les, an apparently unlocated object although the name Les is written in pencil on the boat sheet between signals Res and B&g. A small offshore rock is shown here, but its use as a left object does not check the boat sheet.

6) Position 7mm - according to the boat sheet, a line was run inshore of the rock off signal Ral. The topographic sheet shows a cluster of rocks on the edge of the beach at this point. These rocks are taken to be the "H.W." referred to in the remarks opposite position 7mm. A distance of 20 m was measured therefrom, heading the line through a 14 m gap inshore of offlying rock.

7) Position 56rr - The reef referred to on this position is undoubtedly above the low water line.

8) Signals Egg and Bog were confused in the records, the former was very indistinct and seldom used.

9) The irregular interval on a few of the whaleboat lines was due to heavy kelp.

10) Due to faulty location of signals between triangulation stations Slip and Four, the boat sheet lines will not check the smooth sheet lines in that area. An attempt was made to better the signal locations by hydrographic cuts, but because of fixes of little strength, difference in elevation of signals known to be correct, etc., the results were not satisfactory. The entire plane table traverse was subsequently re-run.

DANGERS AND SHOALS: This portion of Santa Catalina Island is singularly free from dangers; the only one of the least importance being a breaker immediately off Southeast Rock.

5/4 (F&D)
The party located an 8 fathom shoal - position 10qq - among 35 to 40's in latitude 33° 20.6' and longitude 118° 31.0'. This shoal had been reported to the party by local fisherman and considerable time had been spent in attempting to shoal the several 12 fathom sounding obtained. Credit for its location is due Mr. Charles Farnsworth, a sport fisherman of considerable renown, as it was he who put the launch over the shoal.

CHANNELS: There are no channels in the area covered by this survey.

ANCHORAGES: The only haven for large vessels in the area effected by the violent northeast or Santa Ana winds which occasionally blow from the plateaus of Utah and Arizona across the Mohave desert and down through Cajon Pass and the Santa Ana Canyon, striking the Coast between

Newport Bay and the Palos Verde Hills with great force, is in the lee of Santa Catalina Island. For this reason the anchorage area, between signals Ten and Poi, was developed with considerable detail. The bottom is uniformly fine gray sand.

Small yachts anchor off Button Shell beach and White Landing.

BOTTOM: The bottom specimens were almost entirely fine gray sand. The survey of 1878 shows many specimens to have been green mud, but this party could find green mud only in the vicinity of the submarine valley off the west side of the Island. It is difficult to explain this difference except by an actual change in the character of the bottom, as it seems unlikely one type of bottom would be confused with the other.

COMPARISION WITH PREVIOUS SURVEYS: The majority of the soundings of the 1878 survey were transferred to the boat sheet; their agreement with the current work is considered ~~very~~ good, except in a few places relatively close to the beach. *with numerous individual exceptions*

The party could not verify the 39 fathom charted sounding in latitude $33^{\circ} 17.6'$, longitude $119^{\circ} 21.3'$. The bottom was found to be quite regular in that vicinity, the depths varying from 50 to 55 fathoms, fine gray sand bottom. It is recommended, therefore, that the 39 be deleted from the charts.

Therocks and islets bordering the shore line were compared with the previous survey and found to agree within reasonable limits, although the great number of spots and imperfections appearing upon the photostats of the original sheets made a strict comparision impossible. There were a number of decided differences but these may *not* have been clear on the photostats.

GEOGRAPHIC NAMES: Local authorities were consulted as to the names by which the geographic features of the Island are known. In general, the following names are well established, although occasionally a bight will be known by two names. In such cases the name appearing to be more widely known has been listed. Authorities consulted were; 1) George Davidson, U. S. Coast and Geodetic Survey, author of the Coast Pilot of California, Oregon and Washington, 2) Captain Morris of the Wilmington Transportation Company, a man who has spent many years in the vicinity of the Island, fishing, transporting tourists around the Island and as master of the large passenger vessels plying between the Mainland and Avalon, 3) Captain John Wegman, harbor master at Avalon, 4) Mr. George Farnsworth, mentioned above, and 5) Judge Wendell, the unofficial historian of the Island.

