

9377

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-20-2-73
Office No. H-9377

LOCALITY

State CALIFORNIA
General Locality SAN CLEMENTE ISLAND
Locality SOUTH END OF SAN CLEMENTE
ISLAND

1973-74

CHIEF OF PARTY

G.E. Haraden, K.W. Jeffers

LIBRARY & ARCHIVES

DATE July 5, 1978

2236
9377

meas

5

charts

18020 N/C

18022 app'd

18740 app'd

18762 V. app'd

18764 Applied ✓

18774

HYDROGRAPHIC TITLE SHEET

H-9377

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-20-2-73

State California

General locality San Clemente Island

Locality South End of San Clemente Island

Scale 1:20,000 Date of survey April 1-13, 1973

Instructions dated 30 November 1972 Project No. OPR-411-RA-73

Vessel NOAA Ship RAINIER

Chief of party CAPT G.E. Haraden

Surveyed by LCDR J.W. DeCoste, LTJG R.A. Schiro, ENS R.G. Hendershot

Soundings taken by echo sounder, ~~Rockwell type~~ Ross Model 5000 (SN 1042)
McKiernan-Terry PDR Mark XV (SN 324)

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified
~~XXXXXXXX~~ by John E. Lotshaw Automated plot by PMC Xynetics Plotter

Soundings
Verification by John E. Lotshaw

Soundings in fathoms ~~XXX~~ and tenths at ~~XXX~~ MLLW

REMARKS: The Modified Transverse Mercator Projection, soundings and
position numbers on the boatsheet were plotted by the RAINIER's
PDP 8/E computer and Complot plotter.

Applied to stabs 10/26/78
[Signature]

A. PROJECT

The survey was conducted in accordance with PROJECT INSTRUCTIONS: OPR-411-RA-73, dated 30 November 1972, Change Number 1, dated 7 February 1973, and Change Number 2, dated 16 February 1973, and Change Number 3, dated 21 March 1973. ✓

B. AREA SURVEYED

This 22.7 square mile survey is centered approximately 1.6 miles south of China Point on the southern tip of San Clemente Island. The survey is bounded on the west by longitude 118° 30' 00" W., on the south by latitude 32° 45' 00" N., on the east by longitude 118° 19' 00" W., and on the north by latitude 32° 49' 00" N. ✓

Listed below are four prior surveys of the area:

<u>Reg. No.</u>	<u>Scale</u>	<u>Year</u>
H-5758 & Ad. W.	1:20,000	1933-34-35
H-5474	1:20,000	1933
H-5459	1:10,000	1933
H-5601 & Ad. W.	1:20,000	1933-37

See Verification Report, Para # VI

Junctions were also made with the following contemporary survey:

H-9371	1:80,000	1973
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C. SOUNDING VESSEL

All soundings were obtained by the NOAA Ship RAINIER. The soundings along the main scheme lines are shown in black ink. The crosslines are shown in red ink. The soundings on the boat-sheet were plotted by the Complot Plotter in combination with Digital Equipment Corporation PDP 8/e computer. ✓

D. SOUNDING EQUIPMENT

The NOAA Ship RAINIER used a Ross Model 5000 Recorder Number 1042 and a McKiernan - Terry P.D.R. Mark XV, Number 324. Generally, the Ross Model 5000 was used from 0 to 115 fathoms, and beyond 115 fathoms, the P.D.R. Number 324 was used. ✓

The McKiernan - Terry P.D.R., was calibrated prior to running hydrography. The Ross Model 5000 was phase checked daily and calibrated such that no phase corrections were necessary. ✓

The Ross fathometer and McKiernan - Terry P.D.R., use a stylis traveling in straight lines, thus no fine arc corrections were necessary. ✓

No abstract of initial correction was compiled in that any observed difference in the initial value appears only in the analog record and does not effect the digitized sounding. In check scanning fathograms, the initial correction was considered before reading the analog record. The fathogram was scanned continuously in the field by comparing it to the digitized values. Judicious use of the blanking function was made to eliminate spurious returns.

All corrections were logged onto a TC/II tape. A 2.5 fathom draft correction was applied to soundings obtained by the NOAA Ship RAINIER.

Velocity corrections were computed from a Nansen Cast taken on 30 March 1973. The shoal water section was taken at latitude $32^{\circ} 58.3' N$, longitude $118^{\circ} 56.1' W$, and the deep sections at latitude $32^{\circ} 57.4' N$, longitude $118^{\circ} 56.0' W$. The resulting velocity correction table was entered on tape and utilized via TC/II tape.

The above equipment operated well during survey work. For further information on sounding equipment and corrections refer to Corrections to Echo Soundings, OPR-411, NOAA Ship RAINIER, 1973.

E. SMOOTH SHEET

The boat-sheet's Modified Transverse Mercator Projection and soundings were plotted by RAINIER personnel using the onboard PDP 8/e Complot System. The boat-sheet was prepared using a central meridian of $118^{\circ} 40' 00'' W$ and a control latitude of 3,300,000 meters North. Position numbers were also plotted by the computer and plotter. The final smooth sheet will be plotted by PMC's Electronic Data Processing Division.

During the survey, personnel noted lost Hi-Fix lanes, and updated positional input data to correct whole lane values. Any errors subsequently observed were entered on a corrector tape and applied to the boat-sheet. The positions on this sheet have been corrected for partial lane corrections resulting from three point sextant fix calibrations observed before and after each period of hydrography. An abstract of these corrections appears in the Separates following the text.

All soundings were plotted with draft (2.5 fathoms) and predicted tide corrections applied. Fathograms were scanned for peaks and deeps, and compared against printouts. All necessary corrections have been made.

F. CONTROL

Hi-Fix electronic control, utilizing range-range mode, Type A, moderate power, on frequency 1799.6 kHz was used for position control throughout the survey.

Slave Station 1 was located on the eastern shore of San Nicholas Island. Triangulation station STA 3, 1968, latitude $33^{\circ} 13' 25.5105'' N$, longitude $119^{\circ} 26' 13.7329'' W$, was the site of the 35 foot whip antenna. This station

was approximately 60 feet above sea-level and 140 feet from the shoreline. The arcs generated by slave station 1 were drawn on the boat-sheet with green ink. ✓

Slave Station 2 was located on San Clemente Island. The 35 foot whip antenna was erected over the topographical station CLEMFIX 1973, latitude 33° 00' 54.9316" N, longitude 118° 36' 13.6411" W (third order station). The site is approximately 40 feet above sea-level and 100 feet from the coastline. A strong signal was received from both stations throughout the survey area even though there was intervening land between Hi-Fix Slave Station 2 and the ship. No positioning problems were noted, however see also section "P" Recommendations. The arcs created by slave station 2 were drawn on the boat-sheet with red ink. ✓

A portion of the survey was run within forty degrees of the Base Line Extension. However, since the control was range-range, Hi-Fix and the intersection angles were greater than twenty degrees the control is considered to be adequate. ✓

For further information on Hi-Fix control, see Hi-Fix Report, OPR-411, NOAA Ship RAINIER, 1973 ✓

G. SHORELINE

Shoreline details for the boat-sheet were taken from shoreline manuscripts: T-00385, T-00387, T-00388, T-00389, T-00390, T-00391, and C&GS Charts 5117 and 5118. Since this was basically an off-shore survey, no attempt was made to verify the shoreline at the scale of the survey. ✓

