9376

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-20-1-73

Office No. H-9376

LOCALITY

State ..... CALIFORNIA

General Locality ..... SAN CLEMENTE ISLAND

Locality ..... WEST SIDE OF SAN CLEMENTE ISLAND

1973-74

CHIEF OF PARTY
G.E. HARADEN, K.W. JEFFERS

LIBRARY & ARCHIVES

DATE ..... June 6, 1978

☆ U.S. GOV. PRINTING OFFICE: 1976—669-441

9376

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.: H-9376

FIELD NO.: RA-20-1-73

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: California — See other Title Sheet

General locality: San Clemente Island

Locality: West Side of San Clemente Island

Scale: 1:20,000 Date of survey: 3-16 April 1973

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

Vessel: NOAA Ship RAINIER, Launch RA-6

Chief of party: CAPT Gerard E. Haraden

Surveyed by: LTJG McCabe, ENS Hendershot and ENS Thorson

Soundings taken by echo sounder, ~~[illegible]~~: Ross Model 5000 (S/N 1040)

Graphic record scaled by: Ship's Personnel

Graphic record checked by: Ship's Personnel

Positions verified ~~[illegible]~~ by: John E. Lotshaw Automated plot by: PMC/Xynetics Plotter

Soundings

Verification by: John E. Lotshaw

Soundings in fathoms ~~[illegible]~~ and tenths at ~~[illegible]~~ MLLW

REMARKS: The Modified Transverse Mercator Projection, soundings and position numbers on the boatsheet were plotted by the RAINIER's PDR 8/E Computer and COMPLOT Plotter.

appld. - stds. 9-19-78
WJT

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6

A. PROJECT

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

B. AREA SURVEYED

This 16.2 square mile survey is along the western coast of San Clemente Island, California, from West Cove on the north to Seal Cove on the south. The boat sheet limits of the survey extend from latitude 33° 00' 10" N on the north to latitude 32° 46' 50" N on the south. The survey was completed from the northern boat sheet limit to a southern limit at latitude 32° 54' 30" N and extends from the shoreline out to the 110 fathom depth curve.

The survey began on 3 April 1973 and was completed on 16 April 1973. This survey junctions on the north with contemporary survey H-9375 (RA-10-1-73) and on the west into and beyond the 110 fathom depth curve, with contemporary survey H-9371 (RA-80-1-73). The survey was not completed far enough south to junction with contemporary survey H-9377 (RA-20-2-73).

Prior surveys of this area are H-5475 (1:20,000, 1933) and H-5474 (1:20,000, 1933). See Verifications Report Para. VI

C. SOUNDING VESSEL

All hydrography and bottom sampling was accomplished by the RAINIER'S Uniflite Launch RA-6 (#2126). Soundings along the main scheme lines are shown on the boat-sheet in black ink. Crosslines are shown in red ink. All bottom samples are denoted by green circles.

D. SOUNDING EQUIPMENT

Uniflite launch RA-6 used a ROSS fathometer, Model 5000 (SN:1040) in depth ranging from 0 to 129 fathoms. Bar checks, down to 7 fathoms, were taken twice daily and the results abstracted. The initial value was scanned continuously during the survey. No abstract of initial correction was compiled since any observed difference in initial values appeared only on the analog record and not on the digitized record. In check scanning fathograms, initial corrections were considered before reading analog values. Fathograms were scanned continuously in the field and compared to Hydrolog digitized values. Judicious use of the blanking function was made to eliminate spurious returns. Manual logging of the analog values was used in inshore aeas of heavy kelp concentration in which the digitizer could not function. Internal phase comparisons were routinely made throughout the survey. A 0.5 fathom draft correction was used for RA-6. All fathometer

corrections were compiled on the Transducer Correction/ Table Indicator (TC/TI) tape.

Velocity corrections were computed from water temperature and salinity observations obtained from a nansen cast taken on 30 March 1973 at latitude 32° 58' 13" N, longitude 118° 56' 11" W and latitude 32° 57' 22" N, longitude 118° 56' 04" W. The resulting velocity correction table was entered on tape and referenced in the TC/TI tape.

There were no equipment faults which would affect soundings. Consult the Corrections To Echo Sounding Report, OPR-411, NOAA Ship RAINIER, 1973, for further discussion of sounding corrections.

E. SMOOTH SHEET

The smooth sheet will be plotted by the Pacific Marine Center, Electronic Data Division.

The boat sheet was produced aboard the RAINIER using the Digital Equipment Corporation PDP 8/e computer and the Complot plotter. A Modified Transverse Mercator Projection with the central meridian located at 118° 40' 00" W and the control latitude at 3,300,000 meters north of latitude zero was used. The projection was skewed 120° as per the Hydroplot/ Hydrolog definition so as to cover the entire survey area with a single boat sheet. The smooth sheet is not to be skewed as the boat sheet was designed to cover the area of a 36"x54" smooth sheet. The projection was verified in the field. Fixes from electronic control and soundings were plotted via the Complot plotter on a paper boatsheet using thePDP 8/e Hydroplot System.

F. CONTROL

Decca Hi-Fix was used for horizontal control and was operated in the two range, type A mode, transmitting with moderate power on a frequency of 1799.6 KHz. With the exception of a faulty receiver aboard the launch which was replaced before work was begun, the stations operated satisfactorily and caused no on-line problems during this survey.

