

9496

Diag. Cht. No. 5101-4

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey . . . HYDROGRAPHIC
Field No. RA-5-1-75
Office No. H-9496

LOCALITY

State CALIFORNIA
General Locality SANTA CATALINA ISLAND
Locality AVALON BAY

1975

CHIEF OF PARTY

C. K. Townsend

LIBRARY & ARCHIVES

DATE 6/21/76

CO
CO
CO

Area 5
CMT
5128 Apprd
5112 Apprd
5142 Apprd

5001 NC

HYDROGRAPHIC TITLE SHEET

H-9496

INSTRUCTIONS - 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.

RA-5-1B-75

State California

General locality Santa Catalina Is

Locality Southern California Avalon Bay

Scale 1:5,000

Date of survey 27 February-13 March 1975

Instructions dated 22 January 1975

Project No. OPR-411-RA-75

Vessel NOAA Ship RAINIER Launches RA-3, RA-4 & RA-5

Chief of party CDR Charles K. Townsend

Surveyed by RAINIER Personnel

Soundings taken by echo sounder, ~~HOEKER~~ Ross Model 5000 S/N's 1071, 1042, 1070

Graphic record scaled by RAINIER personnel

Graphic record checked by RAINIER personnel

Positions verified

~~checked~~ by Thelma O. Jones

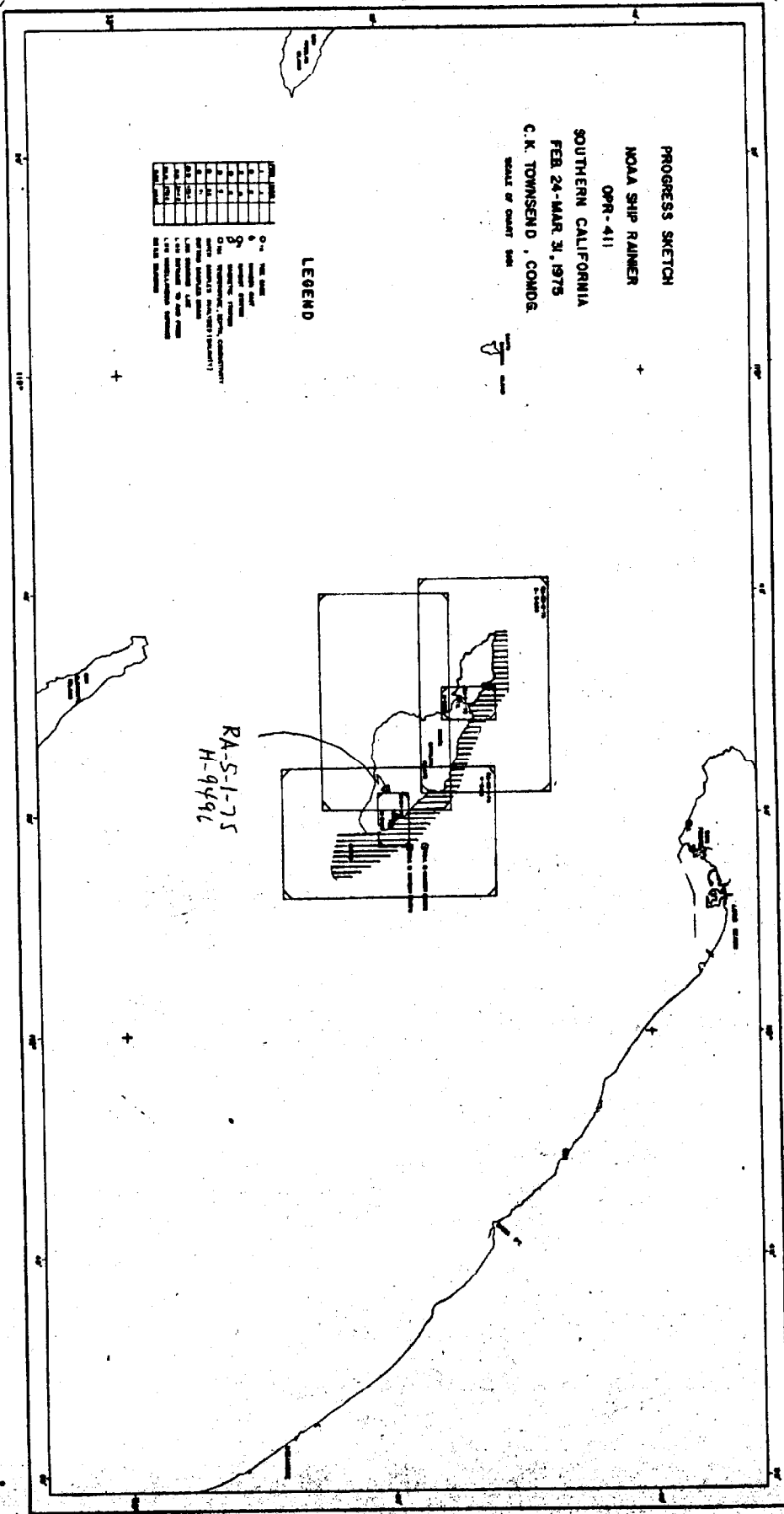
Automated plot by Xynetics FMC's Plotter

Soundings ~~provided~~ ^{verified} by Thelma O. Jones

Soundings in ~~fathoms~~ ^{feet} at ~~MLLW~~ ^{MLLW}

REMARKS:

Applied to stds 2-11-77
AB



PROGRESS SKETCH
 NOAA SHIP RAINIER
 OPR-411
 SOUTHERN CALIFORNIA
 FEB. 24-MAR. 31, 1975
 C. K. TOWNSEND, COMD.