See Verifiers Report, Para II

H. CROSSLINES

Crosslines on sheet RA-20-2-73, totals 8.5 nautical miles or 15.5% of the mainscheme miles run. There is excellent agreement between mainscheme and crosslines in all cases. ✓

I. JUNCTIONS

Survey RA-20-2-73, junctions with RA-80-1-73, scale 1:80,000, in black ink. This survey shows excellent agreement with RA-80-1-73; depth curves between the surveys junctioning smoothly. ✓

See Verifiers Report, Para II

J. COMPARISON WITH PRIOR SURVEYS

There is only one presurvey review item within this survey, a 28 fathom sounding at latitude 32° 45' 48" N, longitude 118° 24' 36" W. Investigation of this item revealed a shoal area extending from 28 fathoms to 42 fathoms where it joins the regular contours. There are four prior surveys in this area, which are listed under "B". The prior surveys show good agreement where reasonable comparison was possible. ✓

See Verifiers Report, Para II

K. COMPARISON WITH THE CHART

18764

This survey was compared with charted soundings on charts 5117 (3rd. Ed. 9 May 1970, 1:15,000) and 5111 (8th. Ed. 23 December 1972, 1:40,000). The sounding comparison was good in all cases. 18762 ✓

L. ADEQUACY OF SURVEY

With the exception of remaining hydrography, this survey is adequate to supersede prior surveys for charting. ✓

M. AIDS TO NAVIGATION

There are no floating aids to navigation in the survey area and no unofficial aids to navigation. ✓

N. STATISTICS

Sheet RA-20-2-73 contains 186 positions, 63.3 nautical miles of soundings and approximately 22.7 square nautical miles of survey area. ✓

O. DATA PROCESSING

All data was recorded in master tape format using the online Hydrolog system controlled by program AM 100. Corrector tapes were prepared using the standard Hydrolog format for all peaks, deeps, soundings and control changes. ✓

Separate master tapes and corrector tapes were prepared for each day. Standard formats, as specified in the INSTRUCTION MANUAL, Automated Hydrographic Surveys, were used for the TC/VI and Velocity Correction tapes. ✓

Note: TRA corrector values and velocity table numbers shown on the Hydroplot/Hydrolog tapes are to be ignored for processing at Pacific Marine Center. The correct data is listed on the TC/VI tape. ✓

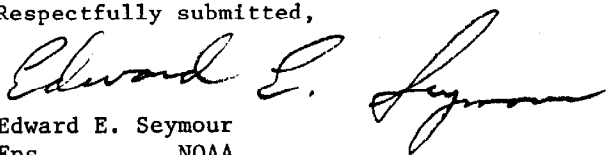
P. RECOMMENDATIONS

Although no Hi-Fix positioning problems are believed to exist on this survey the signals were transmitted over varying amounts of intervening land. No calibration signals were built in this area due to the existence of unexploded ordinance on the beach. Accordingly it is recommended that special care be taken when the remainder of Pyramid Cove is surveyed to adequately junction with this survey in order to verify position control. ✓

Q. REFERENCES TO REPORTS

1. Corrections to Echo Soundings, OPR-411, NOAA Ship RAINIER, 1973
2. Hi-Fix Report, OPR-411, NOAA Ship RAINIER, 1973

Respectfully submitted,



Edward E. Seymour
Ens, NOAA

APPROVAL SHEET

H-9377 (RA-20-2-73)
April 1-13, 1973
San Clemente Island, California

This survey is to be considered incomplete. Additional work remains to be done on this sheet along the southeast shore of San Clemente Island. Additionally, possible substandard procedures were used in that varying distances of intervening land were present between the sounding vessel and the electronic control stations. This is not believed to be a serious problem, however, and had this not been surveyed in this manner no work at all would have been possible in the area this year.

The boat-sheet was examined daily and it and all accompanying records are approved for transmittal to PMC.

G.E. Haraden

G.E. HARADEN
CAPT, NOAA

SOUTHERN CALIFORNIA
SIGNAL TAPE LISTING ---
RA - 20 - 2 - 73

100 33 12 5705 119 28 1053
101 33 13 0047 119 27 1846
102 33 13 1661 119 26 2378
103 33 13 2551 119 26 1373
104 33 13 4573 119 26 0863
105 33 13 5007 119 26 0347
106 33 01 4880 118 35 4235
107 33 00 5493 118 36 1364
108 33 00 5519 118 36 1312
109 33 01 1914 118 35 0135
110 33 00 4511 118 35 3163
111 33 00 1582 118 35 0268
112 33 00 1162 118 34 0552
113 33 00 3544 118 33 5636
114 33 00 2032 118 33 4764
115 32 59 1596 118 33 3712
116 32 59 2586 118 33 1679
117 32 57 3540 118 33 4295
118 32 56 5738 118 33 1148
119 32 55 5840 118 32 5378
120 32 55 0546 118 32 4246

VELOCITY CORRECTION TAPE LISTING

RA-80-1-73

RA-20-2-73

VESSEL: 2120

TABLE 0001

000091 0 0001 0001 000 000000 000000
000179 0 0002
000269 0 0004
000352 0 0006
000443 0 0008
000546 0 0010
000663 0 0012
000800 0 0014
000931 0 0016
001010 0 0018
001350 0 0020
002150 0 0025
004000 0 0040
005800 0 0060
007250 0 0080
008400 0 0100
009500 0 0120
013000 0 0140

TIDE NOTE

It is recommended that the tide station established on the Navy pier at Wilson Cove, San Clemente Island, at latitude $33^{\circ} 00' 20.6''$ N, longitude $118^{\circ} 33' 22.4''$ W, on 8 March 1973, be used to control the soundings on this survey. The gage operated on time meridian 120° W. Hourly heights will be furnished to the PMC Processing Division by the ship. Reduction to MLLW and copies of the marigrams will be furnished by Tides Division, Rockville.

Predicted tides for boat-sheet control were obtained from the tide tables, 1973, West Coast of North and South America, using the San Clemente Island subordinate station. The tides were machine generated, and applied directly to the data during computer plotting.

HYDROGRAPHIC TITLE SHEET

H-9377

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-20-2-73

State California

General locality San Clemente Island

Locality SouthEnd of San Clemente Island

Scale 1:20,000 Date of survey Sept 18 - Oct 18, 1974

Instructions dated 5 June 1974 Project No. OPR-411-RA-74

Vessel NOAA Ship RAINIER MSS21 *Lawiches- RA-3(2123), RA-4(2124), RA-5(2125), RA-6(2126)*

Chief of party CDR K.W. Jeffers
ENS B.K. Mezger, ENS G.W. Stroble

Surveyed by ENS K.A. Andreen, ENS C.A. Cavin, ENS R.W. Ellis, ENS H.T. Langeveld,

Soundings taken by echo sounder, ~~XXXXXX~~ Ross 5000 Fathometer, S/N 1040, 1041, 1042

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified

~~XXXXXXXX~~ by John E. Lotshaw Automated plot by PMC/Xynetics Plotter

Soundings

Verification by John E. Lotshaw

Soundings in fathoms *and fathoms* ~~XXXX~~ at MSL MLLW

REMARKS: Survey Time Zone 0° (GMT).