Shore station 1 was located on the eastern shore of San Nicolas Island. A 35 foot whip antenna was erected approximately 60' above sea level on triangulation station STA 3, 1968 (position: latitude 33° 13' 25".5105 N, longitude 119° 26' 13".7329 W) which was 140' from the shoreline.

Slave station 2 was located on The Isthmus, San Clemente Island. A 35 foot whip antenna was erected approximately 40' above sea level on topographical station CLEMFIX, 1973 (position: latitude 33° 00' 54".9316 N, longitude 118° 36' 13".6411 W) which was 100' from the shoreline.

Calibration of Hi-Fix receivers was accomplished by visual three

point sextant fixes on signals located by ground survey methods. A Mathematical solution for three point fixes was used in conjuction with a Digital Equipment Corporation PDP-8/e computer and program AM 560. The receivers were calibrated at the beginning and end of each days work. All partial lane corrections were abstracted and applied to the boat sheet. ✓

For further information on Hi-Fix control refer to: Hi-Fix Report, OPR-411, NOAA Ship RAINIER, 1973. For specific information on station and signal location refer to the Geographic Positions of Calibrations Signals, and sketch of Hi-Fix Station locations appending this report. ✓

G. SHORELINE

Shoreline details were taken from manuscripts TP-00384, TP-00386, TP-00387, TP-00388, TP-00389 all of which were 1:10,000 scale manuscripts. In order to transfer the shoreline from these manuscripts to the 1:20,000 scale boatsheet, new shoreline details from latitude 36° 56' N northward were first transferred to C.&G.S. Chart 5118, scale 1:20,000, and then the corrected chart shoreline was transferred to the boatsheet. Shoreline from latitude 36° 56' N southward was transferred point by point from the 1:10,000 shoreline manuscripts. Field edit of the shoreline was completed from the northern boundry of the survey south to triangulation station RYTON, 1973 (position: latitude 32° 59' 52".99 N, longitude 118° 34' 52".41 W). In this area, the shoreline as shown on the manuscripts is accurate. ✓

For more information on shoreline details, consult Field Edit Report OPR-411, NOAA Ship RAINIER, 1973.

H. CROSSLINES

Crosslines on sheet H-9376 (RA-20-1-73) amounted to 17% of main scheme lines run. In general, the crosslines are excellent, agreeing well within one fathom. The bottom in this area generally has a uniform slope away from shore out to approximately the 65 fathom curve. The bottom drops off rapidly after 65 fathoms. Thus, the crosslines inside 65 fathoms afford a fairly good check on soundings. Crosslines are plotted with red ink on the boatsheet. ✓

I. JUNCTIONS

H-9247

The survey area is joined on the north by contemporary survey ~~H-9375~~ 9254 (RA-~~10-1-73~~ 14) Scale 1:10,000, 1973, and on the ~~east~~ west by ~~H-9371~~ 9254 (~~RA-80-1-73~~) Scale 1:10,000, 1973. The survey was not completed far enough south to junction with H-9377 RA-20-2-73) Scale 1:20,000, 1973. Soundings which junction on the north and west edges of H-9376 (RA-20-1-73) agree with no displacement of the depth curves. These comparisons are considered adequate and no adjustments are necessary. See Verifications Report Para. V

It should be noted that north of latitude 32° 59' 40" N the sounding lines could not be continued into the shoreline due to inadequate intersection of the Hi-Fix lanes. Soundings in this area are plotted, however, on H-~~9375~~ 9247 (RA-10-~~1~~ 3 1-73) and this sheet junctions with those soundings adequately.

J. COMPARISON WITH PRIOR SURVEYS

Earlier soundings taken from sheet H-5475, scale 1:20,000, 1933 agree within one fathom of soundings from the present survey. Soundings from H-5475 are plotted in special violet on the boat sheet. See Verifications Report Para VI

Soundings from sheet H-5474, scale 1:20,000, 1933 are plotted on the boat sheet in special green. The contemporary survey was not completed far enough south to provide a comparison with these earlier soundings.

No significant differences were observed between the 1973 and 1933 surveys.

K. COMPARISON WITH CHART

This survey compares favorably with C&GS Chart 5111, eighth edition, 23 December 1972. ✓

A more accurate comparison is provided by a chart of the same scale as the present survey, C&GS Chart 5118, fifth edition, 29 April 1972, which covers most of the completed survey area. Approximately 95% of the soundings of this chart agree with those of the contemporary survey within one fathom. The remaining 5% agree within 2 fathoms. Areas of small discrepancy but of note between this survey and chart 5118 include: ✓

Location	Remark
32° 58' 00" N 118° 35' 00" W	The 20 fathom curve on the chart is approximately 100 yards inshore of that on the survey in this general area.
32° 59' 35" 118° 37' 00"	The 40 fathom curve on the chart should be extended to the southeast to include a 33/34 fathom sounding on the survey.
32° 57' 45" 118° 35' 45"	The 40 fathom development centered here should be extended north and south to include shoaler soundings on the contemporary survey.
32° 58' 00"N to 32° 59' 00"N	The 50 fathom curve on the chart is approximately 100 yards inshore of that on the survey between these latitudes.
33° 00' 00"N to 32° 59' 00"N	The 100 fathom curve on the chart is inshore of soundings significantly shoaler than that on the survey.