Recommended names follow:

GOAT HARBOR is the charted name of a small bight on the northeast side of the Island

TWIN ROCKS is the local name given to two rocks near signal Bess. It does not appear to be particularly well established.

LONE POINT is the charted name of this point

BUTTON SHELL BEACH is a well established local name

NAPOLEON ROCK is a local name, one used principally by the hawkers on the passenger boats to interest the tourists. The rock is said to bear a resemblance to the Little Corporal, but the survey party could not verify this.

WHITE LANDING is apparently a better established name than White Cove, as it appears on the charts.

MOONSTONE BEACH is a well established local name

TORQUA SPRINGS is a well established local name, and this spring is said to be the only fresh water year-around spring on the Island.

THE PALISADES is the name given to that stretch of the high bluff line between Southeast Rock and Silver Canyon, and is well established.

SOUTHEAST ROCK, the charted name, is what this pinnacle is known by.

SILVER CANYON is a well established local name.

SALTE VERDE POINT is a well established local name.

CHINESE POINT is a well established local name.

FARNSWORTH ROCK, an 8 fathom shoal in latitude $35^{\circ} 20.6'$, longitude $119^{\circ} 31.0'$. It is recommended this name be given the shoal, in honor of the father of Mr. Charles Farnsworth, the man whose keen eye for ranges enabled the party to obtain the least depth on the shoal.

MILLS LANDING is a well established local name.

SENTINAL ROCK, so called by several authorities, but not well established. Recommended by the writer,

PLOTTING: The smooth plotting was accomplished by Mr. Kelly McBean, Surveyor, and left angleman and recorder on the survey party.

Respectfully submitted:


Robert W. Knox
Robert W. Knox,
H. & G. Eng'r,
Chief of Party.

STATISTICS - SANTA CATALINA ISLAND - SHEET 24 SC

Date 1934	Day letter	Volume	Number of soundings	Number of positions	Statute miles of sounding	Ship
Mar 10	a	1	246	130	23.6	Romance
11	b	1	270	144	25.6	"
13	c	1 & 2	277	140	23.4	"
14	d	2	282	148	27.9	"
19	e	2	33	17	3.1	"
20	f	2	160	86	13.8	"
22	g	2	247	134	26.2	"
23	h	2 & 3	145	78	14.7	"
26	j	3	123	69	14.5	"
27	k	3	223	131	25.2	"
28	l	3	109	62	12.7	"
29	m	3 & 4	100	53	9.2	"
30	n	4	180	97	15.6	"
Apr 5	p	4	269	154	25.0	"
6	q	4 & 5	215	127	23.6	"
10	r	5	141	80	12.4	"
11	s	5	240	132	21.8	"
12	t	5	375	150	26.2	"
13	u	6	302	147	23.6	"
19	v	6	428	112	23.0	"
25	w	6 & 7	353	151	25.6	"
26	x	7	248	135	24.2	"
27	y	7	217	115	26.3	"
May 7	z	7	151	94	16.9	"
8	aa	8	335	150	24.5	"
9	bb	8	383	136	27.0	"
10	cc	8 & 9	321	142	24.9	"
11	dd	9	306	142	25.2	"
17	ee	9	91	50	5.9	"
18	ff	9	263	141	25.6	"
23	gg	10	67	37	5.7	"
24	hh	10	329	142	27.2	"
25	jj	10	233	72	9.2	"
31	kk	10	203	127	22.6	"
Jun 8	ll	11	295	125	17.3	"
28	mm	11	213	50	4.7	whaleboat
29	nn	11	221	45	4.4	"
TOTALS (Fiscal year 1934)			8,594	4,045	708.3	
Jul 11	pp	11	90	40	2.0	Romance
12	qq	11	230	72	4.6	"
13	rr	12	235	67	3.5	"
16	ss	12	220	4	0.5	"
21	tt	12	35	16	2.0	"
SUB TOTAL (Fiscal year 1935)			610	199	12.6	"
TOTAL			9,204	4,244	720.9	

APPROVAL OF CHIEF OF PARTY

Hydrographic sheet number SC24 and accompanying records have been inspected and approved by me. The field work was done under my direct supervision, the office work under my occasional supervision. No additional work is considered necessary.