Mean longitude of the survey 118°30'W.

The projection, soundings and position numbers were plotted

by the RAINIER PDP 8/e Computer and Complot plotter.

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY

RA-20-2-73

H-9377

Scale 1:20,000

1974

NOAA Ship RAINIER
CDR. K. WILLIAM JEFFERS
Commanding

A. PROJECT

This survey was conducted in accordance with PROJECT INSTRUCTIONS, OPR-411-RA-74, San Clemente Island, California, dated 5 June, 1974. ✓

B. AREA SURVEYED

This survey includes the area from 32° 55' 45"N, 118° 28' 50"W on the east side of San Clemente Island around the south end to 32° 50' 20"N, 118° 29' 00"W, on the west side of the island. Due to the sharp rise of the ocean floor and/or hazardous areas, a 5 fathom curve was used as the shoreline limit. The survey began on JD 261 (Sept. 18, 1974) and was completed on JD 291 (Oct. 18, 1974.) ✓

This survey made junctions with the following contemporary surveys: ✓

H-9376	RA-20-1-73
H-9254	RA-80-1-71
H-9476	RA-5-3-74

Junctions were also made with the following prior surveys:

H-9377	1973	20,000	
H-9112	1970	40,000	<i>Junction</i>
H-6159	1936	10,000	
H-6165*	1936	10,000	
H-6166*	1936	20,000	
H-5474	1933	20,000	
H-5758&ad.wk.	1933-34-35	20,000	
H-5459	1933	10,000	
H-5601&ad.wk.	1933-37	20,000	
H-4558	1926	10,000	
H-1429	1878-79	20,000	
H-1430	1879	20,000	
H-543	1856	10,000	
H289+	1851	380,000	

Prior surveys (no junctions required)

- * Wire drag
- + Reconnaissance survey

C. SOUNDING VESSEL

All soundings in this survey were obtained by the NOAA ship RAINIER's launches RA-3 (2123), RA-4 (2124), RA-5 (2125) and RA-6 (2126). The Rainier obtained the bottom samples for the survey. ✓

D. SOUNDING EQUIPMENT

The soundings were obtained by Ross Fathometers, model 5000, along with the Ross Digitizers, model 6000, serial numbers:

	RA-3	RA-4	RA-5	RA-6
Fathometer: Before JD 266	----	1041	1042	1040
After JD 266	1042	1041	1040	1042
Digitizer:	1041-7	1041-4	1015	1041-7

The fathometers did not give a reliable trace at depths deeper than 200 fathoms. At times, there were also problems of determining the difference between the actual bottom trace and the return from areas thick with kelp. The fathometer was continuously monitored by technicians, making corrections when needed. The initial was always kept at a value of zero. Phase checks were frequently made by the technicians by setting the Ross switch to "Calibrate Phase Set" and entering a depth to assure no change in phasing.

Bar checks were routinely taken throughout the project on each launch. On days that bar checks were not obtained, the TRA value from the previous day was used for the processing of the soundings. Velocity corrections were determined from Nansen casts taken on Sept. 17, Oct. 1 and Oct. 19, 1974.

Corrections were incorporated on TC/TI (Transducer Correction/ Table Indicator) tape for automatic processing.

Vertical casts were taken by the RAINIER, but it is recommended that these values not effect the sounding corrections, due to differences of 2-8 fathoms between the meter wheel and the PDR (Precision Depth Recorder.)

For further information concerning sounding equipment and corrections refer to Corrections to Echo Soundings report, OPR-411-RA-74.

E. BOAT SHEET

Transverse Mercator Projection and soundings were plotted by RAINIER personnel using the on-board PDP 8/e Hydroplot system. The system includes the PDP 8/e computer, S/N 1011, and Complot Plotter, model DP-3, S/N 4670-4. The hydroplot system aboard the RAINIER launch RA-5 (2125) was also used for plotting boat sheets. This system has the PDP 8/e computer, S/N 1015, and the DP-3 Complot Plotter, S/N 3750-3. The central meridian for the project is 118° 30'W Longitude, and the control latitude is 3615000 meters north of Latitude zero. Position numbers and soundings were machine plotted.

Rough sheets were comprised daily and the final plot collated as the work progressed. The main scheme soundings are plotted in black ink, crosslines in red, bottom samples in blue, prior surveys in green and red, and junction soundings in various colors as indicated on the boat sheet. ✓

F. STATION CONTROL

Control for this survey made use of existing triangulation stations in the area. The Mini-Ranger stations used were:

<u>Station</u>	<u>Signal No.</u>	<u>Transponder</u>	<u>Code</u>
East Peak RM-2	137	774	1
Randall	102	775/776*	2/3*
Pappy 1947	132	777	4
China Pt. Lighthouse	105	775	2
Pole RM-1	138	777	4
Pyramid Pt. (Ecc) 1933	115	777/774+	4/1+
Prom RM-1	140	776	3
Pyramid Pt. Light 1933	103	776	3
Point 1933	133	774	1
Pyramid Anch. Lt. 1955	114	776	3

* (Before JD 269)/(After JD 269)

+ (Before JD 289)/(After JD 289)

Control stations used for T2 calibrations were also located at existing triangulation stations; refer to station list and daily calibrations in the separates following the text. ✓

Information concerning the definition of areas that were controlled by the various pairs of Mini-Ranger stations can be found in the Geodetic Control Report, OPR-RA-411-74 ✓

G. POSITION CONTROL

The super high frequency (SHF) Motorola Mini-Ranger (range-range system) was used for position control of soundings. The M/R transponders were positioned on shore at the stations described in F. The Range Consoles and Receiver/Transmitters used on the launches were as follows: ✓

<u>Launch</u>	<u>Console</u>	<u>R/T</u>
RA-3	715	720
RA-4	715	720
RA-5	720	727
RA-6	711	718

The R/T

The R/T units were placed on 10 ft. masts for better reception. A few dead zones occurred due to phase cancellation from reflected waves from the water surface, but these were eventually picked up.

Calibrations of the Mini-Ranger system were taken once a day, in the area that the launches were working, visibility permitting. This was done by intersection from two T2 stations located on shore in the positions noted in the Station List in the Separates following the text. The solution was determined from the observed angles to the launches using the Wang Intersection Program in the Wang 700 Series, Advanced Programming Calculator and program Am 300 Utility Computations using the PDP 8/e Computer. The corrections were then incorporated into the Hydroplot/Hydrolog system. The position control of the plot of the soundings on the boat sheet includes the correctors. Slope correction were applied to the calibrations whenever the Mini-Ranger transponders were over 40 meters above sea level.

Refer to the Electronic Control Report, OPR-411-RA-74, for more information concerning the operations of the Mini-Rangers.

H. SHORELINE

Shoreline was transferred from T-sheet manuscripts (TP-~~00386~~³⁸⁵, 387, 388, 389, 390 & 391) onto the boat sheets. The shoreline and topographic details were complete by field edit verification. Details on the manuscripts that were verified are in black ink, new objects are described in red ink, unverified in blue ink.

It was found that the five rocks located south of the reef located at approximately 32° 49' 57"N, 118° 28' 03"W is actually a submerged ledge part of the reef.

