9498

9498

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-20-1-75

Office No. H-9498

LOCALITY

State CALIFORNIA

General Locality SANTA CATALINA ISLAND

Locality SEAL ROCKS TO GOAT HARBOR

19 75

CHIEF OF PARTY

C. K. Townsend

LIBRARY & ARCHIVES

DATE 11/1/76

Area 5

RCC 5128 applied C 3-30-79

✓5112 applied BWH 2-16-78

✓5142 applied BWH 2-19-78

RCP 5101 applied BWH. 3-2-79

5020

✓5002

☆ U.S. GOV. PRINTING OFFICE: 1975—668-353

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9498

HYDROGRAPHIC TITLE SHEET

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-2Ø-1-75

State CALIFORNIA

General locality Santa Catalina Island

Locality Seal Rocks to Goat Harbor

Scale 1:2Ø,ØØØ Date of survey 3 March 75 - 28 March 1975

Instructions dated Basic: 22 Jan 75 Change II: 18 Feb 75 Project No. OPR-411-RA-75

Vessel NOAA Ship RAINIER and ship's launches RA-4, RA-5, RA-6

Chief of party Cdr. Charles K. Townsend

Surveyed by Lt. G. Stanley, Lt.(jg.) G. Stroble, Lt.(jg.) B. Mezger, Ens. R. Ellis

Soundings taken by echo sounder, ~~hand lead, pole~~ RA-4 - Ross Model 5ØØØ #1Ø7Ø
RA-5 - Ross Model 5ØØØ #1Ø42
RA-6 - Ross Model 2ØØ-A #1Ø4Ø

Graphic record scaled by Ship's personnel

Graphic record checked by Ship's personnel

Positions verified
~~Protracted~~ by James L. Stringham Automated plot by PMC Xynetics Plotter

Soundings verified
~~Xxxxxxxx~~ by James L. Stringham

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS: Boat sheet is incomplete; area covered is from Seal Rocks to Goat Harbor.

Applied to stds 2-10-77
ASB

2

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

RA-20-1-75

H-9498

Scale 1:20,000

1975

NOAA SHIP RAINIER

CDR. CHARLES K. TOWNSEND

Commanding

A. PROJECT

This survey was conducted in accordance with project instructions from PMC, OPR-411-75, dated 22 January 75, and Change 2, dated 18 February 75. Change 1 was cancelled by Change 2.

B. AREA SURVEYED

The area surveyed was in Southern California's Channel Islands, the portion of Santa Catalina Island's coast from the southeastern end at Seal Rocks northward to Goat Harbor, and from the shoreline to the more seaward of the 110 fathom curve or the project square off limits.

The boat sheet, subdivided into sheets RA-20-1A-75 and RA-20-1B-75 for automated plotting, extended from 33°12'08"N to 33°28'38"N, and from 118°12'06"W to 118°24'05"W. Of the 165.0 square nautical miles of the boat sheet, the area between junctions, shoreline, and the square off limits comprised about 27.2 square nautical miles of survey.

The survey work spanned 3 March 75 to 28 March 75 inclusive. Prior surveys covering the area were H-5658 at 1:20,000. done in 1934, smooth plotted in brown on sheet A and in dark green on sheet B, and H-5848 at 1:40,000, done in 1934, and smooth plotted in dark green on sheet A. The survey junctioned at Goat Harbor with contemporary survey H-9499 (RA-20-2-75) and at the square off limits outside Avalon Bay with contemporary survey H-9496 (RA-5-1-75).

C. SOUNDING VESSELS

The sounding vessels used for this survey were the NOAA Ship RAINIER's launches RA-4, RA-5, and RA-6 with ADP identifiers 2124,2125, and 2126 respectively. The RAINIER, ADP #2120, took bottom samples, and field edit was done with a skiff. Control for survey and bottom samples was by Raydist.

For the correspondence of survey vessels and position numbers, refer to the Abstract of Positions, appended.

D. SOUNDING EQUIPMENT

Fathometers used for this survey were as follows:

LAUNCH	MODEL	SERIAL	% OF SOUNDINGS
RA-4 (2124)	Ross 5000 Fineline	1070	13.91
RA-5 (2125)	Ross 5000 Fineline	1042	24.72
RA-6 (2126)	Ross 200-A Fineline	1040	61.37

Numerous failures of depth digitizing equipment and operating procedures caused from 5% to 80% of various days' soundings to be scanned from the analog fathogram trace. Failures of the constant frequency inverters were responsible for the wavy initial traces where they occurred (e.g. 2126-JD071); due to the new phase calibration technique, at midscale rather than initial, an unknown portion of this waver exists in the trace. Since no scaling rules for midscale phasing have been supplied, no correction for the initial was made.

Phase calibration was performed at the beginning of each day routinely, and checked frequently between lines while surveying, with readjustments when necessary, so no phase correction need be applied to the fathometer soundings. Settlement and squat were determined to be negligible prior to the survey, by checking the level of a fixed point on each launch while hove to and at various speeds typical of the survey. Linear scribe motion for the Fineline series of fathometers eliminates arc correctors.

All of the correctors listed above being negligible or indeterminate, the three correctors of interest are tide, TRA, and velocity. TRA correctors were determined by routine daily bar checks, and checked by leadline comparison at less frequent intervals. The TRA correction is incorporated in the electronic corrector tapes. The velocity correctors were determined by TDC cast techniques, and are supplied as a velocity corrector tape. Vertical casts were taken and appear to be in good agreement with electronic soundings.

Soundings were in fathoms and tenths. For a fuller explanation of the sounding techniques, see Corrections to Echo Soundings, OPR-411, NOAA Ship RAINIER, 1975.

E. BOAT SHEETS

Boat sheets and smooth sheets were constructed with the shipboard hydroplot system, using computer PDP-8/E, S/N 1011 and Complot D3 plotter S/N 3750-3 at a scale of 1:20,000, using a transverse Mercator projection with a central meridian of 119°00'00" and with a latitude offset of 3,653,000 meters north of the equator.

Boat sheets were updated daily during the survey, semi-smooth sheets plotted and errors resolved, and the smooth sheets plotted when the survey was complete. No discernable distortion was noted on the smooth sheets between first and final plot and inking.

Copies of the parameter tapes for the two sheets are included as separates.

Main scheme and development is smooth plotted in black, crosslines (except for five lines at the southern end which changed from main scheme to crossline in the course of a single line) in red, junctions in violet or blue, prior survey soundings in dark green or brown, pre-survey review items in light green, shoreline in black, red, or blue as appropriate, and bottom samples in blue.