No new significant shoal areas or dangers to navigation were discovered by this survey. The shoal area extending west from Eel Pt. on C&GS

Chart 5111 was found and thoroughly developed in this survey.

L. ADEQUACY OF SURVEY

The portion of this boat sheet that was completed is considered complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

All aids to navigation are as charted with the exception of a radio mast located at latitude 32° 58' 40" N and longitude 118° 33' 05" W which is no longer lighted or in use. It is recommended that a 234 ft. Lorac mast with occulting red light on top at latitude 32° 59' 06".9 N, longitude 118° 33' 11".38 W be charted. There is also a radar dome prominently located on the highest point of the island at latitude 32° 53' 03".84 N, longitude 118° 26' 59".72 W which should be charted. Refer to Field Edit Report, NOAA Ship RAINIER, 1973 for details.

on H-9377

N. STATISTICS

Sheet H-9376 (RA-20-1-73) contains 95 nautical miles of sounding lines and covers approximately 16.2 square miles. The total number of positions was 413. Four bottom samples were taken and are included in the above total. All sounding lines and positions were run by RA-6 (launch 2126).

O. DATA PROCESSING

Launch RA-6 was equipped with the NOS Hydrolog system. The data from RA-6 was recorded in master tape format using the on-line Hydrolog System controlled by program AM 170.

Corrector tapes were prepared using the standard Hydroplot/Hydrolog format for all peaks, deeps, sounding 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/TI 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 PMC. The correct data is listed on the TC/TI tape.

P. RECOMMENDATIONS

The area south of Seal Cove remains to be surveyed before this sheet can be considered complete.

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.

3) Field Edit Report, OPR-411, NOAA Ship RAINIER, 1973.

Respectfully submitted,

Stuart H. Thorson

Stuart H. Thorson
ENS., NOAA

APPROVAL SHEET

RA-20-1-73

H-9376

San Clemente Island, California, 1973

In producing this sheet, standard hydrographic procedures were followed and the data was examined daily during the execution of the survey. The survey is incomplete south of Seal Cove.

The data on the boat-sheet and the accompanying records have been examined by me and are hereby approved.

GE Haraden

G. E. HARADEN
CAPT., NOAA

SO. CALIF. SIG. TAPE LISTING
WITH T. STA. NAMES
2/11/73

SIG NO.	LAT	LONG	TRIANGULATION STATION
100	33 12 5705	119 28 1053	SNI S. SIDE NAV. LT. 1968
101	33 13 0047	119 27 1846	STA 5 1968
102	33 13 1661	119 26 2378	STA 4 1968
103	33 13 2551	119 26 1373	STA 3 1968(HI-FIX SITE)
104	33 13 4573	119 26 0863	STA 2 1968
105	33 13 5007	119 26 0347	SAN NICOLAS E. END LT. 1966
106	33 01 4880	118 35 4235	N. HEAD LT. 1940
107	33 00 5493	118 36 1364	CLEMFIX 1973
108	33 00 5519	118 36 1312	LAMAR 1 (USN)
109	33 01 1914	118 35 0135	SAN CLEMENTE ISL. AIRFIELD, CONTROL TOWER 1973.
110	33 00 4511	118 35 3163	JUDI 1973
111	33 00 1582	118 35 0268	DART 1973
112	33 00 1162	118 34 0552	SAN CLEMENTE ISL. NM,N. FRONT RANGE 1973
113	33 00 3544	118 33 5636	SAN CLEMENTE ISL., AERO BEACON 1973
114	33 00 2032	118 33 4764	SAN CLEMENTE ISL. NM,N. REAR RANGE 1973
115	32 59 1596	118 33 3712	SAN CLEMENTE ISL. NM,S. FRONT RANGE 1973
116	32 59 2586	118 33 1679	SAN CLEMENTE ISL. NM,S. REAR RANGE 1973
117	32 57 3540	118 33 4295	ABALONE 1933
118	32 56 5738	118 33 1148	RED 1933
119	32 55 5840	118 32 5378	SPRAY 1947
120	32 55 0546	118 32 4246	EEL POINT 1933

C&GS FORM 567
(11-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
~~TO BE DELETED~~ } STRIKE OUT TWO

NOAA SHIP RAINIER — April, 19 73

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by LCDR Mordock

CAPT. G. E. Haraden
Chief of Party.

STATE California, San Clemente Island

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE* ° ′	LATITUDE* ″ D.M. METERS	LONGITUDE* ° ′	LONGITUDE* ″ D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
*DOME	Large, white, spherical radar ~~dome located on highest point~~ on island.		32 53	03.84 118.2	118 26	59.72 1552.5	1927 N.A.D.	TP00387	4-73		x	x	5111,50 5101
RADIO MAST	Occulting Red light on top of 234 ft. LORAC mast.	110	32 59	06.90	118 33	11.38	"	2nd Ord. Tri.	1964		x	x	5111,51 5101
TOWER	Airfield control tower, red & white checked, fixed red lights on top.	109	33 01	19.14	118 35	01.35	"	"	2-73		x	x	5111,51
*BEACON	Rotating green and white aero beacon.	113	33 00	35.44	118 33	56.35	"	"	2-73		x	x	5111,51 5101,50

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* TABULATE SECONDS AND METERS

USCOMM-DC 16234-P6

C&GS FORM 567
(11-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

~~TO BE CHARTED~~
~~TO BE REVISED~~
TO BE DELETED } STRIKE OUT TWO

NOAA SHIP RAINIER — April, 1973

I recommend that the following objects which have ~~(has been)~~ been inspected from seaward to determine their value as landmarks be ~~charted~~ *(deleted from)* the charts indicated.