One of the Mini-Ranger stations, East Peak 1876 RM-2 (#137), was located on Santa Catalina, 26 miles away, at an elevation of 510 meters, using a high gain antenna for transmission. There were no problems whatsoever involved with this station due to distance.

A 5 fathom curve was used as an in-shore limit to the hydrography due to foul areas of thick kelp and/or hazardous surf zones.

I. CROSSLINES

Approximately 32.5 nautical miles of hydrography run were crosslines. This was 17.5% of the total number of nautical miles. All crosslines had excellent agreement with the main scheme soundings.

J. JUNCTIONS

Junctions were made with the following contemporary surveys:

<u>Reg. No.</u>	<u>Field No.</u>	<u>Scale</u>	<u>Date</u>
H-9376	RA-20-1-73	1:20,000	1973-74
H-9476	RA-5-3-74	1:5,000	1974
H-9377	RA-20-2-73	1:20,000	1973
H-9112	MA-40-2-70	1:40,000	1970
H-9254	RA-80-1-71	1:80,000	1971

Comparisons along the junctions of these surveys all had excellent agreement of soundings.

K. COMPARISONS WITH PRIOR SURVEYS

Pre-survey review item:

#81 - Four rocks awash in the vicinity of lat. $32^{\circ} 48.1'N$, long. $118^{\circ} 26.0'W$, from photogrammetric manuscript TP-00389. Rocks #1 ($32^{\circ} 48' 10''N$, $118^{\circ} 25' 59''W$), #2 ($32^{\circ} 48' 09''N$, $118^{\circ} 26' 01''W$), and #4 ($32^{\circ} 48' 02''N$, $118^{\circ} 25' 55''W$) were not found after a thorough search. It is recommended that these not be charted.

See Verificus Report, Para #VII

Rock #3 ($32^{\circ} 48' 04''N$, $118^{\circ} 25' 59''W$) was verified. It was awash at 2055(z) on Sept. 18, 1974.

This survey agreed very well with the prior surveys: H-5474, scale 1:20,000, year 1933; H-5758, 1:20,000, year 1935.

L. COMPARISON WITH THE CHART

C&GS Charts 5111 and 5117 were the largest scale charts of the survey area available. Chart 5111 had a scale of 1:40,000 and 5117, 1:15,000. These agreed very well with this survey.

M. ADEQUACY OF SURVEY

H-9377 is now a complete survey and is recommended to supercede all prior surveys. All fathograms were scanned and checked for peaks and deeps in the field. All fathogram annotations are clearly marked.

Two soundings carried forward from prior survey to supplement present hydrography.

N. AIDS TO NAVIGATION

The two Naval maintained markers located at $32^{\circ} 55' 49''N$, $118^{\circ} 29' 33''W$ and $32^{\circ} 55' 03.5''N$, $118^{\circ} 28' 22''W$, are no longer of navigational importance, thus it is recommended that these should be taken off the chart.

Markers not charted on Chart 18762 (latest print date 4/8/77)

The San Clemente Island Radome located at $32^{\circ} 53' 03.863''N$, $118^{\circ} 26' 00.385''W$, is a new aid to navigation and should be added to the chart.

All other existing aids are satisfactory, no other new aids are necessary in the area.

For further information, refer to Field Edit Report, OPR-411-RA-74.

O. STATISTICS

185.9 nautical miles of sounding lines were run, covering 20.5 square nautical miles. ✓

<u>Launch</u>	<u>Miles Hydro.</u>	<u>No. of Positions</u>	<u>Bottom Samples</u>
RAINIER	----	---	26*
RA-3	16.4	72	--
RA-4	51.5	342	--
RA-5	91.0	450	--
<u>RA-6</u>	<u>27.0</u>	<u>110</u>	<u>--</u>
Totals	185.9	974	26

*Bottom samples were #12,19,31-33,39-50,53,54,&56-58.

P. MISCELLANEOUS

Two new geographic names should be added to the chart, in the vicinity of China Point on the southwest end of San Clemente. These are Horse Cove, 32° 48.6'N, 118° 24.6'W, and Abalone Cove, 32° 48.3'N, 118° 25.8'W. For more information refer to Geographic Names in the Separates following the test. ✓

O. RECOMMENDATIONS

None.

R. REFERENCES TO REPORTS

Correction to Echo Sounding	OPR-411-RA-74
Field Edit Report	OPR-411-RA-74
Geodetic Control Report	OPR-411-RA-74
Electronic Control Report	OPR-411-RA-74
Coast Pilot and Geographic Names	OPR-411-RA-74

S. DATA PROCESSING PROCEDURES

All standard procedures were used to obtain soundings. Launch RA-6 is equipped with a NOS Hydrolog system which when used in conjunction with program AM 170, version 11/10/72, allowed for all sounding data to be recorded in master tape format. ✓

Launch RA-5 used AM 100, version 11/10/72, which enabled the launch to plot on-line. Raw data was corrected to produce electronic master tapes. Each electronic master tape includes TRA and Mini-Ranger ✓

calibration correctors. Corrector tapes were prepared only to update Mini-Ranger calibration corrector. Revised master and master reduced to sea level tapes were made from electronic master tapes. Ignore correctors in the corrector word on master tapes. Use correctors as supplied on corrector tapes.

Other computer programs used during the survey include:

<u>Program</u>	<u>Version</u>	<u>Description</u>
AM 200	23 March 1973	Off line plot
AM 201	10 November 1972	Grid & lattice plot
AM 300	24 May 1973	Utility computations
AM 301	8 December 1972	Vista
AM 500	10 November 1972	Predicted tide generator
AM 560s	10 April 1972	M/R calibration w/slope correction
AM 602	10 March 1972	Elinore
PM 340	1 December 1972	Master tape reduced to sea level
RK 408	10 November 1972	Geodetic inverse

Respectfully submitted,

Kathryn A. Andreen

Kathryn A. Andreen
Ens., NOAA

TIDE NOTE

H-9247 (RA-10-3-71)
 H-9254 (RA-80-1-71)
 H-9376 (RA-20-1-73)
 H-9377 (RA-20-2-73)
 H-9476 (RA- 5-3-74)

OPR-411-RA-74

San Clemente Island, Calif.

Tide reducers for boatsheet soundings were generated by Hydro plot Program AM 500, using daily values of Los Angeles, California, Reference Station listed in Tide Tables, High and Low Water Predictions, 1974, West Coast of North and South America. The following correctors, as listed for Wilson Cove, San Clemente Island were applied:

Time

High water	-Ohr. 04m
low water	-Ohr. 05m

Height ratio

(High and low water)	0.96
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An ADR Tide Gage was installed by RAINIER personnel on September 16, and removed on October 18. The control station at Los Angeles remained in operation throughout the survey.

Tabulated hourly heights, value of MLLW, Forms 712 for insertion in Descriptive Reports, time and height relationships between gages, and Tidal zoning for the smooth sheet have been requested from Tides Branch (C 331), Rockville.