SCALE OF CHART 5000

LEGEND

Symbol	Description
0-1	100-1000
0-2	1000-2000
0-3	2000-3000
0-4	3000-4000
0-5	4000-5000
0-6	5000-6000
0-7	6000-7000
0-8	7000-8000
0-9	8000-9000
0-10	9000-10000
0-11	10000-11000
0-12	11000-12000
0-13	12000-13000
0-14	13000-14000
0-15	14000-15000
0-16	15000-16000
0-17	16000-17000
0-18	17000-18000
0-19	18000-19000
0-20	19000-20000
0-21	20000-21000
0-22	21000-22000
0-23	22000-23000
0-24	23000-24000
0-25	24000-25000
0-26	25000-26000
0-27	26000-27000
0-28	27000-28000
0-29	28000-29000
0-30	29000-30000
0-31	30000-31000
0-32	31000-32000
0-33	32000-33000
0-34	33000-34000
0-35	34000-35000
0-36	35000-36000
0-37	36000-37000
0-38	37000-38000
0-39	38000-39000
0-40	39000-40000
0-41	40000-41000
0-42	41000-42000
0-43	42000-43000
0-44	43000-44000
0-45	44000-45000
0-46	45000-46000
0-47	46000-47000
0-48	47000-48000
0-49	48000-49000
0-50	49000-50000
0-51	50000-51000
0-52	51000-52000
0-53	52000-53000
0-54	53000-54000
0-55	54000-55000
0-56	55000-56000
0-57	56000-57000
0-58	57000-58000
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0-62	61000-62000
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0-65	64000-65000
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0-68	67000-68000
0-69	68000-69000
0-70	69000-70000
0-71	70000-71000
0-72	71000-72000
0-73	72000-73000
0-74	73000-74000
0-75	74000-75000
0-76	75000-76000
0-77	76000-77000
0-78	77000-78000
0-79	78000-79000
0-80	79000-80000
0-81	80000-81000
0-82	81000-82000
0-83	82000-83000
0-84	83000-84000
0-85	84000-85000
0-86	85000-86000
0-87	86000-87000
0-88	87000-88000
0-89	88000-89000
0-90	89000-90000
0-91	90000-91000
0-92	91000-92000
0-93	92000-93000
0-94	93000-94000
0-95	94000-95000
0-96	95000-96000
0-97	96000-97000
0-98	97000-98000
0-99	98000-99000
0-100	99000-100000

RA-5-1-75
 H-9496

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY

RA-5-1-75

H-9496

Scale 1:5,000

1975

NOAA SHIP RAINIER
CDR. CHARLES K. TOWNSEND
Commanding

A. Project

This survey was conducted as per Project Instructions: OPR-411-FA-RA-75, ✓
dated 22 January, 1975_x and Change No. 3, dated 18 February 1975, Supplement
to Instructions .

B. Area Surveyed

This survey covers Avalon Bay on Santa Catalina Island. The northern limit
is latitude $33^{\circ}21'15''$ N. The eastern limit is longitude $118^{\circ}18'30''$ W, ex-
cept at latitude $30^{\circ}20'24''$ N a line is drawn from the eastern limit to sig-
nal 216 to square off the area limits. The southern and western limits ✓
are the shoreline of Santa Catalina Island. Hydrography was run on this
survey from Julian Day 058 thru 072. Junctions were made with the following
contemporary surveys, RA-20-1-75 (H-9498). Prior surveys covering this
area are: +H-289(1851, 1:380,000), H-1414a(1878, 1:20,000)
H-4482(1925-1928, 1:120,000), H-5558(1934, 1:5,000),-
H-5658(1934, 1:20,000), H-6187(1936, 1:20,000).

Of these, only H-5558 was available aboard the RAINIER.

C. Sounding Vessels

Sounding vessels on this survey included RAINIER launches 2123(RA-3), 2124
(RA-4), and 2125(RA-5). Launches 2123 and 2124 are single screw Bertrams ✓
with fiberglass hulls; launch 2125 has a single screw and an aluminum hull.

D. Sounding Equipment and Corrections to Echo Soundings

The following is a list of equipment used by the survey launches: ✓

<u>Launch</u>	<u>Ross Fathometer Serial No.</u>
2123	Ross 5000 S/N 1071
2124	Ross 5000 S/N 1070
2125	Ross 5000 S/N 1042

Bar checks were taken daily and a TRA computed to be applied to the smooth sheet. All applicable corrections were incorporated on a TC/TT tape for automated processing (see appendix).

The fathometer was internally phased and adjusted so as to have no phase correction. Prior to the RAINIER's sailing, it was determined by PMC Facilities Division that keeping the initial near zero was not the ideal way to disperse the instrument error over the entire scale. As a result, the fathometers were calibrated in the middle of each scale by use of the "Calibrate Phase Set" function, and the initial was allowed to drift. It was felt the instrument error was more evenly distributed over the entire scale in this manner. See the Separates Following the Text for a copy of the calibration procedures used.

Two vertical casts were made on launch 2123 on J.D. 059. After velocity corrections and TRA corrections were applied, it agreed well, within 0.1 feet.

Soundings were hand logged in a sounding volume, so it was unnecessary to employ the blanking function. For further information on sounding equipment and corrections, refer to Corrections to Echo Soundings, OPR-411-RA-75.

E. Boat Sheets

The Transverse Mercator Projection and soundings were plotted by RAINIER personnel using the onboard PDP-8/e Complot System. Equipment included PDP-8/e Computer S/N 1011, Complot Plotter Model DP-3 S/N 4670-4, Hydroplot/Hydrolog Controller S/N 9.

The central meridian for the project was 119/00/00 and the control latitude was 3,653,000 meters north of latitude zero. FEST was 78,000. Rough plots were made daily and a final plot collated as the work progressed. No discernable distortion could be detected in the boat sheet during the period of the final plot.

F. Station Control

Station control for the visual hydrography included pre-existing and newly established triangulation stations and photo-picked stations. Information regarding these stations can be referenced in the Stations List in the appendix. The station name, date, quad, and number that appear in the heading of the published description of the triangulation station were included in the Station List for reference. Triangulation stations were numbered in the one-hundreds and photo-picked stations were numbered in the two-hundreds.

The computations for newly established stations CABRILLO MOLE, AVALON BAY NORTH LIGHT, AVALON BAY SOUTH LIGHT, and FORLIS 1975 can be referenced in the appendix. Raw field data have been forwarded to Pacific Marine Center with the Horizontal Control Report, OPR-411-RA-75. Computations associated with the photo-picked stations can be referenced in the Field Edit Report OPR-411-RA-75.

A computer tape punched in even parity ASCII is submitted with this report for the Station List as it appears in the appendix. A computer tape is also submitted for the list that deletes all of the descriptive information to facilitate present processing procedures.

An additional station list used for the entire project is included for completeness. No paper tape is submitted for this list. ✓

G. Position Control

This survey was controlled by three-point sextant fixes. The position for the signal 216 became suspect when apparent busts resulted from its use. A check was made using three simultaneous sextant angles. Control was moved several times; positions using signal 216 consistently disagreed with those using other control. All data using 216 was rejected and rerun. Thereafter, use of signal 216 was avoided. ✓

Positions 5123-5132 (a crossline) were run using digital sextants. For further information see the Digital Sextant Report, OPR-411-RA-75. All other positions were determined using conventional sextants.

H. Shoreline

Shoreline was transferred to the boat sheet from map manuscript TP-00612. Field edit was completed and verified by the RAINIER in 1975. The shoreline was found to be correct and is shown in black except in the area known as Hamilton Beach (north of Casino Point). It has been bulldozed by a firm building condominiums. It has been considerably altered; that portion which is in red on the boatsheet is no longer correct. An approximation of the correct shoreline is drawn in red. For details, refer to the Field Edit Report, OPR-411-RA-75. ✓

It was not always possible to develop the low water line on this boat sheet. The shore is rocky and foul with kelp in several areas, notably ✓

the area known as Descanso Bay (northwest of Casino Point). In addition the shoreline drops off sharply, so that in many areas a launch can be five to six feet from the shore and be in 15-20 feet of water.