The positions given have been checked after listing by LCDR Mordock

CAPT. G. E. Haraden
Chief of Party

STATE California, San Clemente Island

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE* ° ′	LATITUDE* M / B.M. METERS	POSITION LONGITUDE* ° ′	LONGITUDE* M / B.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	RAINBOW CHART	HEMORE CHART	OFFSHORE CHART	CHARTS AFFECTED
RADIO MAST	Per Chart 5111: (Occ R Lt) (F R Lt)		32 58	40	118 33	05	1927 N.A.D.	Chart 5118	4-73		X	X	5118, 5111

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* TABULATE SECONDS AND METERS

USCOMM-DC 16234-P

VELOCITY CORRECTION TAPE LISTING
RA-20-1-73
RA-10-1-73
VESSEL: 2126
TABLE 0002

000057 0 0000 0002 000 000000 000000
000091 0 0001
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

TIDE NOTE

It is recommended that the tide station established on the Navy pier at Wilson Cove, San Clemente Island, latitude 33° 00' 20".6 N and longitude 118° 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 the Tides Division, Rockville.

Predicted tides for boatsheet 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.

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.: H-9376

FIELD NO.: RA-20-1-73

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: California

General locality: San Clemente Island

Locality: West Side of San Clemente Island

Scale: 1:20,000 Date of survey: October 1-10, 1974

Instructions dated: June 5, 1974 Project No.: OPR-411

Vessel: NOAA Ship RAINIER, Launches RA-3, RA-5, and RA-6

Chief of party: CDR K. William Jeffers

Surveyed by: ENS G.W. Stroble

Soundings taken by echo sounder, ~~xxxx xxxx xxxx~~ EDO PDR (S/N 324) Ross Model 5000 (S/N's 1040 & 1042)

Graphic record scaled by: Ship's Personnel

Graphic record checked by: Ship's Personnel

Positions verified
~~Protracted~~ by: John E. Lotshaw Automated plot by: PMC/Xynetics Plotter

Soundings
Verification by: John E. Lotshaw

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

REMARKS:

NOAA FORM 77-28 SUPERSEDES FORM C&GS-837.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6

A. PROJECT

This hydrographic survey was conducted in accordance with Project Instructions, OPR-411-FA,RA-74, Southern California Coast, dated 5 June, 1974.

B. AREA SURVEYED

This survey is along the western coast of San Clemente Island, California, from Seal Cove on the north to 32° 50' 00"N on the south and extends from the shoreline out to the 110 fathom curve.

A portion of this survey was conducted under OPR-411-RA-73 in April of 1973. That portion surveyed in 1973 extends north from Seal Cove.

This survey was begun on October 1, 1974 (JD 274) and ended on October 10, 1974 (JD 283). The survey junctions on the north with H-9376 (RA-20-1-73, 1:20,000) and on the south with contemporary survey H-9377 (RA-20-2(A)-73, 1:20,000). On the west, at the 110 fathom line this survey junctions with contemporary survey H-9254 (RA-80-1-71, 1:80,000).

Prior surveys of this area are H-5474 (1:20,000, 1933) and H-1429 (1:20,000, 1879). See Verifications Report Para. VI

C. SOUNDING VESSELS

All hydrography was accomplished by the NOAA Ship RAINIER (2120) and RAINIER launches 2123 (RA-3), 2125 (RA-5), and 2126 (RA-6). All bottom samples were obtained by the RAINIER.

D. SOUNDING EQUIPMENT

The survey launches operated with the sounding equipment installed as in the following table:

Launch	Fathometer S/N (Ross Model 5000)	Digitizer S/N Ross Model 6000)
2123	1042	1041
2125	1040	1040
2126	1042	1041

The RAINIER (2120) used the EDO PDR S/N 324 with EDO transceiver

S/N 217 and manually entered depths.

Launches 2125 and 2126 worked within the entire range of depths and in various areas of the survey. Launch 2123 worked only inside the 40 fathom line. The RAINIER (2120) worked primarily outside the 100 fathom line.

Technicians monitored the fathometers continuously during operation and kept the initial value on the analogue trace at zero. In addition, the fathograms were scanned during real time sounding acquisition to compare analogue and digitized values. Major discrepancies between the values were changed to agree with the analogue values. The fathometers were internally phased and adjusted so as to have no phase correction.

All applicable corrections were incorporated on a TC/TI tape for automated processing (refer to Separates Following the Text for listings of these tapes). A transducer correction (TRA) as determined for each of the launches from routine bar checks was used for processing of the soundings aboard the RAINIER. When bar checks were not available a value for the TRA for each launch was used from the previous days' bar checks. Velocity corrections were computed from a Nansen cast taken October 1, 1974. Vertical casts were taken during the bottom sampling for the RAINIER (2120).