VELOCITY CORRECTOR TAPE LISTING
RA-20-2-73(H-9377)TABLE # 1
VESSEL: 2120(SHIP RAINIER)

000043	0	0000	0001	000	000000	000000
000110	0	0002				
000174	0	0004				
000252	0	0006				
000340	0	0008				
000432	0	0010				
000537	0	0012				
000646	0	0014				
000760	0	0016				
000876	0	0018				
000995	0	0020				
001460	0	0025				
003160	0	0040				
004500	0	0060				
005800	0	0080				
007120	0	0100				

VESSEL: 2125(RA-5) *Table #2*

000040	0	0000	0001	000	000000	000000
000100	0	0002				
000170	0	0004				
000240	0	0006				
000322	0	0008				
000417	0	0010				
000512	0	0012				
000620	0	0014				
000730	0	0016				
000848	0	0018				
000966	0	0020				
001400	0	0025				
003160	0	0040				
004460	0	0060				
005760	0	0080				

VELOCITY CORRECTOR TAPE LISTING
RA-20-2-73(H-9377)TABLE # ³/₂
VESSEL: 2125(RA-5)

000042	0	0000	0002	000	000000	000000
000100	0	0002				
000152	0	0004				
000212	0	0006				
000287	0	0008				
000374	0	0010				
000475	0	0012				
000580	0	0014				
000683	0	0016				
000790	0	0018				
000902	0	0020				
001030	0	0022				
001400	0	0025				
003160	0	0040				
004590	0	0060				
006030	0	0080				

TABLE # ⁴/₃
VESSEL: 2126,2124,2123(RA-6,RA-4,RA-3)

000025	0	0000	0001	000	000000	000000
000085	0	0002				
000150	0	0004				
000225	0	0006				
000300	0	0008				
000390	0	0010				
000490	0	0012				
000590	0	0014				
000710	0	0016				
000820	0	0018				
000930	0	0020				
001500	0	0025				
002800	0	0040				
004100	0	0060				
005400	0	0080				
006800	0	0100				
008100	0	0120				

VELOCITY CORRECTOR TAPE LISTING
RA-20-2-73(H-9377)

TABLE # 2

VESSEL: 2120(SHIP RAINIER)

000043	0	0000	0002	000	000000	000000
000100	0	0002				
000156	0	0004				
000220	0	0006				
000300	0	0008				
000396	0	0010				
000496	0	0012				
000504	0	0014				
000700	0	0016				
000813	0	0018				
000935	0	0020				
001450	0	0025				
003130	0	0040				
004600	0	0060				
006100	0	0080				
007580	0	0100				

VESSEL: 2126,2124,2123(RA-6,RA-4,RA-3) *Table # 5*

000040	0	0000	0002	000	000000	000000
000098	0	0002				
000150	0	0004				
000214	0	0006				
000286	0	0008				
000378	0	0010				
000484	0	0012				
000575	0	0014				
000680	0	0016				
000790	0	0018				
000906	0	0020				
001030	0	0022				
001370	0	0025				
003160	0	0040				
004560	0	0060				
006030	0	0080				

VELOCITY CORRECTOR TAPE LISTING
RA-20-2-73(H-9377)TABLE # 3
VESSEL: 2120(SHIP RAINIER)

000040	0	0000	0003	000	000000	000000
000096	0	0002				
000156	0	0004				
000217	0	0006				
000290	0	0008				
000366	0	0010				
000460	0	0012				
000560	0	0014				
000668	0	0016				
000785	0	0018				
000905	0	0020				
001010	0	0022				
001360	0	0025				
003240	0	0040				
004500	0	0060				

VESSEL: 2125(RA-5) *Table #6*

000040	0	0000	0003	000	000000	000000
000095	0	0002				
000150	0	0004				
000210	0	0006				
000280	0	0008				
000358	0	0010				
000444	0	0012				
000540	0	0014				
000644	0	0016				
000754	0	0018				
000876	0	0020				
001010	0	0022				
001330	0	0025				
003100	0	0040				

VELOCITY CORRECTOR TAPE LISTING
RA-20-2-73(H-9377)

TABLE # ⁷/_X
VESSEL: 2126, 2124, 2123(RA-6, RA-4, RA-3)

000040	0	0000	0003	000	000000	000000
000094	0	0002				
000150	0	0004				
000210	0	0006				
000277	0	0008				
000356	0	0010				
000449	0	0012				
000542	0	0014				
000646	0	0016				
000756	0	0018				
000873	0	0020				
000980	0	0022				
001360	0	0025				
003180	0	0040				

11/1/74

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 For 362

Tide Station Used (NOAA Form 77-12): Wilson Cove

Period: March 8 - April 18, 1973

HYDROGRAPHIC SHEET: H9376, H9377

OPR: 411

Locality: San Clemente Island, California

Plane of reference (mean lower low water): 2.6 ft.

Height of Mean High Water above Plane of Reference is 4.6 ft.

Remarks: Zone direct.

James R. Hill
Chief, Tides Branch

4/8/75

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): Wilson Cove, Calif.

Period: Sept. 16 - Oct. 18, 1974

HYDROGRAPHIC SHEET: H-9377

OPR: 411

Locality: Off San Clemente Island

Plane of reference (mean lower low water): 4.27 ft.

Height of Mean High Water above Plane of Reference is 4.6 ft.

Remarks: Zone direct.

James R. Hubbard
for Chief, Tides Branch

HYDROGRAPHIC SURVEY STATISTICS

H-9377

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION	AMOUNT		
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS 4 Boat Sheets & 3 Preliminary Overlays	7		
DESCRIPTIVE REPORT		1	1 position, 1 excess, 1 electronic in file SMOOTH OVERLAYS: POS. ARC, EXCESS	3		
DESCRIP- TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1 With P.O.S- STRIP Records	1				
VOLUMES						
BOXES						
T-SHEET PRINTS (List) TP-00385, TP-00387, TP-00388, TP-00389, TP-00390, TP-00391						
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	TOTALS
POSITIONS ON SHEET			1068
POSITIONS CHECKED		1068	
POSITIONS REVISED		4	
SOUNDINGS REVISED		42	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)		11	
VERIFICATION OF CONTROL		10	
VERIFICATION OF POSITIONS		66	
VERIFICATION OF SOUNDINGS		172	
COMPILATION OF SMOOTH SHEET		35	
APPLICATION OF TOPOGRAPHY		11	
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		11	
COMPARISON WITH PRIOR SURVEYS & CHARTS		15	
VERIFIER'S REPORT		22	
OTHER	11	8	
TOTALS	11	361	372
Pre-Verification by J.S. Green, N. Lestenkof	Beginning Date 1/7/74	Ending Date 3/25/75	
Verification by J. Lotshaw	Beginning Date 2/19/74	Ending Date 3/27/78	
Verification Check by A.E. Eichelberger, J.S. Green	Time (Hours) 25	Date 5/22/78	
Marine Center Inspection by H11	Time (Hours) 22	Date 6/6/78	
Quality Control Inspection by G. Myers	Time (Hours) 52	Date 8/4/78	
Requirements Evaluation by D.L. Hill	Time (Hours) 2	Date 10/16/78	

REGISTRY NO. H-9377

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-9377

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:

*Change 30 ft sounding at lat $32^{\circ}47.85'N$,
long $118^{\circ}24.50'W$ to a 31 ft sounding. gms
11/6/81*

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO: H-9377

FIELD NO: RA-80-2-73

California, San Clemente Island, South End of San Clemente Island

SURVEYED: 1-13 April 1973; 18 Sept-18 Oct 1974

SCALE: 1:20,000

PROJECT NO: OPR-411

SOUNDINGS: Ross Fineline
McKiernan-Terry Precision (PDR)

CONTROL: 1973-Decca Hi-Fix R/R
1974-Motorola
Mini-Ranger R/R

Chief of Party.....1973-CAPT Gerald E. Haraden
1974-CDR K. William Jeffers
Surveyed by.....1973-LCDR J.W. DeCoste,
LTJG R.A. Schiro,
ENS R.G. Hendershot
1974-ENS K.A. Andreen
ENS C.A. Cavin
ENS R.W. Ellis
ENS H.T. Langeveld
ENS B.K. Mezger
ENS G.W. Stroble
Automated plot by.....PMC Xynetics Plotter
Verified by.....John E. Lotshaw
March 27, 1978

I. INTRODUCTION

H-9377 includes hydrography along the east coast of San Clemente Island south of 32°55'45", the west coast south of 32°50'20", and the southern tip of the island with the exception of Pyramid Cove.