I. Crosslines

Crosslines compare 11.6% of the total miles of hydrography on this sheet. In general, agreement was good. There are, however, three exceptions; one at latitude $33^{\circ}21'10''$ N, and longitude $118^{\circ}19'35''$ W; one at latitude $33^{\circ}20'38''$ N, longitude $118^{\circ}19'07''$ W; one at latitude $33^{\circ}20'37''$ N, longitude $118^{\circ}19'04''$.

The first shows a sounding of ~~12~~⁵ feet plotted almost on top of a ~~12~~⁶ foot sounding. The second shows an ~~8~~² foot sounding plotted offshore of an ~~8~~⁴ foot sounding; the third an offshore sounding of ~~8~~⁶ feet beyond a ~~9~~⁹⁰ foot sounding. None of the soundings have a fix number, which means their position was determined by using time and course between fixes. The use of T and C by the computer assumes a straight line was run between fixes. In actual practice, this is frequently not the case, unless the coxswains have a range to steer on. The majority of the coxswains aboard the RAINIER have not had much opportunity to run visual hydrography, hence they do not have the "feel" for the line. Overcorrections for wind and current are common, and meant that frequently a straight line was not run between fixes. It is very probable that the apparent discrepancies noted on the crosslines are a result of the use of T and C between fixes. In every case, the bottom is dropping off sharply. A difference in position of 4-5 meters in the position of the

launch can easily account for a five foot discrepancy. It is therefore recommended that the shoalest sounding be retained in every case. All the launches were used in running the crosslines.

J. Junctions

This survey junctions with contemporary survey H-9498 (RA-20-1-75, 1:20,000). Agreement with H-9498 was good--within one foot. ✓

K. Comparison With Prior Surveys

There are six presurvey review items within the limits of this sheet. The pier ruins charted in the Avalon Bay Insert of chart 5128 (Item 31) at latitude $31^{\circ} 21' 05''$, longitude $118^{\circ} 19' 37.5''$, were investigated by divers. The ruins were located but are no longer a navigational hazard. The bottom in the area is rocky; the rocks around the remains of the pier are larger and nearer the surface than the pilings. It is therefore recommended that the ruins be removed from the chart. The rocks do not constitute a navigational hazard, as it becomes shoaler in the area at a nearly constant rate. The rock awash at latitude $33^{\circ} 21' 01.5''$, longitude $118^{\circ} 19' 36.3''$ (Item 32) was searched for, but not found. A Hydro launch was used to investigate, and the rock searched for visually on two separate days for a total of two hours. It is recommended the rock be removed from the chart. (The mooring buoy charted in latitude $33^{\circ} 27.05'$, longitude $118^{\circ} 29.96'$ (Item AN) is no longer there.) Not on H-9496 ✓

The pier charted in Avalon Bay at latitude $33^{\circ} 20' 42''$, longitude $118^{\circ} 19' 29''$ (Item 33) and reported removed has been removed. A talk with the Avalon Harbor Master revealed that the pier was removed by ✓

cutting the pilings flush with the bottom. Divers were sent to investigate.. The pilings were found, and, as reported, were cut flush or nearly so with the bottom. In no case were they raised more than fifteen inches from the bottom. They are not a hazard to navigation. The writer was one of the divers on both pier investigations.

The moving buoy "USCG" charted at latitude $33^{\circ}20'43''$, longitude $118^{\circ}19'05''$ (ITEM 34) is no longer there. ✓

A rock reported off Abalone Point (a dash-circled, unnumbered feature) was searched for on two different days by launch three for a total of two hours, but was not found. The water in the area is very clear, so it is likely that any rock would have been seen visually, even if the transducer did not pass directly over it. The only rock seen was an extension of the point itself, and was so close inshore that it is not a hazard to navigation. It is recommended the rock be removed from the chart. This survey was compared with H-5558 (1934, 1:5,000). Agreement was generally very good. An exception is a sounding from H-5558 of sixteen fathoms at latitude $33^{\circ}21'12''$, longitude $118^{\circ}19'37''$. Adjacent to it is a sounding of $11\frac{5}{2}$ feet. Since the 113-foot sounding has a position number, it is likely that it is the more reliable sounding.. The sixteen fathom sounding may be a peak. It is recommended both soundings be retained, as they do not plot in the same position.

If one must be omitted, it is recommended that the sixteen fathom sounding be omitted, since the $11\frac{5}{2}$ -foot sounding has a position number.

16 fm omitted - see Q.C. report

concur
✓

L. Comparison With The Chart

The largest scale chart covering the area is an inset in C&GS Chart 5128, 7th Ed., Apr. 10, 1971. Agreement with the chart was good.

Two peaks, ^{11 and 12} both ~~nine~~ feet, were discovered in the course of this survey.

They are at latitude $33^{\circ}20'58''$, longitude $118^{\circ}19'26''$, and latitude $33^{\circ}20'59''$, longitude $118^{\circ}19'29''$. Both are peaks on the fathogram. ✓

They do not present a hazard to navigation at present, however, because they are in the area which is marked as a diving park. A system of buoys offshore of the two peaks designates the area as an underwater park, where no boating is allowed. Hence there should be no vessel traffic in the area.

M. Adequacy Of Survey

This survey is complete and adequate to supersede prior surveys for charting. All fathogram field survey records were scanned and checked for deeps and peaks and appropriate changes made to the original records where necessary. ✓

N. Aids To Navigation

There are no Coast Guard-maintained aids to navigation on this sheet.

None are recommended; the privately maintained lights are adequate. ✓

See Verifier's Report

O. Statistics

Launch	Nautical Miles	Sdg. Lines	Total No. Positions	Remarks
2123	13.8		437	7 Bottom Samples 29 DP's on mooring buoys ✓
2124	24.05		236	24 DP's on mooring buoys
2125	6.3		128	2 DP's

A vertical cast was made by launch 2123 on JP 059. Refer to the Separates Following the Text for a copy of Oceanographic Log Sheet M Bottom Sediment Data. ✓

P. Miscellaneous

None. ✓

Q. Recommendations

The coastline north of Descanso Bay has been considerably altered by land construction. Further construction work is in progress and planned; when this is complete, photo support should be flown to obtain shoreline revision. For further information, refer to the Field Edit Report OPR-411-75. ✓

R. References To Reports

Corrections To Echo Soundings, OPR-411-RA-75.

Field Edit Report, OPR-411-RA-75.