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

E. BOAT SHEET

The Transverse Mercator Projection and soundings were plotted by RAINIER personnel using the Ship's PDP8/e Hydroplot System. Equipment in the system included the PDP8/e computer (S/N 1011) and Complot plotter (model DP-3, S/N 4670-4).

The central meridian for the project was 118° 30' 00"W and the control latitude 3,615,000 meters north of latitude zero. Rough plots were made daily, and a final plot collated as the work progressed. The final plot was made on October 30, 1974. No discernible distortion could be detected on the boat sheet during the period of the final plot.

F. STATION CONTROL

Electronic control stations for this survey made use of existing

triangulation stations. No new control was established. The triangulation stations used for electronic control sites were:

CHINA PT. LIGHTHOUSE 1933	105
PAPPY 1947	132
POINT 1933	133
UTE 1933	135
POLE 1947 RM 1	138

Stations used for T-2 calibration of the electronic system were:

PAPPY 1947	132
POINT 1933	133
TOMB 1933	136
MAIL POINT 1933	134
POLE 1947	139
UTE 1933	135

For further information on stations refer to Geodetic Control Report, OPR-411-RA-74.

G. POSITION CONTROL

This survey made use of the super-high frequency (SHF) Motorola Mini-RangerIII (range-range system) for position control of soundings. The system worked satisfactorily during the project. Mini-Ranger stations that were established as described in section F of this report were located so as to prevent weak geometric configurations at range-range intersections. For information concerning the definition of areas that were controlled by the various pairs of Stations refer to Abstract of Positions in Separates Following the Text.

No problems were experienced with the Mini-Ranger system during the survey. The few spurious printouts that did occur were deleted from the master tapes and inserted on the corrector to be plotted by time and course between soundings with adequate fix data.

Mini-Ranger equipment was used aboard the survey vessels as indicated by the following table:

Vessel	Console	Transceiver
2120	715	720
2123	715	720
2125	720	727
2126	711	718

Mini-Ranger transponders remained the same throughout the survey. Serial numbers for the four codes are listed in the following table:

Code	S/N
1	774
2	775
3	776
4	777

Calibration of the system was accomplished only once a day due to shore party mobility and logistics.

A theodolite calibration system was used throughout the survey. The system involved locating the T-2 on an established triangulation site, initializing on another triangulation station and turning the angle to the launch being calibrated. For details of the system refer to Electronic Control Report (Mini-Ranger System), OPR-411-RA-74.

The calibrations were processed using the Wang calculator program "Intersection for TTY Output" (700/PF/022) and AM300 in the PDP8/e computer. The results were analyzed and applied through the corrector tape in the evening processing. The position control of the plot of the soundings on the boat sheet includes the correctors from each applicable calibration. Mini-Ranger slope correction, however, was not applied to position control of soundings. Refer to Electronic Control Report (Mini-Ranger System), OPR-411-RA-74, for further information concerning the operation of the Mini-Ranger III system during the survey.

H. SHORELINE

Shoreline for the boat sheet was transferred from T-sheet Manuscripts T-00387, T-00386, and T-00384. All shoreline and topographic detail on the boat sheet was verified by field edit and rocks that could be of potential danger to navigation were either

photo-identified or located by the launches with a Mini-Ranger detached position. Additional rocks and foul areas delineated by field edit were added to the boat sheet in red. Field edit on this boat sheet is complete. The MLLW line was not defined in most areas because of the rocky nature of the shoreline and the steep gradient, combined with the prevalent swell and breakers in the inshore areas. These factors made it difficult, if not dangerous, to delineate the zero fathom curve. For further information refer to Field Edit Report, OPR-411-RA-74.

I. CROSSLINES

Crosslines totaled 19.8 miles, or 13%, of the main scheme of soundings. All crossline soundings, as compared to main scheme soundings, agree within 2 fathoms. All crosslines were run by launches 2125 and 2126 and the RAINIER (2120).

Crossline soundings were plotted in red except for positions 5119-5120 (JD 281, RA-5) which were accidentally plotted in black.

J. JUNCTIONS

Adequate junctions were made with contemporary surveys H-9376 (RA-20-1-73; that portion of this boat sheet completed the previous year), H-9377 (RA-20-2(A)-73) and H-9254 (RA-80-1-71) that were plotted in purple, blue, and green respectively. Junction soundings as compared to the soundings of this survey agreed within one fathom. Depth curves continued smoothly through junctions.

K. COMPARISONS WITH PRIOR SURVEYS

The volcanic rock feature referred to in paragraph 4.12 of the Project Instructions was investigated and a least depth of 57 fathoms was obtained at position 32° 47' 57"N, 118° 31' 29"W. The development of the feature satisfied the requirements set forth in the Project Instructions.