The survey was begun in 1973, using Decca Hi-Fix for control. Only an offshore portion of the survey south of the island was completed during 1973. In 1974, the sheet was completed using Motorola Mini-Ranger for control.

Projection parameters used by PMC to accomplish the smooth plot of H-9377 are incorporated as a file listing in the smooth printout. All correctors to positions and soundings on H-9377 can be located in the smooth printout.

Tide reducers used on the smooth sheet were derived from the Wilson Cove, California, gage for both years of the survey. All tide correctors used have been approved by the Tides Branch, Rockville, MD.

II. CONTROL AND SHORELINE

Horizontal and position control are adequately described in paragraphs F and G of the Descriptive Reports for 1973 and 1974. Parameters used to compute positions on the smooth sheet are those submitted by the RAINIER, except that station heights for Mini-Ranger sites have been reduced to zero in the PMC computations of Mini-Ranger distances. This procedure was necessary because Mini-Ranger data tapes submitted by the RAINIER already incorporated slope correctors for station heights.

Shoreline was transferred from Class I manuscripts TP-00385, TP-00387, TP-00388, TP-00389, TP-00390, and TP-00391. Date of photography for all manuscripts was March 1971. Dates of field edit for all manuscripts were September and October 1974.

All detail was transferred to the smooth sheet as shown on the manuscript, with the exception of a number of rock elevations which were annotated on the smooth boatsheet with observed heights. Smooth tides have been applied to these heights and the resulting reduced elevations are shown on the smooth sheet. In some cases, these heights differ from those on the shoreline manuscripts.

* In the area immediately southwest of signal #118, five rocks shown on TP-00389 are in conflict with hydrography on H-9377. These rocks are centered at Lat. 32°48.0', Long. 118°25.7'. Two rock awash symbols are shown in black on the 1974 smooth boatsheet in this approximate location, and Chart 5117, 4th Ed., April 7, 1973 display a one fathom sounding with a Rk annotation in the same area. Soundings of 8.0, 8.2 and 8.9 fathoms on H-9377 appear in the area of these rocks. Since all indications are that these rocks on TP-00389 do exist and are masked by the kelp beds in the area, they are shown on the smooth sheet and the soundings in the area have been placed in excess.

III. HYDROGRAPHY

Crosslines on H-9377 are in good general agreement with the main scheme of hydrography. Such small differences and apparent conflicts which do exist occur in areas of steep slopes and rough bottoms.

Standard depth curves are provided on the smooth sheet. Curves inshore of the five fathom curve are generally omitted because of a lack of controlling soundings to support their development. See paragraph H of the 1974 descriptive report for further discussion of depth curves in inshore areas.

Shoreline originates with reviewed photogrammetric manuscript TP-00389 (1971-74), chart maintenance prints.

* *This statement no longer applies since the comparison made with TP-00389 (chart maintenance print) during quality control.*

In areas of widely separated sounding lines and near items of special interest, soundings and features have been lifted onto the smooth sheet from H-5474, 1933. This was done to more fully support depth curves as shown, and to delineate features such as PSR item #AL. (See discussion of PSR items under paragraph VII of this report)

Hydrography on H-9377 is adequate to portray the general configuration of the bottom. Development of least depths conforms to criteria outlined in the Project Instructions. In general, inshore areas are not well defined and a low water line has not been established by hydrography.

IV. CONDITION OF THE SURVEY

The hydrographic records and the smooth sheet conform to the requirements of the Provisional Hydrographic Manual.

V. JUNCTIONS

Junction was made with contemporary survey H-9376, 1973-74, along the northwestern edge of the sheet. This survey is the same scale as H-9377 and an exact junction was made. Junction was also made with H-9254, 1971-73-74, along the eastern, southern, and western edges of the sheet., with H-9112, 1970, along the southeastern edge, and with H-9246, 1971, along the northeastern edge. Junction was not made with H-9476, 1974, a 1:5,000 scale contemporary survey of the Pyramid Cove area at the bottom center of H-9377 because that survey has not been processed to the sounding overlay stage. Junction curves with H-9476 have been consequently left in pencil.

All junction surveys agree well with H-9377 and there are no discrepancies in the junction areas. Curves drawn on H-9254 and H-9112 are sometimes in slight disagreement with those on H-9377. This is because the sounding pattern on these surveys is much less dense than that on H-9377. Curves on H-9254 and H-9112 should be adjusted to agree with the more detailed curves on H-9377.

VI. COMPARISON WITH PRIOR SURVEYS

H-5474 (1933) 1:20,000 H-5459 (1933-34) 1:10,000
H-5601 (1933) 1:20,000 *Ad WK (1937)* H-5758 (1933-34-~~35~~) 1:20,000 *Ad WK (1935)*
H-6159 (1936) 1:10,000

Comparison with all prior surveys shows generally excellent agreement in all areas. Differences which do occur are generally caused by minor positioning differences in areas of extremely steep slopes and by differences in the equipment used. Use of the narrow beam transducer occasionally produced soundings somewhat deeper than those on prior surveys.

Soundings from H-5474, 1933 have been lifted onto the smooth sheet to fill holidays left by wide line spacing on H-9377 and to augment the current survey in areas of particular interest. Thus augmented, H-9377 is adequate to supersede all prior surveys in areas of common coverage. *See Quality Control Report.*

VII. COMPARISON WITH CHARTS

H-9377 was compared with C&GS Chart 5117, 4th Ed., April 7, 1973 and with C&GS Chart 5111, 8th Ed., Dec 23, 1972. Agreement with the survey is quite good since the charts are compiled using the prior surveys listed above (see attached chartlets for sources of soundings).