Electronic Control Report, OPR-411-RA-75. ✓

Digital Sextant Report.

Horizontal Control Report, OPR-411-RA-75,

S. Data Processing Procedures

This project saw the implementation of the "new format" hydroplot software. Difficulty arose upon first usage of these new programs and it became necessary to rely upon the old software to keep data acquisition and processing running smoothly. The problems stemmed from a variety of hardware associated malfunctions that were eventually solved. After two weeks of a combination of old and new software usage implementation of the new software began. (It was still necessary, however, to use AM 201 GRID AND LATTICE PLOT and AM 300 UTILITY COMPUTATIONS as the new format versions of these programs were not available. RK 201 GRID SIGNAL AND LATTICE PLOT replaced AM 201 when it arrived during the last week of the project.) Up to this point, all data that had been acquired through the old format was transformed to the new format with computer program RK 337 UNSCRAMBLER for submission to Pacific Marine Center. ✓

The following discussion deals primarily with processing of the hydrographic data in the production of the boat sheet. Information relating to tides processing procedures can be referenced in the Field Tide Note in the appendix. Field edit procedures can be referenced in the Field Edit Report, OPR-411-RA-75. Processing of the data followed instructions for the 1975 field season as set forth by the Processing Division of Pacific Marine in the letter dated 13 February 1975. ✓

Sounding data for this boat sheet were recorded in a sounding volume in the field. At the end of each day the fathograms were scanned and the data was hand logged into the proper master tape processing format. Position plots and position and sounding plots were made from these master tapes with the hydroplot system and the data was corrected and adjusted to repair busts and discrepancies. Master tapes and corrector tapes were edited accordingly to produce the final tapes that were used to produce the final boat sheet plot. Teletype printouts were made from the master tapes after hand logging and after final editing and processing. These printouts and a printout of the final corrector tape are submitted with this report. ✓

Bottom samples and detached positions were obtained in the field and were then transferred to a separate sounding volume. A latitude and longitude were computed for each bottom sample and detached position. These positions were plotted on the boat sheets (detached positions on a separate sheet and bottom samples on the final sheet) with AM 201 GRID AND LATTICE PLOT. Signals were plotted on the boat sheets with AM 202 VISUAL STATION TABLE LOAD AND PLOT. Pre-survey review items, prior surveys, and junction soundings were plotted by hand on the final boat sheet. Shoreline features were transferred by hand from T-Sheet manuscripts under the supervision of field edit. ✓

A latitude and longitude was computed for the fix at the beginning of a line that started the day or that started after a LBKS (line break). The latitudes and longitudes were then recorded on the original printout with the corresponding fixes. ✓

Boat sheets submitted with this report include the rough boat sheets that were used in the launches, the "semi-smooth" boat sheet (a semi-complete boat sheet used by the ship for processing and for planning purposes), the final boat sheet, a position plot, a plot of detached positions, and an expansion plot of a development. ✓

A listing of the computer programs and their respective version dates used during data acquisition and processing follows.

Respectfully submitted,


Cheryl Carvin, ENS NOAA

<u>Program</u>	<u>Version Date</u>	<u>Title/Description</u>
AM 201	10 NOV 72	GRID AND LATTICE PLOT
AM 202	10 NOV 72	VISUAL STATION TABLE LOAD AND PLOT
AM 205	11 SEP 73	VISUAL POSITION AND SOUNDING PLOT
RK 212	01 APR 74	VISUAL STATION TABLE LOAD AND PLOT
RK 215	16 AUG 74	VISUAL POSITION AND SOUNDING PLOT
AM 300	24 May 73	UTILITY COMPUTATIONS
AM 301	08 DEC 72	VISUAL STATION TABLE MAKER (VISTA)
RK 301	12 AUG 74	VISUAL STATION TABLE MAKER (VISTA)
AM 331	01 APR 73	LOGGER TO MASTER REFORMAT
RK 337	08 AUG 74	UNSCRAMBLER
RK 407	15 AUG 74	GEODETTIC DIRECT AND INVERSE COMPUTATION
RK 409	05 SEP 73	GEODETTIC UTILITY PACKAGE
RK 410	23 AUG 73	GEODETTIC THREE POINT FIX
AM 500	10 NOV 72	PREDICTED TIDE GENERATOR
RK 530	25 JUN 74	VELOCITY CORRECTION COMPUTATIONS
AM 602	10 MAR 72	ELINORE LINE EDITOR
AM 603	10 OCT 72	BINARY TAPE CONSOLIDATOR
AM 607	01 JAN 71	SELF-STARTING BINARY LOADER

FOCAL SCANNING PROGRAM (Used for photo signal computation) 13 AUG 73

WANG INTERSECTION FOR TTY OUTPUT 700/PF/022

T. Separates Following the Text

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Survey No.

H-9496

Name on Survey

	On Chart No. 18334	On Drawing No.	On U.S. Maps 1855	From 1854 Inventory Map	On 1854 Maps	P.O. Guide or	Rand. Notably	U.S. List L.		
	A	B	C	D	E	F	G	H	K	
ABALONE PT										1
CABRILLO HEAD PENINSULA										2
CASINO PT										3
DESCANSO BAY										4
HAMILTON BEACH										5
LOVERS COVE										6
SAN PEDRO CHANNEL										7
SANTA CATALINA ISLAND										8
WHITE ROCK										9
AVALON BAY										10
										11
										12
										13
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										23
										24
										25
										26

Approved
 Ches. E. Harrington
 Staff Geographer C51x2
 15 July 1976

VELOCITY CORRECTOR TAPE LISTING
RA-5-1-75(H-9496)

TABLE #1: FEET

000090	0	0000	0001	000	000000	000000
000290	0	0005				
000490	0	0010				
000690	0	0015				
001030	0	0020				
001460	0	0030				
001970	0	0040				
002400	0	0050				
002900	0	0060				
003400	0	0070				
003950	0	0080				
004500	0	0090				
005050	0	0100				
005600	0	0110				

TC/TI TAPE LISTING
RA-5-1-75 (H-9496)
FATHOMETER: ROSS S/N 1071
VESSEL: 2123

162930	0	0017	0001	059	000000	000000
160215	0	0017	0001	060	000000	000000
160645	0	0017	0001	061	000000	000000
175900	0	0017	0001	062	000000	000000
172715	0	0017	0001	064	000000	000000
210600	0	0017				

TC/TI TAPE LISTING
RA-5-1-75 (H-9496)
FATHOMETER: ROSS S/N/ 1070
VESSEL: 2124

173200 0 0012 0001 058 000000 000000
163500 0 0012 0001 059 000000 000000
232300 0 0012