Robert W. Knox,
Chief of Party.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .5558

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

Number of positions on sheet	4244
Number of positions checked	300
Number of positions revised	0
Number of soundings recorded	9204
Number of soundings revised	75
Number of signals erroneously plotted or transferred	0

Date: May 22, 1935

Verification by James W. Lee Jr.

Time: 91 hrs.

Review by

H. J. Kehr

Time: 44 $\frac{1}{4}$ hrs

April 4, 1935.

FE

Division of Hydrography and Topography:

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

Tide Reducers are approved in
12 volumes of sounding records forHYDROGRAPHIC SHEET 5658*Fleming*

Locality Santa Catalina Island, Eastern Part, Coast of Southern California

Chief of Party: Robt. W. Knox in 1934
Plane of reference is mean lower low water
2.5 ft. on tide staff at Avalon
10.7 ft. below B.M. 12.0 ft. on tide staff at Catalina Harbor
5.9 ft. below B.M. 1Height of mean higher high water above plane of reference is 5.3 feet
at Avalon; 5.2 feet at Catalina Harbor.Condition of records satisfactory except as noted below: It was not
always indicated whether reducers were entered in fathoms or feet.
Sometimes reducers were entered in 10ths of fathoms and used as feet.
See corrections in Volume 11.*J. R. Warner*
Acting Chief, Division of Tides and Currents.

To: H.M. Strong
 From: C.F.M.

GEOGRAPHIC NAMES
 CALIFORNIA

Date Feb. 26, 1935

Survey No. H 5658

Chart No. 5102

Diagram No. 5102-3

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
✓	<u>Goat Harbor</u>	Same			
	<u>Twin Rocks</u>		Same	Same	
	LONG	<i>USGB decision</i>			
✓	<u>Yone Point</u>	Same			
	Button Shell Beach		Same	Same	
✓	<u>Napoleon Rock</u>		Same	Same	
	White Landing	✓ <u>White Cove</u>	White Landing	White Landing	
	Moonstone Beach		Same	Same	
	<u>Torque Springs</u>	<i>(C.L. 31, 1936)</i>	"	"	
	The Palisades		"	"	
✓	<u>Willow Cove</u>				
	Swains Canyon				
	Gallagher Beach				
	Hamilton Beach				
✓	<u>Descanso Bay</u>				
✓	<u>Avalon</u>				
	Avalon *				
✓	<u>Avalon Bay</u>	Dakin Cove			
✓	<u>Lovers Cove</u>				
✓	<u>Abalone Point</u> ✓				
	Pebbly Beach				
	Jewfish Point				
✓	<u>Seal Rocks</u>				
✓	<u>San Pedro Channel</u>				

Verification Report H-5658

May 22, 1935.

1. The soundings recorded were neat and legible and conformed to the General Instructions given in the Hydrographic Manual. ↙
2. The fifty, twenty and ten fathom curves could be completely drawn but the five, three, two and one were broken in places by shoal water and lack of soundings. ↙
3. Field plotting was very complete with few mistakes or omissions. The low water line and all notes on rocks were added by the verifier from T-4884 sheet. Part of the shore line was also transferred to the sheet from H-5556 and H-5558. ↙

Signal DUO was plotted in pencil but not inked.

Seventy-five soundings were revised but most of these were due to changes in the tide corrections made subsequent to field plotting. All 10 fathom soundings were corrected to include quarter fathoms due to an order issued after the sheet was plotted in the field. In several instances 9 fathoms 5 feet was plotted as 10 fathoms. These were corrected. ↙

Geographic positions were omitted at the beginning of the line in several cases.

4. The sheet was compared with the boat sheet and checked very closely. A number of positions were reprojected and they were all correct.

(Inshore from rocks)
The note "inside brick" Vol. 11, Page 26, could not be interpreted.

5. Sheet H-5555 which joined on the north made a satisfactory overlap. ↙
Sheet H-5558 which takes in Avalon Bay made a satisfactory overlap. ↙
Sheet H-5556 which takes in Sentinel Rock makes a satisfactory overlap. ↙
6. No cross lines were run. ↙

James M. McQueen, Jr.
Submitted by - J. M. McQueen, Jr.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5658 (1934) - FIELD NO. SC 24

Santa Catalina Island - Eastern Part

Surveyed in March - July, 1934

Instructions dated September 13, 1933 (R. W. Knox)

Hand Lead and Machine Soundings.