Pre-survey review item #81 consists of a cluster of four rocks awash in the vicinity of Lat. $32^{\circ}48.2'$, Long. $118^{\circ}25.9'$. Three of these rocks were searched for and not found by the hydrographer. The existence of these rocks has been disproven by the hydrographer and it is recommended that they be removed from both Chart 5111 and Chart 5117. The remaining rock was verified by the hydrographer and is shown on T-00389 as a rock awash. This rock, PSR Item #3, located at Lat. $32^{\circ}48.14'$, Long. $118^{\circ}25.92'$, should be retained as a charted item. *Two rocks (PSR #81) charted at Lat. $32^{\circ}48.08'$ and Lat. $32^{\circ}48.11'$, Long. $118^{\circ}25.96'$ appear on present survey. Rock uncorr. at NW check, Lat. $32^{\circ}48.11'$, Long. $118^{\circ}25.92'$ brought forward from H-5459.*

Four uncharted rocks have also been located in this vicinity and are shown on the revised version (2-9-78) of the Class I manuscript T-00389. Their locations are Lat. $32^{\circ}48.05'$, Long. $118^{\circ}25.9'$, Lat. $32^{\circ}47.97'$, Long. $118^{\circ}25.8'$, Lat. $32^{\circ}48.0'$, Long. $118^{\circ}25.75'$, and Lat. $32^{\circ}47.98'$, Long. $118^{\circ}25.69'$. It is recommended that these rocks be charted or that their vicinity be designated as a foul area. *see Quality Control Report item 10*

The circled 26 fm. sounding at Lat. $32^{\circ}45.8'$, Long. $118^{\circ}24.5'$ is confirmed by a nearby 26 fm. sounding on H-9377. It is recommended that this charted sounding be superseded by hydrography from H-9377. *PSR*

Soundings carried forward in this area to better delineate bottom configuration.

PSR Item AL is a reported sunken rock at Lat. $30^{\circ}50.5'$, Long. $118^{\circ}22.09'$, which is shown on C&GS Chart 5111, 8th Ed., Dec 23, 1972, with a dotted circled and the notation "Obstr rep". The reported 1 fm depth at this location is not supported by hydrography on either the present or the prior survey. However, no development of the feature was accomplished and its existence has neither been proven or disproven. The obstruction charted on C&GS Chart 5111 should consequently be retained.

Shoal soundings from the prior survey, H-5474, 1933, have been lifted onto the smooth sheet to outline an adjacent area of shoaling inshore of PSR item AL. This feature has been marked with an obstruction symbol on the smooth sheet. *See Quality Control Report*

PSR Item #AT is a mooring buoy located at Lat. 32°48.3', Long. 118°28.7'. This item was not addressed by the hydrographer and has not been located on H-9377. It is recommended that this buoy be retained in its charted position.

There are no floating aids to navigation within the limits of this survey. Fixed aids to navigation within the limits of the survey are accurately located and adequately described.

VIII. COMPLIANCE WITH INSTRUCTIONS

Field work on H-9377 complies with Project Instructions, dated 30 November 1972; Change No. 1, dated 7 February 1973; Change No. 3, dated 21 March 1973; and additional instructions, dated 5 June 1974.

IX. ADDITIONAL FIELD WORK

Additional field work is required to determine the exact nature and location of the submerged obstruction which is PSR Item #AL.

H-9377, as augmented, is a good basic survey and is adequate to supersede charted information in its area of coverage.

Respectfully submitted,


John E. Lotshaw
Cartographic Technician
March 27, 1978

Examined and approved,


James S. Green
Chief, Verification Branch

APPROVAL SHEET

FOR

SURVEY H-9376

- 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: 5/30/78

Signed: _____

f. J. Pen

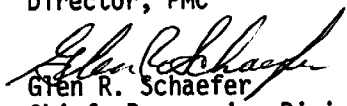
Title: Chief, Verification Branch



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

DATE: 14 June 1978

TO : Eugene A. Taylor
Director, PMC

FROM: 
Glen R. Schaefer
Chief, Processing Division

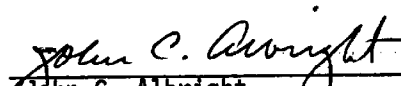
SUBJ: PMC Hydrographic Inspection Team Report for Survey H-9377

This survey is a basic hydrographic survey of the west side of San Clemente, California. This survey was conducted by NOAA Ship RAINIER in 1973 and 1974 in accordance with Project Instructions OPR-411-RA-73 dated 30 November 1972 and Change Nos. 1 and 3 dated 7 February 1973 and 21 March 1973 respectively, and Project Instructions OPR-411-FA, RA-74, dated 5 June 1974.

This survey does not meet the 100 meter spacing requirement "around rocky points and spits" as called for in the Project Instructions. Also a shoreline sounding line was not run which would have greatly helped delineate the shoaler water depths of this survey.

The inspection team finds H-9377 to be a good basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.


Glen R. Schaefer


John C. Albright


James W. Steensland


James L. Stringham



STATION LIST
H-9377
RA-20 -2-7

STA	O	LATITUDE	LONGITUDE	CRT	ELEV	F.KHZ	TYPE/NAME	SOURCE
102	7	32 58	31.311 118 31	51.359	139 0041	149835	RANDALL-1952	
103	7	32 49	13.57 118 21	08.93	139 0067	149835	PYRAMID POINT LIGHT-1933	
105	7	32 48	13.740 118 25	29.208	139 0034	149835	CHINA POINT LIGHTHOUSE-1933	
106	7	32 48	58.217 118 21	15.443	139 0022	149835	PYRAMID POINT-1933	
114	7	32 49	59.282 118 22	56.678	139 0272	149835	PYRAMID COVE ANCHORAGE LIGHT-1955	
115	7	32 48	58.089 118 21	17.132	139 0020	149835	PYRAMID POINT-1933-(ECC)	
116	7	32 52	33.015 118 25	53.466	139 ----	149835	VISTA-1933	
117	7	32 51	28.291 118 24	37.219	139 ----	149835	WORK-1933	
118	7	32 48	13.761 118 25	29.115	139 ----	149835	CHINA POINT LIGHTHOUSE- 1933-ECCENTRIC	
119	7	32 49	13.632 118 21	08.659	139 ----	149835	PYRAMID POINT LIGHT-1933-(ECC)	
126	7	33 01	25.33 118 33	46.72	139 ----	149835	WILSON COVE NORTH LIGHT	
129	7	32 52	44.74 118 26	18.43	139 ----	149835	VISTA 1-NO DATE	
130	7	32 58	31.182 118 31	51.359	139 ----	149835	RANDALL 1952-ECCENTRIC	
132	7	32 54	12.392 118 31	26.279	139 0163	149835	PAPPY-1947	
133	7	32 50	41.504 118 29	14.686	139 0023	149835	POINT-1933	
134	7	32 53	07.430 118 31	08.806	139 0015	149835	MAIL POINT-1933	
135	7	32 52	25.073 118 30	08.023	139 0198	149835	UTE-1933	
136	7	32 52	53.861 118 29	24.477	139 ----	149835	TOMB-1933	
137	7	33 18	41.373 118 19	58.563	139 0510	149835	EAST PEAK 1876-RM2	
138	7	32 51	27.407 118 27	37.987	139 0456	149835	POLE 1947-RM1	
140	7	32 48	43.443 118 25	19.479	139 0097	149835	PROM 1947-RM1	

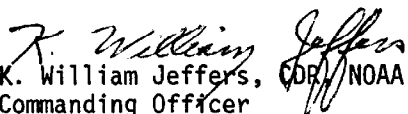
APPROVAL SHEET

H-9377
RA-20-2-74

OPR-411-RA-74
San Clemente Island, Calif.

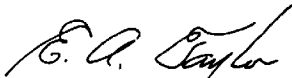
In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, Instruction Manual for Automated Hydrographic surveys, and PMC OPORDER. The data was examined daily during the execution of the survey.