In areas of development, some lines which appear on the master tape are omitted for legibility. One shoal development and one "wreck"

investigation are provided on separate expansion sheets.

F. STATION CONTROL

Station control for the electronic hydrography included existing triangulation and newly established triangulation stations that met or exceeded third order precision. Information regarding these stations can be referenced in the Stations List, appended. The station name, date, quad, and number that appear in the heading of the published description of the triangulation station are included in the Station List for reference. Raydist stations NIKE ECC 1975 and ABALONE KNOLL 1884 and static calibration site CABRILLO MOLE were the primary stations used for hydrography. The other stations on the list were used to establish NIKE ECC 1975 and CABRILLO MOLE or were used in a dynamic calibration for one day's hydrography started at Isthmus Cove, north of this survey.

Computations and raw data for the established triangulation stations can be referenced in the appendix. Raw data field books have been forwarded to PMC. For further information see Horizontal Control 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 paper tape that deletes all of the descriptive information from the Station List is included to facilitate present processing procedures.

A station list for the entire project is included in the appendix for completeness, without a corresponding paper tape:

G. POSITION CONTROL

Position control information was derived from Raydist electronic navigation gear. Control geometry was good, intersection angles between Red and Green lines varying from 108° to 125° in the area surveyed. Equipment performance was uniformly poor, necessitating extensive editing and reconstruction to yield the present plot.

Raydist shore stations were positioned as described in Section F. Raydist mobile sets used on RAINIER and launches were as follows:

RAINIER	1
RA-4	2
RA-5	1
RA-6	4

Calibrations were taken at least twice daily, before and after hydrography by placing the launch alongside a known point on Cabrillo Mole. The correctors were not applied on line to the Hydroplot/Hydrolog System, but inserted on the corrector tapes.

Refer to Section S and Electronic Control Report, OPR-411-RA-75 for more information concerning the application of correctors and the designation and operation of the Raydist sets.

H. SHORELINE

Shoreline was derived from TP's 00609 and 00610, and traced to the boatsheets and smooth sheets. Shoreline verified by field edit is traced in black. The area traced in red at about 33°21'15"N and 118° 20'15"W is being altered by grading in progress for a condominium development on the hillside above it. Shoreline sketched is a visual estimate by the field editor and should be confirmed by survey or photogrammetry when the present grading work is completed.

The detail of the shoreline differs in many places between the present chart and the T Sheets. The T Sheets should be accepted, as erosion and excavation have significantly altered the shoreline. The area traced in blue from the shoreline's southwest extremity counterclockwise to Seal Rocks was not field edited, since survey work did not reach that area.

The low water line is not in general defined by the soundings. The tidal range was small, the coastline mostly bluffs, and a great deal of the inshore water was foul with kelp and rocks. Considerations of safety under these conditions prevented launches from being run into water shoaler than two to six fathoms on the inshore ends of most lines. Nowhere should the area within one hundred feet of the mean high water line be considered safe for navigation without local knowledge.

I. CROSSLINES

Of 182.7 miles of sounding lines, 62.0 or 34% were crosslines. Crosslines were generally in good agreement. In some of the inshore areas, steeply sloping bottom caused some crosslines to be in conflict. In these cases, the shoaler indicated soundings should be accepted. See item 1

An apparent discrepancy of 21 fms appears at 33°24.43'N, 118°21.61'W. Examination of the fathogram indicates that this is probably an undeveloped peak and should be charted as such. (This is only an indication of an adjoining shoal)

J. JUNCTIONS

Junction was made with contemporary surveys H-9498 and H-9499. Junction soundings follow the bathymetry established by this survey, and where close enough to overprint, most soundings agree with no discrepency in depth, while all agree within 2 fathoms.

K. COMPARISON WITH PRIOR SURVEYS

Presurvey review 9/24/70 items 22, 23, 24, and 25 pertain,,as does item BC of presurvey review update, 8/74.

Item 22, the wreck of the F/V Daisy, is effectively cancelled by item BC, itemizing the Daisy's salvage and removal. Remove the wreck

See Chart Comparison

symbol from the chart. (The "wreck" investigation was run before items 22 and BC were brought together, thus the expansion sheet, included.)

Item 23, pier ruins, were confirmed to remain as charted, by conversation with the YMCA camp manager at White Cove. No least depths were sounded over sunken portions. Retain on the chart.

Item 24, fixed light, is no longer lighted, and is partially dismantled in the process of removal by quarry operations. Remove from chart. ✓

Item 25, mooring buoys, are now 4 buoys, 2 rigged for lights but not lighted (bird droppings completely obscure light housings). Another mooring buoy exists somewhat north, offshore of a power company. Positions by Raydist, plotted on the included DP plot, and characteristics are as follows:

Position No.			
4159	33/19/20.49N	118/17/54.89W	Concrete and wood float
4161	33/19/~~20.49~~N	118/18/08.76W	Black can
4162	33/19/05.95N	118/18/08.20W	Red can
4160	33/19/02.96N	118/17/55.30W	Concrete and wood float
	33/20/02.96N	118/17/55.30W	

These buoys are very substantial and constitute hazards to navigation, as well as visual aids, and should be charted. ✓

The thirty-three fathom least depth from survey H-5658 (1934) at 33°22.40'N, 118°20.41'W does not exist; the area was developed, and no anomaly appeared on the fathograms. This "shoal" should not be charted. Concur

Prior surveys H-5658 (1934) 1:20,000 and H-5648 (1934) 1:40,000 covered the area of the present survey. They are plotted as previously noted on the smooth sheets. Agreement between survey H-5658 and the present survey is excellent, mostly zero or one fathom discrepencies, with occasional two fathom discrepencies. Agreement with H-5648 is not as good, the old soundings plotted are primarily 3 fathoms deeper than the present survey. Application of velocity correctors for this deeper water will remove the average discrepency.

L. COMPARISON WITH THE CHART

Comparison was made with chart C&GS 5112, 5th edition, Oct. 7/72.

The shoreline from this survey is greatly at variance with the chart. The chart shoreline should be changed to match the T Sheets. ✓

The 100 fathom least depth anomaly 2.1 miles east of Abalone Point does not exist and should be removed from the chart. Careful development of the area shows normal bathymetry. Concur

The 49 and 50 fathom least depth anomaly south of Seal Rocks is more complex than the bathymetry suggested by the present survey. ✓

The seaplane landing area is in active use several times daily, and the notation "REP 1969" should be removed.