3 Point Fixes on Shore Signals.

Chief of Party - R. W. Knox.

Surveyed by - R. W. Knox.

Protracted by - K. McBean.

Soundings penciled by - K. McBean.

Verified and Inked by - J. M. McQueen, Jr.

1. Condition of Records.

The records are exceptionally neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Position numbers and day letters did not appear in color on the cover and title page to conform with the records.
- b. No copy of Landmarks for Charts on Form 567 accompanied this particular sheet.
- c. Reference station and geographic datum were not indicated. This has been added to the sheet in the office.

The Descriptive Report is clear and comprehensive and adequately covers all matters of importance except the disposition of several rocks along the shore whose locations may not have been clear in the photostats.

2. Compliance with Instructions for the Project.

This is a well executed survey, and the plan, character, and extent of development amply satisfy the requirements of the instructions for the project.

3. Sounding Line Crossings.

No general system of crosslines was run, but such crossings as occur in the work, and adjacent lines, are in excellent agreement. This was especially well shown in the overlap with the harbor sheet, H-5558 (1934) of Avalon Bay, where the overlap covered all but the inner harbor.

4. Depth Curves.

All the usual depth curves can be drawn in detail inshore as far as the 10 fathom curve, and considerable portions of the five and three fathom curves.

5. Junctions with Contemporary Surveys.

The junctions with H-5555 (1934) on the west and H-5558 (1934) of Avalon Bay are excellent.

The junction with H-5556 (1934) on the southwest will be considered in the review of that sheet.

6. Comparison with Prior Surveys.

a. H-289 (1851).

This was a reconnaissance only, but the few soundings that fall within the area of the present survey are in good agreement with it.

b. H-1413 (1878), H-1414a & b (1878).

H-1413 (1878) covers only a marginal strip on the western edge of the present survey, the balance being covered by H-1414a and b (1878).

These surveys as a whole are materially below the standard now required for surveys of this nature. With the elimination of the many errors there is a fairly good agreement with the present survey. These errors occur in signal location, in recording, in leadline reading, and in plotting.

A number of relatively unimportant inshore rocks which were not disproved by the present hydrography were carried forward to H-5658 (1934).

The following were found to be in error and should not be used for charting:

- (1) A rock at lat. $33^{\circ}20.13'$, long. $118^{\circ}28.40'$ was erroneous in location due to the use of an incorrectly located signal (Hat). With the proper location of this signal, the rock is in agreement with its present location from T-4884 (1934), 200 meters to the northwest.
- (2) A rock at lat. $33^{\circ}20.00'$, long. $118^{\circ}28.45'$ is out of position for the same reason. When correctly plotted it checks with an inshore rock on the present survey.
- (3) A rock awash is shown at lat. $33^{\circ}19.60'$, long. $118^{\circ}27.95'$. By properly spacing the soundings this falls inshore to coincide with a group of rocks shown on H-5658 (1934).

- (4) A rock awash at lat. $33^{\circ}19.25'$, long. $118^{\circ}27.05'$ is believed to be an incorrect position of the rock awash close by shown on H-5658 (1934) and is due to incorrect spacing of soundings.
- (5) A rock at lat. $31^{\circ}18.30'$, long. $118^{\circ}18.65'$, originating with T-1606 (1878) was not mentioned in the sounding records of H-1414b (1878). The present hydrography, run at a 2 foot tide disproves its existence.
- (6) Rocks shown at lat. $33^{\circ}18.95'$, long. $118^{\circ}25.10'$ and lat. $31^{\circ}18.05'$, long. $118^{\circ}18.90'$ are disposed of in review T-4884 (1934).