TC/TI TAPE LISTING
RA-5-1-75 (H-9496)
FATHOMETER: ROSS S/N 1042
VESSEL: 2125

215630 0 0015 0001 058 000000 000000
204620 0 0015 0001 071 000000 000000
160800 0 0015 0001 072 000000 000000
162300 0 0015

STATION LIST
RA-5-1-75 H-9496

103	3	33	20	29530	118	19	14170	139	0000	000000	
				FLAGSTAFF 1934	33	118	2	1059			
104	3	33	20	51210	118	19	38660	139	0000	000000	
				CARILLION 1934	33	118	2	1056			
105	3	33	20	55860	118	19	29289	139	0000	000000	
				CASINO 1934	33	118	2	1057			
106	3	33	20	55706	118	19	26946	139	0000	000000	
				CASINO FLAGPOLE 1934	33	118	2	1058			
				THIS POSITION TO SUPERSEDE PREVIOUS POSITION AS USED DURING HYDROGRAPHY							
107	6	33	20	42439	118	19	15206	139	0003	000000	
				CABRILLO MOLE							(RAYDIST CALIBRATION SITE)
				CENTER OF NORTHERNMOST GROUP OF CORNER PILINGS OF PIER REF COMPUTATIONS IN DESCRIPTIVE REPORTS THIS POSITION TO SUPERSEDE PREVIOUS POSITION AS USED DURING HYDROGRAPHY							
108	3	33	20	34055	118	18	59390	139	0046	000000	
				FORLIS 1975	33	118	2				
				REF COMPUTATIONS IN DESCRIPTIVE REPORTS THIS POSITION TO SUPERSEDE PREVIOUS POSITION AS USED DURING HYDROGRAPHY							
109	0	33	20	53973	118	19	22760	139	0005	000000	
				AVALON BAY NORTH LIGHT							(LIGHT 2) 33 118 2
				REF COMPUTATIONS IN DESCRIPTIVE REPORTS THIS POSITION TO SUPERSEDE PREVIOUS POSITION AS USED DURING HYDROGRAPHY							
110	3	33	20	53362	118	19	42610	139	0134	000000	
				LOW POLE 1917	33	118	2	1030			
111	3	33	20	34015	118	19	44220	139	0069	000000	
				NEW 1917	33	118	2	1031			
201	3	33	20	27461	118	18	50461	243	0000	000000	
				PHOTO TP-00612							
202	6	33	20	33661	118	18	55023	243	0000	000000	
				PHOTO TP-00612							
203	6	33	20	36939	118	18	59315	243	0000	000000	
				PHOTO TP-00612							

CONCLUDED ON NEXT PAGE

STATION LIST
RA-5-1-75
(CONCLUDED)

204	3	33	20	38854	118	19	12837	243	0000	000000
				PHOTO	TP-00612					
205	4	33	20	38043	118	19	18792	243	0000	000000
				PHOTO	TP-00612					
206	6	33	20	39341	118	19	24128	243	0000	000000
				PHOTO	TP-00612					
207	5	33	20	44859	118	19	32944	243	0000	000000
				PHOTO	TP-00612					
208	0	33	20	48105	118	19	34104	243	0000	000000
				PHOTO	TP-00612					
209	3	33	21	09413	118	19	38442	243	0000	000000
				PHOTO	TP-00612					
210	3	33	21	04707	118	19	39680	243	0000	000000
				PHOTO	TP-00612					
211	6	33	20	34634	118	19	22659	243	0000	000000
				PHOTO	TP-00612					
212	5	33	20	39860	118	19	30547	243	0000	000000
				PHOTO	TP-00612					
213	3	33	20	58233	118	19	34298	243	0000	000000
				PHOTO	TP-00612					
214	6	33	20	33368	118	19	03944	243	0000	000000
				PHOTO	TP-00612					
215	6	33	20	33888	118	19	06148	243	0000	000000
				PHOTO	TP-00612					
216	3	33	20	19508	118	18	45202	243	0000	000000
				PHOTO	TP-00612					
217	7	33	20	14607	118	18	39788	243	0000	000000
				PHOTO	TP-00612					
218	3	33	20	17142	118	18	43818	243	0000	000000
				PHOTO	TP-00612					
219	5	33	20	15159	118	18	41737	243	0000	000000
				PHOTO	TP-00612					

Abstract of Positions

<u>Vessel:</u>	<u>J.D.</u>	<u>Position</u>	<u>Control</u>	<u>Remarks</u>
2123	059	3000-3073	01	
	060	3074-3180	01	
	061	3181-3331	01	
	062	3339-3387	01	
	064	3397-3453	01	
	059	3027-3255	01	DP's on Mooring Buoys
	062	3332-3338	01	Bottom Samples
2124	058	4000-4094	01	
	059	4095-4235	01	
	058	4078	01	DP on PSR #A0
	059	4157-4179	01	DP's on Mooring Buoys
2125	058	5000-5026	01	
	071/72	5030-5120	01	
	072	5123-5132	01	
	072	5121-5122	01	DP's

PARAMETER TAPE LISTING
RA-5-1B-75(H-9496)
SKEW:0,22,60

FEST=78000
CLAT=3653000
CMER=119/00/0
GRID=15
PLSCL=5000
PLAT=33/20/00
PLON=118/20/45
VESNO=2124
YR=75
ANDIST=0.0

EXPANSION SHEET
RA-5-1B-75(H-9496)
SCALE:-1:2500
SKEW:0,12,12

FEST=78000
CLAT=3653000
CMER=119/00/0
GRID=10
PLSCL=2500
PLAT=33/20/45
PLON=118/19/38
VESNO=2123
YR=75
ANDIST=0.0

DESCRIPTIVE REPORT CONTROL RECORD

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
 COAST AND GEODETIC SURVEYS

MAP TP-00612 PROJECT NO. PH-7112 SCALE OF MAP 1:5,000 SCALE FACTOR None

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y COORDINATE		LONGITUDE OR X COORDINATE		N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (2 FT. = 3038006 meters) FORWARD	BACK
LOWER WINDSTOCK, 1934	Quad. 33182 STA. NO. 1061	N.A. 1927	33° 21' 08.45"	118° 19' 42.82"	260.3	11588.2		
			33° 20' 51.21"	118° 19' 38.66"	1577.7	(2708)		
DARLTON, 1934	" " 1056	"	33° 20' 37.406"	118° 19' 37.709"	999.7	(551.8)		
			118° 19' 37.709"	33° 20' 34.329"	1066.0	(788.5)		
ALON CONGREGATIONAL WASH BERRY, 1917	" " 1054	"	33° 20' 34.329"	118° 19' 35.772"	1174.2	(727.2)		
			118° 19' 35.772"	33° 20' 55.860"	925.0	(626.5)		
ALON ELECTRIC LIGHT ANT-STOCK, 1917	" " 1055	"	33° 20' 55.860"	118° 19' 29.289"	1720.9	(1276)		
			118° 19' 29.289"	33° 20' 55.793"	757.3	(974.1)		
SINO, 1934	" " 1057	"	33° 20' 55.793"	118° 19' 26.959"	1713.9	(1296)		
			118° 19' 26.959"	33° 20' 29.53"	691.1	(854.3)		
LAGSTAFF, 1934	" " 1059	"	33° 20' 29.53"	118° 19' 14.17"	909.8	(938.7)		
			118° 19' 14.17"	33° 20' 54.005"	366.4	(1185.2)		
SINO, 1917	" " 1031	"	33° 20' 54.005"	118° 19' 44.220"				
			118° 19' 44.220"	33° 20' 54.005"				
SINO, 1917	" " 1030	"	33° 20' 54.005"	118° 19' 44.220"				
			118° 19' 44.220"	33° 20' 54.005"				