The bay between Cabrillo Mole and Abalone Point should be labeled "LOVER'S COVE"; it is an area of local and scenic interest as an underwater park. As per an appended note, another bay to the north should bear the name "ITALIAN GARDENS". ✓

Buoys should be plotted as noted in section K. Rocks located by DP's should be added to the chart. Due to the extreme inshore kelp fouling, any rocks charted, but not DP'ed by this survey should be retained as probably missed in field edit, or hydrography.

No important new dangers to navigation were noted. One minor shoal at 33/20/00.09N, 118/18/23.69W showed 8.5 fathoms where 15 was expected, and should be charted.

M. ADEQUACY OF SURVEY

The survey is ~~incomplete~~ Complete. For the area completed, the survey is adequate for charting, with a warning that the accuracy may be substandard due to numerous and repeated equipment failures.

Areas which should be investigated when completing this survey, or held for the next survey, discovered during review for this report are a small least depth at 33°23.05'N, 118°20.92'W, which shows a 1.5 to 2.0 fathom rise on three nearby lines and as a ghost trace on the fourth, and may indicate a shoaler central depth, and a peak at 33°24.43'N, 118°21.61'W, which placed a 55 and a 76 fathom sounding side by side. Not important - adjacent to a developed shoal

N. AIDS TO NAVIGATION

The Aids to Navigation report is incorporated in the Field Edit report. Various alterations are included as appendicies, and in the Coast Pilot report. NOAA forms 7640, Landmarks for Charting, are also appended. Present aids to navigation in the area seem adequate; no new aids are recommended.

O. STATISTICS

For the hydrography accomplished, there were 906 total positions; by launch:

Launch	Positions	Miles (est.)
2124	126	25.42
2125	224	45.17
2126	556	112.13
Total	906	182.72

In addition, 25 positions went to bottom samples, and 26 to detached positions.

There were about 27.2 square nautical miles of area surveyed.

Q. RECOMMENDATIONS

None.

R. REPORTS

COAST PILOT REPORT OPR-411-75
HORIZONTAL CONTROL REPORT OPR-411-75
FIELD EDIT REPORT OPR-411-75
CORRECTIONS TO ECHO SOUNDINGS OPR-411-75
ELECTRONIC CONTROL REPORT OPR-411-75

S. DATA PROCESSING PROCEDURES

This project saw the implementation of the "new format" hydoplot 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 useage 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.) For the first two weeks 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 Center in the letter dated 13 February 1975.

Sounding data for this boat sheet was collected by the hydroplot and hydrolog system and also by the ASI logger system. The tapes that came from the launches were not as clean as they should have been as the sounding and electronic control digitizing systems sporadically malfunctioned to the extent that hand logging became necessary at times. As a result it was not practical to correct the raw master tape with the corrector tape alone. After the fathograms and strip charts had been scanned at the end of the day, the master tapes were edited to correct sounding digitizer errors. A corrector tape was made to apply corrections to electronic control readings.

If the electronic control digitizing system had failed and the Raydist rates had been logged by hand on the long records (fix numbers), then the Raydist rates were changed in the long records on the master tape to reflect the hand logging. The corrector tape would then contain (in addition to the normal corrections to electronic control readings) the in-between soundings using short records-time, indicator, and sounding. The indicator (3) would cause the plotting system to ignore

the control information on the master tape for these in-between soundings and time and course plot the soundings between fixes (long records) on the master tape. It must be remembered that in all circumstances that the depth and correctors as inserted through the corrector tape supercede the depth and correctors on the master tape.

Corrections for drift in the Raydist electronic system were handled by linear interpolation through the corrector tape. The method of linear interpolation is shown in an example in Figure 1. The corrector at A, A', was from the beginning calibration and at D,D', was from the closing calibration for the period of hydrography. The corrector intervals a, b, c, were chosen to be equal or approximately so at a convenient

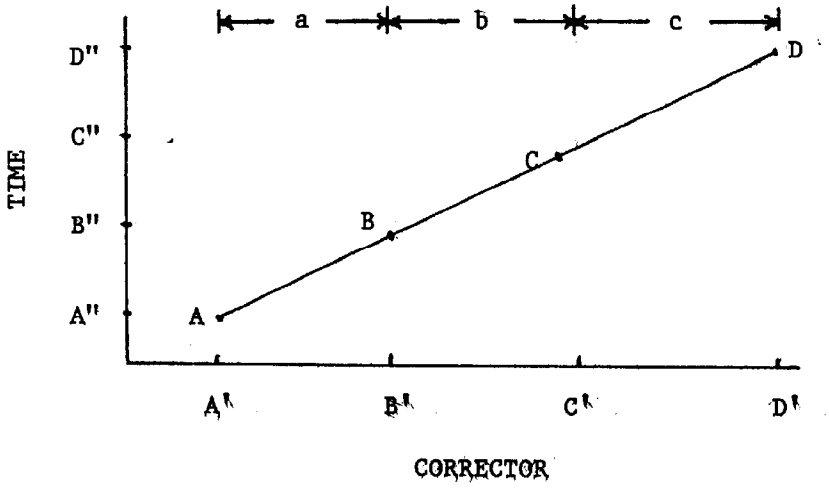


Figure 1

value not to exceed 0.05 lane. Both left and right Raydist correctors were considered to determine the interval for each electronic control corrector so that the correctors for both rates could be applied at the same time.

The corrector that would be applied to a span of time would be the mean of the correctors at either end of the interval. For example, in Figure 1 the corrector from time A" to time B" would be computed as A' + B'/2. For the static calibration a constant of 0.05 lane was subtracted from the beginning and closing calibration corrector to account for the launch antenna occupying an offset to CABRILLO MOLE. Further information on calibration procedure can be referenced in the ELECTRONIC CONTROL REPORT, OPR-411-RA-75.

Plots were made using the edited master tapes and corrector tapes that were discussed in the preceding paragraphs. Teletype printouts

were made of the raw data as it was acquired in the launch and were also made of the final master and corrector tapes.

Bottom samples and detached positions were obtained in the field and were then transferred to a separate sounding volume. Latitudes and longitudes for bottom samples and detached positions were computed and then plotted on the boat sheets (on the final boat sheet for bottom samples and on a separate sheet for detached position). Signals were plotted on the boat sheets with AM 202 VISUAL STATION TABLE LOAD AND PLOT and arcs of the electronic control stations were plotted on the boat sheets with RK 201 GRID SIGNAL AND LATTICE PLOT. Pre-survey review items, prior surveys, and junction soundings were transferred to the final boat sheet by hand and shoreline was transferred from the appropriate T-sheet Manuscripts under the supervision of field edit.