Numerous errors in soundings occurred, the most important of which are as follows:

- (7) 9 fathoms (charted) at lat. $33^{\circ}21.50'$, long. $118^{\circ}29.70'$ is due to reversed angles, and should be deleted from the chart.
- (8) $9 \frac{3}{4}$ fathoms at lat. $33^{\circ}20.30'$, long. $118^{\circ}28.85'$ was due to the use of the wrongly located signal "Hat."
- (9) $9 \frac{3}{4}$ fathoms (charted) at lat. $33^{\circ}20.00'$, long. $118^{\circ}28.50'$ was due to the use of the above signal and a wrong cut from the ship, and should be deleted from the chart.
- (10) $38 \frac{1}{4}$ fathoms (charted) at lat. $33^{\circ}20.00'$, long. $118^{\circ}29.75'$ is slightly out of position through use of the above signal.
- (11) $14 \frac{3}{4}$ fathoms (charted) at lat. $33^{\circ}20.6'$, long. $118^{\circ}31.1'$ is incorrectly located for the same reason, and should be deleted from the chart. This vicinity is well developed on the present survey.
- (12) $39 \frac{1}{2}$ fathoms at lat. $33^{\circ}17.70'$, long. $118^{\circ}24.40'$ is considered to be an error in leadline reading. This spot was closely developed by the present survey investigating this sounding and a minimum depth of 50 fathoms obtained. The $39 \frac{1}{2}$ should be deleted from the chart.
- (13) 30 fathoms at lat. $33^{\circ}18.2'$, long. $118^{\circ}22.9'$ is apparently due to incorrect sextant reading. A change of 10° in right angle brings this into excellent agreement with H-5658 (1934). It should not be used for future charting.
- (14) Off the east end of the island on c day (sheet H-1414a) 1878, a number of differences occur that appear to be due to wrong objects or wrong leadline reading. The present survey covers this area with excellent development and these soundings should be rejected in favor of the present work.

- (15) 9 fathoms is shown at lat. $33^{\circ}23.45'$, long. $118^{\circ}21.90'$. This resulted from an arbitrary placing of the sounding midway between positions instead of allowing more time for hauling in the previous deep sounding and undoubtedly it actually fell close to the next inshore position where it checks with H-5658 (1934).
- (16) 9 fathoms (charted) at lat. $33^{\circ}23.7'$, long. $118^{\circ}21.9'$ (pos. 120, green) is due to an incorrect plotting of that position, and should be deleted from the chart.
- (17) $1 \frac{5}{6}$ fathoms at lat. $33^{\circ}24.1'$, long. $118^{\circ}21.9'$ was located on a line running inshore, and when sufficient spacing allowance is given to the outer and deeper soundings to bring the line into accord with the present survey, this sounding falls close inshore. It should, therefore, be disregarded in future charting.

c. H-4504 (1925), H-4560 (1926-28), H-4447 (1925).

These are offshore surveys on a 1-120,000 scale, running inshore to about the 45 fathom curve. Considering the difference in scale, there is a fair agreement with H-5658 (1934) except for a line off the east end of Catalina, which plots slightly too close to the shore.

d. H-4482 (1925).

This survey on a 1-5,000 scale was a harbor survey of Avalon Bay but it included two lines run out to the 50 fathom curve and a small development east of the harbor. It shows excellent agreement with the present survey.

e. T-1606 (1878) Reference par. 4a, Review T-4884 (1934).

The rock discussed in par. 4a(3) is also discussed under par. 6b(1) of this review.

The rock discussed under par. 4a(4) is disposed of under par. 6b(5) of this review.

7. Comparison with Chart No. 5202 and 5101.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

Field protracting and plotting were excellent and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

This survey is complete and no additional field work is required.

10. Superseding Old Surveys.


The present survey H-5658 (1934) is very thorough and except for the indicated additions, should supersede completely in the area covered by it, the following surveys; for charting purposes:

H- 289	(1851)	in part.
H-1414a & b	(1878)	" "
H-1413	(1878)	" "
H-4504	(1925)	" "
H-4560	(1928)	" "
H-4482	(1925)	" "
H-4447	(1925)	" "


11. Reviewed by - Harry T. Kelsh, June, 1935.

Supervised by - A. L. Shalowitz.

Examined and approved:

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


Chief, Division of Charts.


Chief, Section of Field Work.


Chief, Division of H. & T.

25 Jan 7, 1936

C.M.D.

applied to Chart 5101 - May, 1936 - R.M.Z.

15774 applied to Chart 5112 2/22/78 R.M.Z.