PUT BY A.C. ROUCK JR DATE 1/10/74 CHECKED BY F.P. GUSTAFSON DATE 1-11-74 29

ATTACHMENT "A"

1875
← HUMASLT →

DEBRIEFING OUTLINE OPR-411 - Santa Catalina Island

I. Operations

Support

Hydrography

Boatsheets

2-20,000

2- 5,000

All incomplete sheets except Avalon Bay Progression from East End Light northwest to West End.

Includes area from shore to 110fm curve.

Position Control

Raydist on 20,000 sheets.

Shore stations on NIKE (located by Rainier personnel) and ABALONE KNOLL (existing triangulation)

Six-man shore party left in Long Beach at start of project to install and locate.

One-man shore party on mainland to care for stations during operations.

Visual on 5,000 sheets.

Combination of triangulation and photo-located signals.

Digital sextants in Isthmus Cove worked quite well. Launches were able to keep lines much straighter by taking several check fixes. LT Pickrell and Mr. Williams of MDSP were present for training in their use.

Tides

ADR station at Avalon, Pleasure Pier. Additional station at Catalina Harbor to cover contingency of working back side of island.

Control stations inspected at Los Angeles and Long Beach.

Magnetics

Observations made at Δ Low Pole and Pablo.

Statistics

Nm hydro-visual	162.2
Nm hydro-electronic	331.1
Nm hydro-total	493.3
Nm2 hydro	41.4
Topographic stations established	4
Traverse stations established	2

ATTACHMENT "B"

March 15, 1976

PH-7112 Santa Catalina Island, California TP-00612

Notes on Application of Field Edit:

The shoreline area under construction, outlined in the field edit report, could only be shown as an unsurveyed or approximate MHWL until new photography can be scheduled for the area.

All landmarks located during compilation that were verified of landmark value during field edit, were not given elevations as per photogrammetric instructions.

The "Master Index" field edit cronaflex and the boatsheet referenced all offshore data (rocks and reefs) to February 25, 1975. The photos covering this area reference the same rocks, (at the same time) to the 24th of February, 1975. In conversation with Lt. J.G. Kathryn A. Andreen, it was established that the correct date was February 25, 1975. All vertical datums were thus references to 2/25/75.

All rocks not previously located but indicated by field edit were added to the manuscript.

"White Rock" is identified as two different rocks between the field "Master Index" cronaflex and photo number 72L2304. The cronaflex position was labeled, but should be verified.

In establishing the vertical datum for foreshore rocks, the following procedure was used:

All field references were to Greenwich Time; all staff readings were local time, (120W). Eight hours were thus subtracted from the field references, the height recorded applied and properly referenced to MLLW or MHW.

John P. Battley, Jr.
J. Battley, Jr.

RECORD NUMBER	IN	NUM	CODE	ANGLE	DISP.	CODE	NAME	HEIGHT (KHZ)	CONVERSION
1	75	103	139	307.00	5.60	0	CARILLON 1934	0.0	0.00
2	75	104	139	182.00	5.00	0	CASINO 1934	0.0	0.00
3	75	105	139	176.00	5.60	0	CASINO 1934	0.0	0.00
4	75	106	139	182.00	9.00	0	CASINO FLAGPOLE 1934	0.0	0.00
5	75	107	243	239.00	5.30	0	CABRILLO MOLE	0.0	0.00
6	75	108	243	232.00	1.90	0	FORIS 1975	0.0	0.00
7	75	109	243	180.00	12.30	2		0.0	0.00
8	75	110	139	185.00	5.07	0	LOW POLE 1917	0.0	0.00
9	75	111	139	307.00	5.60	0	NEW 1917	0.0	0.00
10	75	112	243	240.00	6.40	1	AVALON BAY SOUTH LIGHT	0.0	0.00
11	75	201	243	203.00	1.30	0		0.0	0.00
12	75	202	243	201.00	1.70	0		0.0	0.00
13	75	203	243	249.00	1.00	0		0.0	0.00
14	75	204	243	225.00	1.30	0		0.0	0.00
15	75	205	243	307.00	5.60	0		0.0	0.00
16	75	206	243	227.00	3.90	0		0.0	0.00
17	75	207	243	204.00	1.70	0		0.0	0.00
18	75	208	243	209.00	1.90	0		0.0	0.00
19	75	209	243	183.00	1.80	0		0.0	0.00
20	75	210	243	186.00	1.30	0		0.0	0.00
21	75	211	243	307.00	5.60	0		0.0	0.00
22	75	212	243	196.00	1.50	0		0.0	0.00
23	75	213	243	167.00	1.90	0		0.0	0.00
24	75	214	243	228.00	1.30	0		0.0	0.00
25	75	215	243	218.00	1.40	0		0.0	0.00
26	75	216	243	198.00	1.70	0		0.0	0.00
27	75	217	243	205.00	1.50	0		0.0	0.00
28	75	218	243	195.00	1.80	0		0.0	0.00
29	75	219	243	195.00	1.80	0		0.0	0.00
30	75	220	243	307.00	5.60	1		0.0	0.00
31	75	221	243	307.00	5.60	1		0.0	0.00
32	75	222	243	190.00	1.00	0		0.0	0.00
33	75	223	243	307.00	5.60	0		0.0	0.00
34	75	224	243	307.00	5.60	1		0.0	0.00
35	75	225	243	307.00	5.60	1		0.0	0.00

FILE CERTIFIED CORRECT FOR PLOTTING BY:..... DATE:.....

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Avalon Bay

Period: February 27-March 29, 1975

HYDROGRAPHIC SHEET: H-9496

OPR: 411

Locality: Off the eastern coast of Santa Catalina Island

Plane of reference (mean lower low water): 2.79 ft.

Height of Mean High Water above Plane of Reference is 4.60 ft.

Remarks: Zone direct.