For sounding data acquired by launch RA-3 or RA-4 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 breaks). The latitudes and longitudes were then recorded on the original printout with the corresponding fixes.

Boatsheets submitted with this report include the rough boat sheets used in the launches, the semi-smooth boat sheet (a semi-complete boat sheet used by the ship for processing and planning purposes), the final boat sheet, 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.

PROGRAM	VERSION	TITLE/DESCRIPTION
AM 100	10 Nov 72	REAL TIME HYDROPLOT
RK 111	7 Aug 74	RANGE-RANGE REAL TIME HYDROPLOT
RK 161	7 May 74	RANGE-RANGE REAL TIME HYDROPLOT
AM 170	10 Nov 72	REAL TIME HYDROLOG
AM 200	10 Nov 72	OFF-LINE POSITION AND SOUNDING PLOT
AM 201	10 Nov 72	GRID AND LATTICE PLOT
RK 202	19 Feb 75	GRID SIGNAL AND LATTICE PLOT
AM 202	10 Nov 72	VISUAL STATION LOAD AND PLOT
RK 211	16 Aug 74	RANGE-RANGE POSITION AND SOUNDING PLOT
RK 212	1 Apr 74	VISUAL STATION LOAD AND PLOT
AM 300	24 May 75	UTILITY COMPUTATIONS
AM 301	8 Dec 72	VISUAL STATION TABLE MAKER (VISTA)
RK 301	12 Aug 74	VISUAL STATION TABLE MAKER (VISTA)
MI 335	1 Apr 73	DATA TAPE TIME CHANGE
RK 337	9 Aug 74	UNSCRAMBLER
PM 360	21 Mar 74	ELECTRONIC CORRECTOR ABSTRACT
RK 407	15 Aug 74	GEODETIC DIRECT AND INVERSE COMPUTATIONS
RK 409	5 Sep 73	GEODETIC UTILITY PACKAGE

PROGRAM	VERSION	TITLE/DESCRIPTION
AM 500	10 Nov 72	PREDICTED TIDE GENERATOR
RK 530	25 Jun 74	VELOCITY CORRECTION COMPUTATIONS
RK 561	1 Jul 74	GEODETIC CALIBRATION
AM 602	10 Mar 72	ELINORE LINE EDITOR
AM 603	10 Oct 72	BINARY TAPE CONSOLIDATOR
AM 607	1 Jan 71	SELF-STARTING BINARY LOADER

FOCAL SCALING PROGRAM (used for photo signal computations) 13 Aug 73
WANG intersection for TTY output 700/PF/022

Respectfully submitted,

B.L. Keck

Bruce L. Keck
LCDR., NOAA

APPROVAL SHEET

H-9598 (RA-20-1-75)

OPR-411-RA-75

Southern California

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, 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.

for Charles K. Townsend
CDR., NOAA

STATION LIST
RA-20-1-75 H-9498

101 3 33 42 59296 118 18 50585 250 0041 329646
NIKE ECC 1975 33 118 1 SW
REF COMPUTATIONS IN DESCRIPTIVE REPORTS
THIS POSITION TO SUPERSEDE PREVIOUS POSITION AS
USED DURING HYDROGRAPHY

102 3 33 33 22471 117 49 02200 250 0064 329646
ABALONE KNOLL 1884 33 117 4 1001
ELEVATION FROM TOPOGRAPHIC MAP (NOT CRITICAL
FOR SLOPE REDUCTION OF LONG RANGES)

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

116 3 33 27 47328 118 29 26698 139 0000 000000
BIRD ROCK 1875 33 118 2 1002

117 3 33 26 34796 118 29 57251 139 0000 000000
GLO NO 1 1933 33 118 3 1021

118 3 33 26 20864 118 29 52181 139 0000 000000
SANTA CATALINA NORTH BASE 1875 33 118 2 1041

119 3 33 26 09118 118 29 47419 139 0000 000000
ISTHMUS 1933 33 118 2 1026

120 3 33 27 04406 118 29 10363 139 0000 000000
WHITE ROCK 1875 33 118 2 1052

121 3 33 26 48080 118 28 38316 139 0000 000000
CHANNEL 1933 33 188 2 1010

122 3 33 27 10897 118 30 02584 139 0000 000000
CHERRY 2 1933 33 118 3 1005

STATION LIST WITH NO DESCRIPTIONS
RA-20-1-75(H-9498)

101	3	33	42	59296	118	18	50585	250	0041	329646
102	3	33	33	22471	117	49	02200	250	0064	329646
107	6	33	20	42439	118	19	15206	139	0003	000000
116	3	33	27	47328	118	29	26698	139	0000	000000
117	3	33	26	34796	118	29	57251	139	0000	000000
118	3	33	26	20864	118	29	52181	139	0000	000000
119	3	33	26	09118	118	29	47419	139	0000	000000
120	3	33	27	04406	118	29	10363	139	0000	000000
121	3	33	26	48080	118	28	38316	139	0000	000000
122	3	33	27	10897	118	30	02584	139	0000	000000

Checked By C. Lewis

NOAA FORM 76-40 (2-71)
PRESCRIBED BY PHOTOGRAMMETRY INSTRUCTION NO. 64.

U.S. DEPARTMENT OF COMMERCE—NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] FIELD INSPECTION
- [ ] FIELD EDIT
- [x] COMPILATION
- [ ] FINAL REVIEW
- [ ] QUALITY CONTROL AND REVIE[W]

(See reverse for responsible personne[l])

- [x] TO BE CHARTED
- [ ] TO BE DELETED

ORIGINATING LOCATION: ROCKVILLE, MD.

DATE: JULY 1974

The following objects have (have not) been inspected from seaward to determine their value as landmarks:

JOB NUMBER: PH- 7112
STATE: CALIFORNIA
SURVEY NUMBER: T- / TP- 00609
DATUM: N.A. 1927

CHARTING NAME	DESCRIPTION	LATITUDE ° ′	LATITUDE ″ / D.M. METERS	LONGITUDE ° ′	LONGITUDE ″ / D.P. METERS	FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
✓ TOWER		33-23.2	12.53 / 386.0	118-24.0	0.39 / 10.0	✓	72L(c)2734 Bridging photography		5112 5128 5142
✓ RADIO TOWER		33-21.6	37.10 / 1143.0	118-22.2	17.79 / 460.0	✓	72L(c)2732 Bridging photography		"
✓ RADIO TOWER		33-21.5	35.38 / 1090.0	118-22.2	14.35 / 371.0		"		"
✓ RADIO TOWER		33-21.5	34.31 / 1057.0	118-22.3	19.65 / 508.0		"		"
FLAGPOLE		33 21.2	15.35 / 473.0	118-19.8	46.29 / 1198.4	H-9496 1975	72L 470 24 MAR 72		"
FLAGPOLE	(FLAGPOLE, 1934)	33-20.	29.53 / 909.8	118-19	14.17 / 366.4	H-9496, 1975	"		"
CUPOLA		33-20.8	48.33 / 1489.0	118-19.6	35.04 / 906.0	H-9496, 1975	"		"
TOWER		33 20.8	51.22 / 1578.0	118-19.7	38.71 / 1001.0	H-9496, 1975	"		"
CASINO	(CASINO, 1934)	33-20	55.86 / 1720.9	118-19	29.29 / 757.3	H-9496, 1975	72L2670 24 MAR 72		

NOAA FORM 76-40
(2-71)
PRESCRIBED BY
PHOTOGRAMMETRY INSTRUCTION NO. 64.