The Pre-Survey Review item as on chart 5111 is the USS GREGORY, a Fletcher class destroyer, formerly used as a target vessel. It broke from its moorings in a storm and grounded. It is broken in two pieces and is still being used as a target by the U.S. Navy. The position given in the Pre-Survey Review is incorrect. Correct position is 32° 5[illegible]' 59"N, 118° 30' 23"W as shown on the boat sheet. The profile of the GREGORY is much lower than that of the WHITE EAGLE,

which is shown in the correct position on C&GS Chart 5111.
Position of wreck, S.S. White Eagle, is lat 32°35.28', long. 118°32.4'

Main scheme soundings were compared with prior survey H-5474 (1:20,000, 1933). All compared soundings agree within one fathom. The prior survey soundings are plotted in brown.

L. COMPARISON WITH THE CHART

This survey was compared with C&GS Chart 5111 (1:40,000, 8th ed., dated Dec. 23, 1972). The comparison of the soundings was very similar to the comparison of the prior survey with the soundings agreeing closely.

Refer to Field Edit Report, OPR-411-RA-74, for information on rocks and shoreline detail.

M. ADEQUACY OF SURVEY

This hydrographic survey, H-9376 (RA-20-1-73) is complete and adequate to supercede prior surveys for charting purposes.

The fathogram was scanned in the field and checked for peaks and deeps. Changes and additions were made to the original records accordingly.

N. AIDS TO NAVIGATION

No aids to navigation were located in the area covered by this survey. No new aids are recommended.

O. STATISTICS

This survey contains 152 nautical miles of soundings covering an area of 19.73 square nautical miles obtained by the following vessels:

Vessel	Positions	L.N.M. Hydro	Remarks
2120	0001-0103	40.4	
2123	3001-3049	5.3	
2125	5000-5213	47.2	
2126	6000-6245	59.1	
2120	9024-9030, 9034-9038		Bottom Samples

P. MISCELLANEOUS

None.

Q. RECOMMENDATIONS

No further specific recommendations are considered necessary for this survey. This represents the completion of a survey from previous seasons.

R. REFERENCES TO REPORTS

Corrections to Echo Soundings, OPR-411-RA-74
Geodetic Control Report, OPR-411-RA-74
Electronic Control Report (Mini-Ranger System, OPR-411-RA-74
Field Edit Report, OPR-411-RA-74

S. DATA PROCESSING PROCEDURES

Data acquisition and processing was conducted using standard procedures. Soundings were obtained using the Hydrolog/Hydroplot system with computer program AM100 (ver. 10 November, 1972) in launch 2125 (RA-5) and by using the Hydrolog system with computer program AM170 (ver. 10 November, 1972) in launch 2126 (RA-6). Raw data tapes were corrected for misdepths and Mini-Ranger malfunctions to produce electronic master tapes. For each electronic master tape an electronic corrector tape was made that included TRA and Mini-Ranger calibration correctors. Also included on the electronic corrector tape were peaks, deeps, and Mini-Ranger malfunctions that were plotted by time and course between soundings with good fix data. The boat sheet was plotted with these tapes. Revised master and corrector tapes and master reduced to sea level tapes were made from the electronic master tapes. Additional corrector tapes are supplied with Mini-Ranger correctors as averaged from the entire project. These additional tapes are submitted per Mini-Ranger pair, per launch, per sheet. Pacific Marine Center's Processing Division is to decide whether daily correctors or averaged correctors are applicable.

Proper formats were observed for all tapes and printouts were made for all of these tapes. Ignore correctors in the corrector words on master tapes. Use daily correctors as supplied on the corrector tapes.

Other computer programs used during the survey include the following programs:

Program	Version Date	Description
AM 200	23 March, 1973	Offline Plot
AM 201	10 November, 1972	Grid and Lattice Plot
AM 300	24 May, 1973	Utility Computations
AM 301	8 December, 1972	VISTA
PM 340	1 December, 1972	Reduction to Sea Level
AM 500	10 November, 1972	Predicted Tide Generator
AM 560S	10 April, 1972	Mini-Ranger Calibration with Slope Correction
AM 602	10 March, 1972	Elinore
WANG		Intersection for Teletype Output

Respectfully submitted,

Gerald W. Stanley
Ltjg., 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	-0hr.	04m
low water	-0hr.	05m
Height ratio		
(High and low water)		0.96

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-20-1-73(H-9376)

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

TABLE # 2 11
VESSEL: 2125(RA-5)

000040 0 0000 0002 11 000 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-20-1-73(H-9376)

TABLE # 25
VESSEL: 2126,2124,2123(RA-6,RA-4,RA-3)

000040	0	0000	0005	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				

VESSEL: 2125(RA-5)

000042	0	0000	0009	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				

VELOCITY CORRECTOR TAPE LISTING
RA-20-1-73(H-9376)

TABLE # 7

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

```
000040 0 0000 0007 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
```