James R. Hubbard

Chief, Tides Branch

APPROVAL SHEET

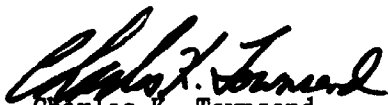
H-9496 (RA-5-1-75)

OPR-411-RA-75

Southern California

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OORDER, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheets and the accompanying records have been examined by me and are considered complete and adequate for charting purposes and are approved.


Charles K. Townsend
CDR., NOAA

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9496

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & 2-Overlays		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1			
CAHIERS	1 & P/O.					
VOLUMES	6					
BOXES						
T-SHEET PRINTS (List) TP-00612						
SPECIAL REPORTS (List) xxx						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				801
POSITIONS CHECKED		704		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		33		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control		25		
Verification of Positions		89		
VERIFICATION OF SOUNDINGS		130		
Smooth Sheet		104		
ALL OTHER WORK		32		
TOTALS		380	HIT 15	
PRE-VERIFICATION BY James S. Green	BEGINNING DATE June 4, 1975	ENDING DATE June 5, 1975		
VERIFICATION BY A. E. Eichelberger (A. E. Eichelberger)	BEGINNING DATE July 10, 1975	ENDING DATE May 15, 1976		
REVIEW BY	BEGINNING DATE	ENDING DATE		

R.C. K.W. Wellman contains 30 kg 5 hr 7-8-76 12/15/76 G.P.O. 1972-769-562/439 REG.#8 7-15-76 35

R.D. Semaki 6 hr 21/2 hr 77

REGISTRY NO. H-9496

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. H-9496

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

H-9496

Information for Future Presurvey Reviews

None

<u>Position Index</u>		<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
332	1182	1	1	50 years

VERIFIER'S REPORT

RA-5-1-75

H-9496

This survey was verified and plotted at the Pacific Marine Center, Seattle, Washington. Information relating to this survey is provided as specified in Chapter 6 of the Provisional Hydrographic Manual.

I. INTRODUCTION

With the following exceptions, few problems were encountered in the verification of this survey.

- a. The depths for detached positions, 4159-4179, were manually offset to allow for mooring buoy symbols.
- b. The geographic position for the tide station was erroneously listed, so the approximate position was obtained from field personnel, the tide station plotted, and position scaled.
- c. Three lines between $33^{\circ}20'45''$, $33^{\circ}21'15''$ and $118^{\circ}18'45''$, $118^{\circ}19'15''$ approximately were run so close in proximity that the verifier rejected two lines (Pos. 4058-4065, 5062-5069) for clarity.
- d. White rock was incorrectly identified on the field edit ozalid and applied erroneously to shoreline manuscript TP-00612. The geographic name on the smooth sheet was moved to agree with the historic location of the rock on prior survey H-5558 (1934) and chart 18334 (C&GS 5128). (See attachment "B" in Verifier's Report.)
- e. Positions 3074-3085 were plotted using station 216. According to ship's report, all data using signal 216 was rejected. These positions were not rejected during verification because there were no apparent anomalies, and the junction with H-9498 was good.
- f. The survey data shows a 2.7 meter bust between the ship's computed G.P. for signal 106 and the published G.P. Final processing was accomplished using the field computed G.P. A brief inspection of ship's computations showed no errors and was more likely to be the object sighted.

II. CONTROL AND SHORELINE

The shoreline originates from unreviewed Class I photogrammetric manuscript TP-00612 compiled from photos flown in 1972. Field edit was accomplished in February-March 1975. The shoreline from Latitude $33^{\circ}21.2'$, Longitude $118^{\circ}19.65'$ northwesterly to the sheet limits is under construction; therefore, it is represented by a dashed line. Horizontal Control is adequately described in Paragraph F of the Descriptive Report.

III. HYDROGRAPHY

The basic hydrography incorporated in this survey is adequate to delineate the bottom configuration and to determine least depths. There were no

major difficulties encountered in the verifications of the main scheme soundings, and the crosslines were in good agreement. There are seven bottom samples in this survey. The zero curve was not delineated by hydrography.

IV. CONDITION OF SURVEY

The hydrographic records, overlays, smooth sheet and reports are adequate and conform to the requirements of the Provisional Hydrographic Manual.

V. JUNCTIONS

This survey junctions with contemporary survey H-9498, 1:20,000 (1975) to the north and east. The soundings and junction curves were in excellent agreement.

VI. COMPARISON WITH PRIOR SURVEY

This sheet was compared with H-5558, 1:5,000 (1934). There is considerable change in the shoreline, due to addition of a breakwater at Casino Point, the removal of a pier at Latitude $33^{\circ}20'42''$, Longitude $118^{\circ}19'29''$, and the construction of Cabrillo Mole Peninsula. The mooring buoy "USCG" at $33^{\circ}20.72'$, $118^{\circ}19.13$ (PSR item 34) was replaced with a buoy with sign "No Anchorage". The submerged rock on chart 5128, 7th Edition, April 10, 1971, 35 meters west of Abalone Point, was searched for, but not found. The ship recommends that it be removed from the chart (see ship's report, page 7). A sounding of 16 fathoms on H-5558 is adjacent to a sounding of 115 feet on the present survey. The 16 fathoms was converted to feet and carried forward, since it was not disproved. Generally the comparison with H-5558 was good. H-5558 was not adjusted to the 1927 datum shift. } See Q.C. Report - item 8

The present survey is adequate to supersede all prior surveys of the area.

VII. COMPARISON WITH CHART

Comparison was made with chart ~~5128~~ (C&GS 5128) 7th Edition, April 10, 1971, Avalon Bay inset, 1:10,000. Agreement with the chart was good.

PSR item #31: Pier ruins @ Latitude $33^{\circ}21'05''$, Longitude $118^{\circ}19'38''$: Pier ruins no longer constitute a navigational hazard, recommend ruins be removed from the chart.

PSR item #32: Rock awash @ Latitude $33^{\circ}21'01''$, Longitude $118^{\circ}19'36''$: Rock was searched for and not found by the hydrographic party. Recommend rock be deleted from the chart. (See Q.C. Report - item 5)

PSR Item #33: Pier @ Latitude $33^{\circ}20'42''$, Longitude $118^{\circ}19'29''$: Pier has been removed, recommend deletion from the chart.

PSR item #34: Mooring buoy "USCG" @ Latitude 33°20'43", Longitude 118°19'08": previous location PSR item #34, present location PSR item A0. Buoy has been relocated to Latitude 33°21'01", Longitude 118°19'22" (Vol. 1 pos. 4078).

For hydrographer's comments on the above features, see Paragraph "K" ship's Descriptive Report.