U.S. DEPARTMENT OF COMMERCE–NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- ☐ FIELD INSPECTION
- ☐ FIELD EDIT
- ☑ COMPILATION
- ☐ FINAL REVIEW
- ☐ QUALITY CONTROL AND REVIEW

(See reverse for responsible personnel)

☑ TO BE CHARTED
☐ TO BE DELETED

ORIGINATING LOCATION: Coastal Mapping Division, Norfolk, Va.

DATE: [illegible]

The following objects [redacted] (have not) been inspected from seaward to determine their value as landmarks:

JOB NUMBER: PH-7112

STATE: California

SURVEY NUMBER: T-TP-00610

DATUM: N. A. 1927

CHARTING NAME	DESCRIPTION	POSITION LATITUDE ° ′	POSITION LATITUDE ″ O.M. METERS	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ O.P. METERS	METHOD AND DATE OF LOCATION (See instructions on reverse of this form) FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
LIGHT	Santa Catalina Island East End Light	33 19.1		118 19.0					514 [illegible]

18

NOAA F: 76-40
(8-74)

U.S. PARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATmOSPHERIC ADMINISTRATION

Replaces C&GS Form 567.

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [X] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
RAINIER	CALIFORNIA	SANTA CATALINA ISLAND	APRIL 75

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-411-RA-75	PH-7112	TP-00609	

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	POSITION LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
TOWER	MICROWAVE TOWER	33 21	00000 00000	118 21	05000 129.3		V-Vis 2-25-75	5112 5128 ✓ 5142
								5101 ✓

-72-

10

VELOCITY CORRECTOR TAPE LISTING
RA-20-1-75(H-9498)

TABLE # 1
SCALE- FATHOMS

```
000015 0 0000 0001 000 000000 000000
000056 0 0001
000100 0 0002
000135 0 0003
000175 0 0004
000215 0 0005
000260 0 0006
000300 0 0007
000345 0 0008
000395 0 0009
000446 0 0010
000495 0 0011
000545 0 0012
000600 0 0013
000650 0 0014
000703 0 0015
000762 0 0016
000820 0 0017
000875 0 0018
000930 0 0019
000984 0 0020
001115 0 0022
001230 0 0024
001350 0 0026
001480 0 0028
001600 0 0030
001720 0 0032
```

VELOCITY CORRECTOR TAPE LISTING
RA-20-1-75(H-9498)

TABLE # 2
SCALE- FATHOMS

```
000020 0 0000 0002 000 000000 000000
000060 0 0001
000100 0 0002
000138 0 0003
000176 0 0004
000215 0 0005
000252 0 0006
000290 0 0007
000335 0 0008
000382 0 0009
000435 0 0010
000485 0 0011
000545 0 0012
000600 0 0013
000660 0 0014
000712 0 0015
000770 0 0016
000790 0 0017
000850 0 0018
000905 0 0019
000965 0 0020
001105 0 0022
001220 0 0024
001330 0 0026
001445 0 0028
001550 0 0030
```

TIDE NOTE

H-9496 (RA-5-1-75)
H-9497 (RA-5-2-75)
H-9498 (RA-20-1-75)
H-9499 (RA-20-2-75)

Tide reducers for boatsheet soundings were generated by Hydroplot Program AM 500, using the daily values for Los Angeles, California reference station listed in "Tide Tables, High and Low Water Predictions, 1975, West Coast of North and South America", with the following corrections applied:

Time (minutes)	high water	+ 8
	low water	+10
Height Ratio (high and low water)		0.97

The corrections were derived from an interpolation of the time differences and height ratios between Avalon and Isthmus Cove.

Tide stations in operation in relation to these surveys were:

Station	Location	Dates of Installation - Removal
1. Los Angeles Outer Harbor (Control Station)	33° 43.2' N 118° 16.6' W	N/A
2. Avalon	33° 22.7' N 118° 19.5' W	2/25 - 3/30/75
3. Catalina Harbor	33° 25.9' N 118° 30.2' W	3/17 - 3/29/75

Verified Forms 362, Value of MLLW, Form 712, Time and Height Relationships Between Gages, and final tidal zoning for the smooth sheet will be furnished by Tides Branch (C331), Rockville. It is recommended that tide correctors based on observed tides at Avalon be used throughout the project.

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-9498

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.

for Chief, Tides Branch

GEOGRAPHIC NAMES

Survey No.

Name on Survey	A On Chart No. C&GS 5112	B On Drawing ... No.	C On U.S. ...	D From ...	E On ... Maps	F P.O. Guide or Map	G Rand McNally Atlas	H U.S. Light List	K Manuscripts	
ABALONE POINT	X									1
AVALON BAY	X									2
BANNINGS BEACH									X	3
BUTTON SHELL BEACH									X	4
DESCANSO BAY									X	5
GALLAGHER BEACH									X	6
GOAT HARBOR	X									7
HAMILTON BEACH									X	8
HEN ROCK	X									9
ITALIAN GARDENS										10
JEWFISH POINT	X									11
LONG POINT	X									12
LOVERS COVE									X	13
MOONSTONE BEACH									X	14
PATRICKS SHELTER									X	15
PEBBLY BEACH	X									16
TOYON BAY									X	17
TWIN ROCKS	X									18
SANTA CATALINA ISLAND	X									19
SAN PEDRO CHANNEL	X									20
SEAL ROCKS	X									21
WHITE COVE	X									22
WHITES LANDING	X									23
WILLOW COVE	X									24
WHITE ROCK	X									25
FROG ROCK			X							26