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
```

STATION LIST
H-9376
RA-20-1-73

STA	O	LATITUDE	LONGITUDE	CRT	ELEV	F.KHZ	SOURCE
			TYPE/NAME				
105	7	32 48 13.740	118 25 29.208	139	0034	149835	
			CHINA POINT LIGHTHOUSE-1933				
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				
138	7	32 51 27.407	118 27 37.987	139	0456	149835	
			POLE 1947-RM1				
139	7	32 51 27.764	118 27 38.031	139	----	149835	
			POLE-1947				

APPROVAL SHEET

H-9376 (RA-20-1-73)

OPR-RA-411-74

SAN CLEMENTE ISLAND

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.

K. William Jeffers
CDR., NOAA

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. Hubbard
for 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, California

Period: October 1974

HYDROGRAPHIC SHEET: H-9376

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.

for Chief, Tides Branch

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9376

Name on Survey	A ON CHART NO. 511	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
EEL POINT	X									1
LOST POINT	X									2
MAIL POINT	X									3
SAN CLEMENTE ISLAND	X									4
SEAL COVE	X									5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					APPROVED					19
					Chas. E. Harrington					20
					CHIEF GEOGRAPHER - C3X8					21
					30 June 1978					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#

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: 4/18/73

Signed: [signature]

Title: Chief, Verification Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9376

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	2boatsheets, 1preliminary overlay # 6
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			1			
CAHIERS	1with printouts & misc.data					
VOLUMES						
BOXES						

T-SHEET PRINTS (List) TP-00384 , TP-00386

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	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			929
POSITIONS CHECKED		929	
POSITIONS REVISED		52	
SOUNDINGS REVISED		103	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	6		
VERIFICATION OF CONTROL		2	
VERIFICATION OF POSITIONS		118	
VERIFICATION OF SOUNDINGS		131	
COMPILATION OF SMOOTH SHEET		46	
APPLICATION OF TOPOGRAPHY			
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS			
COMPARISON WITH PRIOR SURVEYS & CHARTS			
VERIFIER'S REPORT			
OTHER		15	
TOTALS	6	312	

Pre-Verification by Nicolas Lestenkof	*Beginning Date* 1/1/74	*Ending Date* 1/1/74
Verification by John E. Lotshaw	*Beginning Date* 8/19/75	*Ending Date* 12/8/77
Verification Check by A.E. Eichelberger, J.S. Green	*Time (Hours)* 54	*Date* 12/29/77
Marine Center Inspection by HIT	*Time (Hours)* 22	*Date* 5/9/78
Quality Control Inspection by G. Myers	*Time (Hours)* 38	*Date* 6/30/78
Requirements Evaluation by D.J. Hill	*Time (Hours)* 3	*Date* 9/13/78

No insp

Reg. No. H-9396

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 REQ'D_____ INITIALS_____

REMARKS:

Reg. 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 REQ'D._____ INITIALS_____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO: H-9376 FIELD NO: RA-20-1-73

California, San Clemente Island, West Side of San Clemente Island

SURVEYED: 3-16 April 1973, 1-10 October 1974

SCALE: 1:20,000 PROJECT NO: OPR-411

SOUNDINGS: Ross Fineline
McKiernan-Terry Precision (PDR)

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

Chief of Party.....1973 - CAPT Gerald E. Haraden
1974 - CDR K. William Jeffers
Surveyed by.....1973 - LT(JG) McCabe, ENS Thorson and ENS Hendershot
1974 - ENS G.W. Stroble
Automated plot by.....PMC Xynetics Plotter
Verified by.....John Lotshaw
December 8, 1977

I. INTRODUCTION

H-9376 is a basic survey of the western coast of San Clemente Island between Lat. 32°50'00" and Lat. 33°00'00". Included within the limits of the survey is a southern extension to include the seamount located at Lat. 32°48'00", Long. 118°31'30".

The survey was begun in 1973, using Decca Hi-Fix for control. Only the northern part of the coastline was finished prior to the close of the 1973 field season. In 1974, the sheet was completed using Motorola Mini-Ranger for control.

Projection parameters used by PMC to accomplish the smooth plot of H-9376 are incorporated as a file listing in the smooth printout. All correctors to positions and soundings on H-9376 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 surveys. 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-00384, TP-00386, and TP-00387. Dates of photography and field edit are respectively:

TP-00384	1971-75
TP-00386 & TP-00387	1971-74

All detail was transferred to the smooth sheet as shown on the manuscript, with the exception of a number of rock elevations on the southern half of the sheet. These were annotated on the smooth boatsheet with observed heights. Smooth tides were applied to these heights and the resulting reduced elevations are shown on the smooth sheet.

III. HYDROGRAPHY

Crosslines on H-9376 are in good general agreement with the main scheme of hydrography. Small differences, as noted in paragraph H of the 1973 Descriptive Report and paragraph I of the 1974 Descriptive Report, 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.

In areas of very widely separated sounding lines, soundings from H-5454, 1933, H-5455, 1933, and H-5600, 1933-34 have been lifted onto the smooth sheet in order to support development of depth curves. Certain other items of hydrographic detail, such as rocks and bottom samples, have been lifted onto the smooth sheet from these prior surveys and from H-9247, 1971-73-74, the contemporary junction survey to the north.

Hydrography on H-9376 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. This is because the rocky and steep nature of the shoreline and the presence of breakers make close approaches to the shoreline very hazardous.

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-9247, 1971, to the north, with contemporary survey H-9254, (1971, to the west, and with contemporary survey 1973-1974)

(1973-74)
H-9377, to the south. Good agreement was noted and all depth curves in junction areas of H-9376 have been inked.