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


K. William Jeffers, CDR, NOAA
Commanding Officer
NOAA Ship Rainier

ADMINISTRATIVE APPROVAL
H-9377

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys.



Eugene A. Taylor, RADM
Director
Pacific Marine Center

June 15, 1978
Date



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

C352/GKM

August 4, 1978

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

FROM: *G. K. Myers*
G. K. Myers
Chief, Quality Control Branch

SUBJECT: Quality Control Report for H-9377 (1973-74), California, San Clemente Island, South End of San Clemente Island

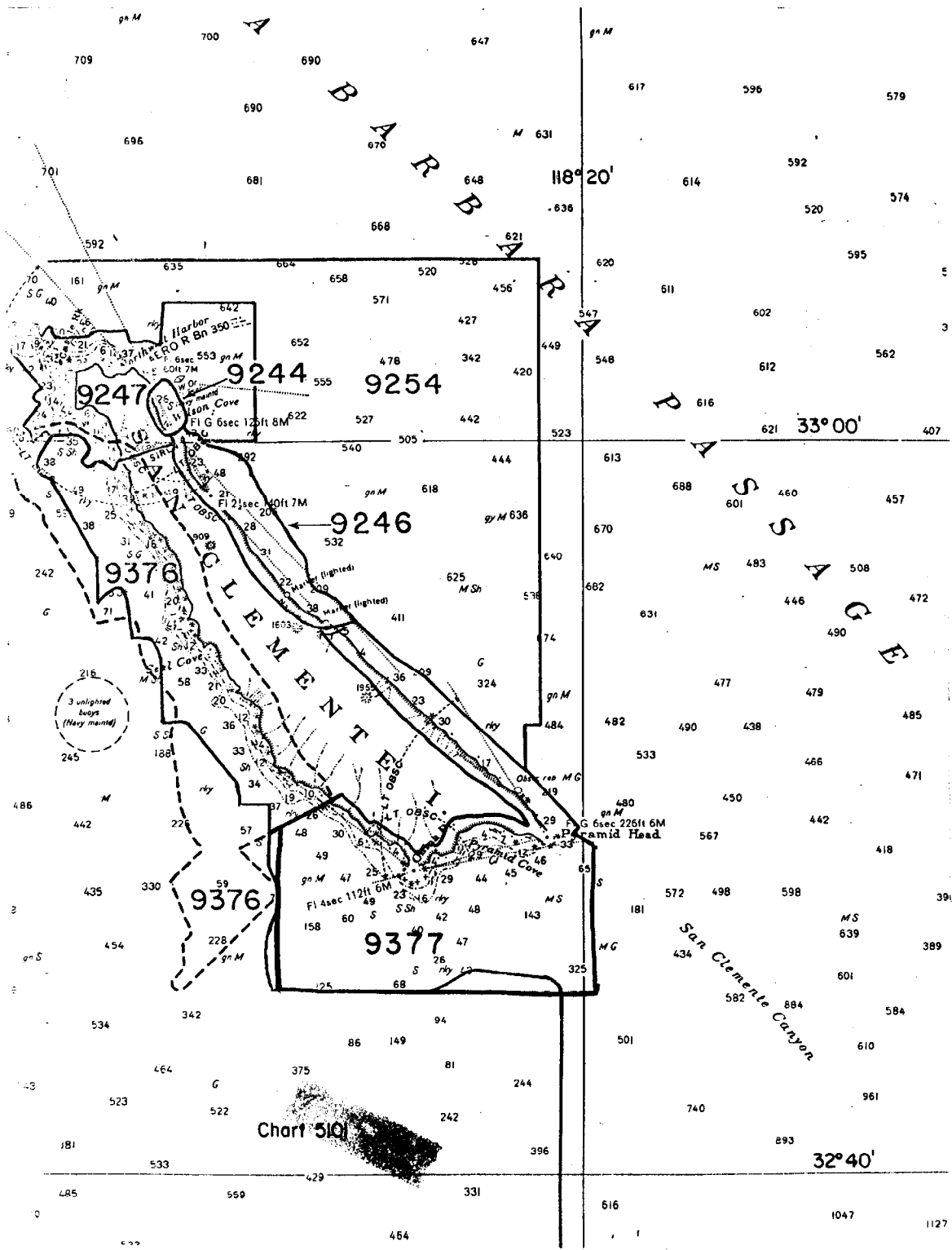
A quality control inspection of H-9377 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigation hazards, junctions and shoreline transfer, sounding line crossings, smooth plotting, decisions and actions taken by the verifier, and cartographic presentation of data. In general, it was found to conform to the National Ocean Survey standards and requirements except as stated in the report by the verifier and Hydrographic Inspection Team and as follows:

1. The 150-, 250-, and 350-fathom depth curves should have been added to the present survey to satisfy the charting requirements.
2. The verifier did not bring depth curves on the present survey and junctional survey H-9246 into adequate agreement. The necessary revisions were made by the quality evaluator. Where junctional surveys are not available at the time of verification for comparison and determination of the final position of the curves, the curves in the overlapping area should be left in pencil.
3. A comparison was not made with H-6165 (1936) WD and H-6166 (1936) WD during verification. No conflicts between effective drag depths and present depths were found during quality control.
4. Ledges, reefs, rocks awash, foul area limits, and low water line were mistakenly shown beyond the general limit of hydrography on the south on the present survey.
5. Elevations that identified the height of a few high water features were indicated twice on the smooth sheet. Also, some islets were erroneously shown as rocks awash. These discrepancies were corrected during quality control.



6. Soundings transferred from H-9112, an adjoining survey on the east, were inked in red; yet the junctional note that identified the source of these soundings was shown in brown. The same color should be used for soundings as indicated by their source when transferred from respective junctional or prior surveys to the smooth sheet. The aforementioned depths were shown in brown during quality control.
7. Additional soundings and rocks awash were carried forward to the present survey during quality control in sparsely developed areas when indications of lesser depths exist. Bottom characteristics were also brought forward to the present survey during quality control.
8. The Obstr rep charted at latitude 32°50.5', longitude 118°22.08' from a Coast Guard report was erroneously shown on the present survey. This feature was not mentioned by the hydrographer and, therefore, was expunged from the smooth sheet during quality control. It is noted that the Obstr rep label has been subsequently revised to Obstr (5 feet rep 1974) on the current chart.
9. Prior soundings and rocks awash carried forward from H-5474 during verification were not plotted in accordance with the North American 1927 Datum. Therefore, the positions of these items were revised on the smooth sheet during quality control.
10. Comments made in the Verifier's Report pertaining to rocks located on the Class I manuscript TP-00389 are superseded. These features were determined to be nonexistent during the review of this topographic sheet and therefore were removed. A comparison with reviewed photogrammetric manuscript TP-00389 was made during quality control.

cc:
C35
C351



BARBARA

PASSAGE

SAN CLEMENTE I.

San Clemente Canyon

Chart 5101

118° 20'

33° 00'

32° 40'

709 700 690 647 617 596 579 690 670 631 592 574 696 681 668 621 614 520 574 701 592 635 604 658 520 526 620 611 595 562 181 642 547 602 612 562 635 652 478 342 420 449 548 616 621 407 635 555 9244 9254 527 505 442 523 613 688 460 457 601 483 508 472 492 446 490 479 485 38 48 22 38 36 30 32 31 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