APPROVED

Chas. Harrington

STAFF GEOGRAPHER - C51x2

21 Dec. 1976

APPROVAL SHEET

FOR

SURVEY H-9498, 1975

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: 10/4/76

Signed: [signature]

Title: Chief, Verification Branch

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 9498, 1975

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & smooth excess, position overlays	1	BOAT SHEETS 1 (2 parts, mylar) 2-overlays	1
DESCRIPTIVE REPORT	1	OVERLAYS (preliminary)	8

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			1			
CAHIERS	1-with printouts, sawtooth rec.					
VOLUMES	2					
BOXES						

T-SHEET PRINTS (List)
TP-00610

SPECIAL REPORTS (List)

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				
POSITIONS CHECKED	935			
POSITIONS REVISED	5			
DEPTH SOUNDINGS REVISED	40			
DEPTH SOUNDINGS ERRONEOUSLY SPACED	10			
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED	0			
	TIME (MANHOURS)			
Verification of Control	14			
Verification of Positions	50			
Verification of Soundings	115			
Smooth Sheet Compilation	71			
ALL OTHER WORK	10			
TOTALS	260		HIT 11	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY A. E. Eichelberger	7/10/75	7/30/75
VERIFICATION BY James L. Stringham	12/8/75	9/17/76
REVIEW BY		

R.D. Sanocki: 7 hrs. 1/24/77

QC Evaluation: A. Myers 44 hrs 12-17-76 Contours 9 hr. 4/12/77

REGISTRY NO. H-9498

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. _____

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:

Items for Future Presurvey Reviews

The bottom in the area of the present survey has not significantly changed since the prior surveys.

A snag located by an improvised line drag was reported at latitude 33°23.97', longitude 118°21.9' on the present survey. This feature was confirmed by a 2.2-fathom depth from a fathometer investigation. However, this may be kelp. The area should be fully investigated at an opportune time to verify the least depth on this shoal.

Position Index		Bottom Change Index	Use Index	Resurvey Cycle
Lat.	Long.			
331	1182	1	1	50 years
332	1182	1	1	50 years
332	1183	1	1	50 years

VERIFIER'S REPORT

H-9498, 1975 RA-2Ø-1-75

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

H-9498 was accomplished by NOAA Ship RAINIER off the ~~northern west~~ east coast of Catalina Island, California during March 1975. The Raydist electronic positioning system operating in a range/range mode was utilized for positioning control.

Projection parameters used to prepare the boatsheet have been revised to accommodate an enlargement. A dense sounding line investigation was conducted in the area of the pre-survey review item 22 dated 24 September 1974, the wreck of F/V DIXIE.

Two preliminary plotted paper boatsheets of the wreck investigation are included with the smooth boatsheet for reference purposes. (See Chart Comparison.)

The following positions, plotted on or near the high water line, were moved off shore for better agreement with prior survey H-5658, 1934 and Class I manuscript TP-ØØ6Ø9: Positions 648Ø, 6483, 6492, 6497 and 6498, day 77 launch 2126.

Position 6456 and 6457, day 71 launch 2126 were destroyed because of poor agreement with adjacent soundings and prior survey soundings. (See ship's report item I.)

Boatsheet soundings were reduced for predicted values from Los Angeles, Calif. Tide Station with time and ratio correctors for H-9498, 1975 sheet location. H-9498, 1975 smooth sheet soundings were reduced from Avalon Bay tide gage. There were no problems in junctions or crosslines, tide correctors are accepted as correct.

II. CONTROL AND SHORELINE

See ship's report items F and G. The shoreline was transferred from unreviewed Class I maps TP-ØØ6Ø9 and TP-ØØ61Ø. (compared with reviewed manuscripts during O.C. inspection)

Title blocks on TP-ØØ6Ø9 and TP-ØØ61Ø are not completed. The field edit was accomplished between February 25 and March 13, 1975, as stated in the field edit report.

Rock awash symbols displayed on the Class I maps are not of acceptable size of 2.2 mm. Generally the rock awash symbols displayed on TP-ØØ6Ø9 and TP-ØØ61Ø are approximately 1.1mm. Because of the symbol size difference many rocks were not shown on H-9498, 1975 smooth sheet. Generally the outermost and highest rocks were carried on H-9498, 1975.

Two Aids to Navigation located on H-9498, 1975, Long Point Light and Santa Catalina Island East End Light, were transferred from TP-ØØ6Ø9 and TP-ØØ61Ø Class I maps. (See memo from Chief, Coastal Mapping Section, C3423 concerning TP-ØØ6Ø9 and TP-ØØ61Ø, attached.)

III. HYDROGRAPHY

Recording volume 1 contains positioning data for 23 mooring buoys appearing on H-9498, 1975. The general descriptive notes contained in the recording volume are not conclusive as to the size and importance of the mooring buoys. Smooth sheet H-9498, 1975 displays a mooring buoy symbol at each position with no descriptive notes. All buoys are assumed to be privately maintained.

Recording volume 1 and form C&GS 733M, Bottom Sediment Data Sheet, contain several disagreements in recording of bottom samples. Generally the recording volume was held over the bottom sediment data sheet except for position 6486, day 71 launch 2126.

The NOAA forms 76-4Ø, Nonfloating Aids or Landmarks for Charts, submitted by NOAA Ship *RAINIER* contain landmark information for survey H-9496, 1975 scale 1:5,ØØØ. H-9498, 1975 scale 1:2Ø,ØØØ displays only the objects that are not carried on H-9496, 1975 survey and so noted under field inspection portion of the form.

None of the landmarks or aids to navigation are carried in the signal list.

IV. CONDITION OF THE SURVEY

The smooth hydrographic records, overlays and report are adequate and conform with the requirements of the Hydrographic Manual and PMC OPORDER 1975 edition.

The smooth boatsheet is incomplete regarding the mooring buoys and wreck information. The wreck investigation is not displayed on the smooth boatsheet. Numerous positions and sounding information are not plotted on the boatsheet. Additional compatabilities and consistencies between the descriptive report and the field sheet would have been beneficial in expediting the processing of this survey.

Bottom samples taken less than 2ØØ meters off the high water line are of no aid to the mariner in anchoring of a vessel.

V. JUNCTIONS

H-9498, 1975 junctions with contemporary survey H-9496, 1975 scale 1:5,ØØØ sounding in feet. Junction of H-9498, 1975 and H-9496, 1975 is located in Avalon Bay at latitude 33°2Ø'5Ø"N and longitude 118°19'3Ø"W. Junctions curves and soundings are in excellent agreement. Because of the scale difference between the two surveys the depth curves display some distortion. Junction note and curves are inked.