The location of the Cupola at Latitude 33°20'48" Longitude 118°19'35" and the tower at Latitude 33°20'51" Longitude 118°19'38" was reversed on the smooth sheet from these positions as charted (See attachment "C" of the Verifier's Report). ~~Recommend the chart be corrected.~~
(See Q.C. Report - item 4)

Ch. 379 (1976)
is faulty.
Features
correct as
charted.
RMC

The aids to navigation incorporated in this survey are as listed on NOAA Form 76-40 in the Descriptive Report. The present survey should supersede charted hydrography in the area.

VIII. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey adequately complies with the project instructions dated 22 January 1975.

IX. ADDITIONAL FIELD WORK

This survey is adequate to supersede charted information in the area. No additional field work is recommended.

X. NOTES TO THE COMPILER

This survey was verified by Thelma Jones, Cartographic Technician, a verifier trainee, under my supervision.

Respectfully submitted,

A. E. Eichelberger

A. E. Eichelberger
Cartographic Technician
May 18, 1976

Examined and approved,

J. S. Green

James S. Green
Chief, Verification Branch



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY, Pacific Marine Center
1801 Fairview Ave. E., Seattle, WA 98102

Date: 10 June 1976

To: H. R. Lippold, Jr., RADM
Director, PMC

From: *Donald E. Nortrup*
Donald E. Nortrup, LCDR
Chief, Processing Division

Subject: PMC Hydrographic Survey Inspection Team Report, H-9496

This survey is a basic harbor survey of Avalon Bay, Santa Catalina Island, CA. conducted by NOAA Ship RAINIER in 1975 in compliance with Project Instructions OPR-411-RA-75, dated 22 January 1975. A number of minor cartographic and report modifications have been made as a result of the inspection process.

Four "net platforms" are charted in the south eastern corner of Avalon Bay on Chart 5128, 7th Edition, April 10, 1971. The existence of these platforms is not addressed in the ship's comparison with the chart or depicted on Class I manuscript TP-00612. The source of these items is unknown. It is recommended that the source materials be researched to confirm or disprove the existence of the platforms.

The inspection team concurs in the recommended deletion of the sunken rock charted off Abalone Point. Hydrography in the vicinity generated a one-foot sounding very near the purported rock. The one-foot sounding is not a peak and would be improperly represented by a sunken rock symbol.

The inspection team finds H-9496 to be a good basic survey, complete, and adequate for charting purposes and to supersede prior surveys. Administration approval is recommended.

Donald E. Nortrup
D.E. Nortrup, LCDR

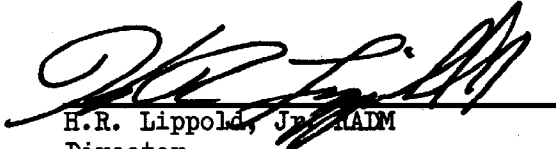
Richard D. Lynn
R. D. Lynn


John C. Albright
J.C. Albright, LCDR

D.R. Seidel
D.R. Seidel, LCDR

Administrative Approval
H-9496

The smooth sheet and reports of this survey have been reviewed,
and the survey is complete and adequate to supersede all prior
surveys.


H.R. Lippold, Jr. ADM
Director
Pacific Marine Center


Date



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352

July 15, 1976

TO: *A. J. Patrick*
A. J. Patrick
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: K. W. Wellman *K. W. Wellman*
Quality Evaluator

SUBJECT: Quality Control Report for H-9496 (1975), California, Santa Catalina Island, Avalon Bay

A quality control inspection of H-9496 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

Junctional sheet H-9498 (1975) is not available for a quality control examination of the agreement of junctional soundings and depth curves.

The quality control examination revealed a general conformity with National Ocean Survey standards and requirements except as follows:

1. The approval sheet giving the status of the final printouts and tapes is not included with the Verifier's Report. (See provisional manual - page 6-79 and figure 6-4.)
2. The smooth plotted position of station 106, ostensibly a triangulation station, is at variance with the officially adjusted geodetic position. Inasmuch as the anomalous position was accepted for the processing of the present survey, it is considered incorrectly symbolized as a triangulation station. Accordingly this station has been revised to a hydrographic station and is symbolized as such on the smooth sheet. (See provisional manual, appendix B - cartographic code #243.)
3. The soundings associated with the mooring buoys, in the northwest section of the survey area, were inked at approximately 1/2 the recommended size during verification. (See provisional manual - section 7.3.8.)



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4. Chart letter 379 (1976) is considered incorrect vis-a-vis the recommendations regarding the Tower and the Cupola. These features should be retained as presently charted.

5. The rock awash charted in latitude 33°21'01", longitude 118°19'36" (Presurvey Review Item 32) originates with Bp 76570 (1967). The present survey shows pier ruins at the seaward end of the existing pier in the vicinity. The chart should be revised to agree with the present survey.

6. The following recommendations for differences between the present survey and charted information are submitted during this quality evaluation:

A. The net platforms, charted at various locations in close proximity to the shoreline in Avalon and Descanso Bays, originate with a not readily ascertainable source on the 7th edition of chart 5128 (April 10, 1971). The present survey does not show these platforms and they do not appear on the 1972 air photos of the area. These platforms may be set up at varying positions as appropriate to seasonal beach activity. They should be removed from the chart.

B. The charted delineation of several piers is at variance with their portrayal on the present survey. The additional sections of these piers not shown on the present survey originate with the indicated sources and fall in the following positions:

<u>Latitude</u>	<u>Longitude</u>	<u>Source</u>
33°20'54.00"	118°19'31.50"	L 176/52
33°20'48.30"	118°19'33.50"	Unknown (Prior to 1971)
33°20'46.80"	118°19'33.90"	Unknown (Prior to 1971)
33°20'45.10"	118°19'32.70"	Unknown (Prior to 1971)
33°20'40.00"	118°19'23.50"	Unknown (Prior to 1971)

They do not appear as charted on the 1972 air photos of the area or on the present survey. The chart should be compared with TP-00612 and revised as necessary to effect agreement with the topographic survey.

7. The note referencing the source of the sounding carried forward from H-5558 (1934) and some "kelp" notes were incorrectly lettered in vertical rather than slanted lettering. (See provisional manual - section 7.2.5.2.)

8. It appears that the position of the 96-foot sounding, brought forward from H-5558 (1934), was not adjusted for the datum differences between the present and prior surveys. The verified smooth sheet position of this sounding (latitude 33°21'12", longitude 118°19'36") was displaced approximately 30 meters to the southeast of the corresponding, datum adjusted,

source document position. (See provisional manual - sections 6.3.8 and 6.3.9.) Inasmuch as there is adequate agreement of depths between the present and prior surveys, it is not considered necessary to retain this sounding. It was therefore deleted from the present smooth sheet. Several bottom characteristics, however, were brought forward to supplement the present survey.

cc:
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