H-9498, 1975 junctions with H-9499, 1975 scale 1:2Ø,ØØØ to the north at approximate latitude 33°25'2Ø"N and longitude 118°23'5Ø"W. Junction curves and sounding are in good agreement. The junction note and depth curves are inked.

30

VI. COMPARISON WITH PRIOR SURVEYS

H-9498, 1975 was compared to prior survey H-5558, 1934 scale 1:5,ØØØ, Agreement was very good considering the year and scale difference. No soundings or features were transferred from H-5558, 1934 to supplement H-9498, 1975.

H-9498, 1975 was compared to prior survey H-5848, 1934 scale 1:4Ø,ØØØ. Agreement was very good considering the spacing of the sounding lines on both surveys.

H-9498, 1975 was compared to H-5658, 1934 scale 1:2Ø,ØØØ. Agreement was very good considering the year. H-5658, 1934 was used extensively to draw solid depth curves on H-9498, 1975. A few supplemental soundings in brown ink were transferred to H-9498, 1975.

Survey H-9498, 1975 is complete and adequate to supersede the above listed prior surveys in common areas of hydrography.

VII. CHART COMPARISON

See items K and L ship's report. (Pre-survey review items)

After comparing H-9498, 1975 to Chart C&GS 5112 5th edition, October 7, 1972 the below listed information can be deleted from the chart.

Mooring Buoy	33°18.8'N	118°18.1WW
Mooring Buoy	33°18.9'N	118°18.1ØW
~~49 fathom sounding~~	~~33°17.3'N~~	~~118°18.1ØW~~
~~1ØØ fathom sounding~~	~~33°2Ø.7'N~~	~~118°17.9'W~~

~~A 5Ø fathom sounding carried in brown ink from prior survey H-5658, 1934 at approximate latitude 33°17.4'N and longitude 118°17.9'W should be retained for charting.~~

Several additional mooring buoys are plotted on H-9498, 1975 and are recommended for charting.

Pre-survey review item 22 dated 24 September 1974 is located within the enlargement area at approximate latitude 33°23'52"N and longitude 118°21'59"W. The preliminary sounding plot revealed a least sounding of 2.2 fathoms located at latitude 33°23'58.36"N and longitude 118°21'54.Ø1"W, positions 6479 and 6477 day 71 launch 2126.

After verification of H-9498, 1975 hydrographic data supplied by NOAA Ship RAINIER and consideration to Chart letter No. 639 of 1974 the wreck symbol at latitude 33°23'52"N and longitude 118°21'59"W should be removed. The ~~least~~ sounding of 2.2 fathoms located at approximate latitude 33°23'58.36"N and longitude 118°21'54.Ø1"W should be displayed. See ship's report item K.

VIII. COMPLIANCE WITH INSTRUCTIONS

H-9498, 1975 adequately complies with the project instructions dated 22 January 1975.

IX. ADDITIONAL FIELD WORK

This survey is an adequate basic survey. No additional field work is recommended.

Respectfully submitted,

James L. Stringham
Cartographic Technician
September 17, 1976

Examined and approved,

James S. Green
Chief, Verification Branch

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY, Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

Date: 13 October 1976

To: Eugene A. Taylor, RADM
Director, Pacific Marine Center

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

Subject: PMC Hydrographic Survey Inspection Team Report, H-9498

This survey is a basic hydrographic survey of the alongshore area of the southeastern portion of Santa Catalina Island, California. The survey was conducted by NOAA Ship RAINIER in 1975 in compliance with Project Instructions OPR-411-RA-75 dated 22 January 1975.

Difficulties with both sounding and positioning equipment were encountered during the field work on this survey. The Descriptive Report, Section G, states that poor equipment performance necessitated "extensive editing and reconstruction to yield the present plot" (final field sheet). This factor cast some doubt on the overall quality of the survey and complicated the verification process. The final data package, as represented on the smooth sheet, is in very good agreement with prior surveys of the area indicating that the difficulties encountered in the field have been successfully compensated.

The quality of Class I shoreline Manuscripts also served to complicate the verification process. It appears that the manuscripts were compiled at a scale of 1:10,000 and then reduced to 1:20,000 resulting in a very congested representation. As a result, it was necessary to selectively apply shoreline detail to the smooth sheet (see Verifier's Report, Sect. II).

This survey adequately complies with the applicable project instructions. However, the extent of hydrographic coverage is considerably less than prior survey H-5658 (1934). Since the present survey is in very good agreement with H-5658, it is recommended that H-5658 not be superseded by H-9598 but rather both surveys be used concurrently in future charting of the area.

PSR item 23 requires the investigation of two charted pier ruins. The Descriptive Report, Section K, confirms the existence of pier ruins in the vicinity but no location or descriptive information was provided. Consequently neither pier is depicted on the smooth sheet. It is recommended that the source material be researched and that the piers be charted in accordance therewith. Pier ruins should be retained on the chart.

The inspection team finds H-9498 to be an adequate survey. The survey data is appropriate for charting but should be used in conjunction with prior survey H-5658 (1934). Shoreline detail should be charted from H-9498. This survey is adequate to supersede the common areas of H-5848 and H-5558. Administrative approval is recommended.

Donald E. Nortrup, LCDR

Stanley H. Otsubo

Dean R. Seidel, LCDR

John C. Albright, LCDR

Administrative Approval

H-9498

The smooth sheet and reports of this survey have been examined and the survey is complete, in accordance with project instructions, and appropriate for charting purposes. The survey is adequate for charting when used in conjunction with prior survey H-5658 (1934). The survey is adequate to supersede common areas of survey H-5848 and H-5558.

E. A. Taylor

Eugene A. Taylor, RADM
Director, Pacific Marine Center

10/14/76
Date

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

C352

December 15, 1976

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

THRU: Chief, Quality Control Branch

FROM: G. K. Myers
Quality Evaluator

SUBJECT: Quality Control Report for H-9498 (1975), California, Santa Catalina Island, Seal Rocks to Goat Harbor

A quality control inspection of H-9498 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 navigational hazards, junctions, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

A comparison with charted depths in areas bordering the project limits was made during quality evaluation. Present survey depths in these areas were found to be in harmony with charted depths.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as follows:

1. A bottom sample obtained in depths of greater than 50 fathoms along a gradual slope was described as "fne gy S, brk Sh, RK" on the present survey. The label RK is defined to be a pinnacle which rises abruptly from the bottom and is identified as rock. The use of RK is considered incorrect as a bottom characteristic.

2. The review of contemporary topographic surveys common to the area covered by the present survey was completed by the Coastal Mapping Division between the hydrographic review and quality control phases of H-9498. The shoreline from Class I manuscripts indicated in the review report was therefore updated during quality evaluation by a comparison with final reviewed photogrammetric manuscripts TP-00609, TP-00610, and TP-00612 based on 1972 air photography and a 1975 field edit. The shoreline shown on the smooth sheet in red was determined by the hydrographer.

Position control is adequately described in the Descriptive Report.

3. Additional soundings and a rock were brought forward from H-5658 during quality evaluation. With these additions the present survey is adequate to supersede the prior surveys in the common area. Should the need arise, additional soundings may be obtained from H-5658.

The difference of as much as 150 meters in the position of the shoreline on H-5658 and the present survey between Jewfish Point and Seal Rocks is probably the result of an error on the earlier topographic survey of the shoreline rather than accretion in the shoreline.

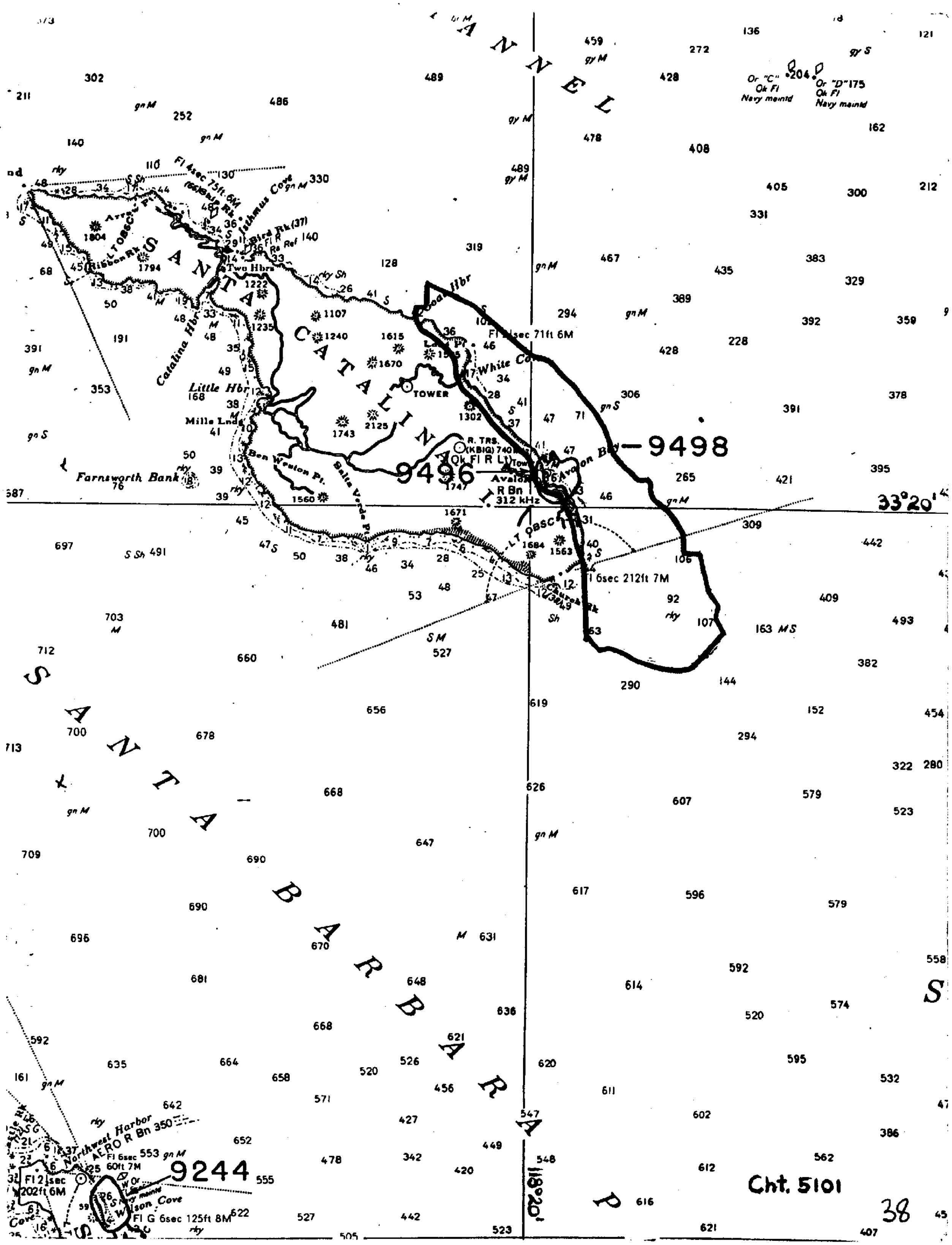
4. The following discrepancies are noted that pertain to the contents of Section VII, Chart Comparison, in the Review.

a. The reviewer considered charted soundings originating with prior surveys under the heading Chart Comparison instead of under Comparison with Prior Surveys.

b. A concluding statement to the effect that the present survey is adequate to supersede the charted information should have been made.

5. A borderline should have been inked around the enlargement plotted for the wreck investigation.

cc:
C351



SANTA CATALINA I.
SANTA BARBARA
CHANNEL
Isthmus Cove
Bird Rk (37)
Two Hbrs
Catalina Hbr
Little Hbr
Mills Lndg
Farnsworth Bank
Ben Weston Pt.
Salta Verde Pt
White Cove
Avalon Bay
Avalon
R Bn 312 kHz
TOWER
Fl 4sec 71ft 6M
Fl 6sec 212ft 7M
Fl 4sec 75ft 6M
Northwest Harbor
AERO R Bn 350
Wilson Cove
Fl G 6sec 125ft 8M
Fl 2 sec 202ft 6M
9498
9496
9244
33°20'
118°20'
Cht. 5101

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9498

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
5101	6/17/77	DEJ	~~Full~~ Part ~~Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. exam for crit. corr. only
5002	12/19/77	D. Costa	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No Part appd, ~~final application~~
5112	2-16-78	Hamilton RCS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
5142	2-17-78	Hamilton RCS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
18774	3/10/78	Dist Office	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No Paper Item chts 5112 & 5142
18759	4/4/78	C James RCS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
18740	3-2-79	Hamilton	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5101)		RCS 4-16-79	Drawing No.
18022	5-9-79	Hamilton	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5020)		5-17-79 RCS	Drawing No. 40
18020	6-25-79	Hamilton	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5002)		1-29-80 RCS	Drawing No. 32 thru cht 18022
18757	11/13/81	Nautor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Reapplied to Reconstruction

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8050-P62