VI. COMPARISON WITH PRIOR SURVEY

H-1429 (1879) 1:20,000
H-5474, H-5475 (1933) 1:20,000
H-5600 (1933) (1934) 1:20,000
H-5601 (1933) 1:20,000

Comparison with H-1429 shows good agreement in inshore areas and differences of up to five fathoms in offshore areas. Differences in offshore areas appear to be related to deficiencies in horizontal control on H-1429 rather than to changes in the bottom configuration. H-9376 is considered adequate to supersede H-1429 in areas of common coverage.

Comparisons with H-5474 and H-5475 show excellent agreement in all areas, with most soundings agreeing within one fathom. Soundings from H-5474, H-5475 and H-5600 have been lifted onto the smooth sheet to fill holidays left by areas of wide line spacing on H-9376. Thus augmented, H-9376 is considered adequate to supersede H-5474 and H-5475 in the area of common coverage.

Comparisons with H-5600, 1933 and H-5601, 1933 shows excellent agreement in the area adjacent to the coast of San Clemente Island, with soundings generally agreeing within one fathom. In the vicinity of the seamount centered at Lat. 32°48.0', Long. 118°31.5' differences of over ten fathoms occur. These differences appear to be the result of less accurate control systems in use in 1933. The shoal sounding on H-5601 on the seamount is 59 fathoms, which compares well with the minimum depth of 57 fathoms obtained on the contemporary survey. H-9376 is considered adequate to supersede H-5601 and H-5600 in areas of common coverage.

VII. COMPARISON WITH CHART

H-9376 was compared with C&GS Chart 5118, Fifth Edition, April 29, 1972 and with C&GS Chart 5111, Eighth Edition, December 23, 1972.

See Quality Control

Comparison with Chart 5118 reveals no major area of disagreement. Soundings on H-9376 which are shoaler than nearby soundings on Chart 5118 should be used to update the chart. For example, the second out from fix #410 is a well defined peak having a reduced depth of 34 fathoms. It is in an area with a charted depth of 40 fathoms, and is shoaler than any nearby charted sounding.

Three landmarks located on Chart #5118 have not been addressed by the current survey. These include a tower located at Lat. 33°59.6', Long. 118°34.7', a tower located at Lat. 33°58.5', Long. 118°34.5', and a pole located at Lat. 33°58.5', Long. 118°34.4'. Since these landmark features have not been disproven by H-9376, it is recommended that they continue to be charted if the source can be confirmed.

A radar dome located at Lat. 32°53'03.84", Long. 118°26'59.72" is discussed as a landmark in paragraph M of the 1973 Descriptive Report. This feature is also shown on TP-00386 as a dome. It is not shown on H-9376 because it falls outside the sheet line limits, but will be shown on the junction survey, H-9377, 1973-74.

Comparison with Chart 5111 reveals no major discrepancy, with charted values agreeing quite closely with surveyed depths on H-9376.

PSR Item #AS, a shipwreck, has been identified in paragraph K of the 1974 Descriptive Report as the wreck of the USS Gregory, located at Lat. 32°51'59", Long. 118°30'23". See the 1974 Descriptive Report, paragraph K, for a discussion of shipwrecks within the boundaries of H-9376. See Quality Control

An unnumbered PSR item, 59 fathoms located at Lat. 32°48.0', Long. 118°31.5' is the seamount centered at Lat. 32°47.9', Long. 118°31.5'. A reduced sounding of 57 fathoms has been established as the least depth over this feature. See Quality Control

The present survey is considered adequate to supersede the charted information.

There are no charted aids to navigation within the limits of this survey.

VIII. COMPLIANCE WITH INSTRUCTIONS

Field work on H-9376 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

No additional field work is recommended for the area covered by H-9376. As augmented by prior survey data, H-9376 is a good basic survey, adequate for charting purposes.

Respectfully submitted,

John E. Lotshaw
Cartographic Technician
December 8, 1977

Examined and approved,

James S. Green
Chief, Verification Branch

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

15 May 1978

TO: Eugene A. Taylor
Director, PMC

FROM: Glen R. Schaefer
Chief, Processing Division

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9376

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. 1-3, dated 7 February 1973, 16 November 1973 and 21 March 1973, respectively, and Project Instructions OPR-411-FA, RA-74, dated 5 June 1974 and Change Nos. 1-4 dated 5 June 1974, 5 September 1974, 6 September 1974, 26 September 1974, and 26 September 1974, respectively.

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-9376 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

Stanley H. Otsubo

ADMINISTRATIVE APPROVAL
H-9376

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.

E. A. Taylor

Eugene A. Taylor, RADM
Director
Pacific Marine Center

15 MAY 1978

Date

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

C352/GKM

June 30, 1978

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

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

SUBJECT: Quality Control Report for H-9376 (1973-74), California, San Clemente Island, West Side of San Clemente Island

A quality control inspection of H-9376 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- and 250-fathom depth curves should have been added to the present survey to satisfy charting requirements.

2. The charted visible wreck at latitude 32°55.2', longitude 118°32.7' appears as a stranded wreck at latitude 32°55.28', longitude 118°32.64' from T-00386 on the present survey. The wreck symbol and hulk of the same vessel were both mistakenly shown on the smooth sheet, therefore indicating the existence of two wrecks in the area. The visible wreck symbol was appropriately shown for the scale of the survey during quality control at the true position of this feature.

3. The mooring buoys located at latitude 32°53.82', longitude 118°33.27' and latitude 32°54.19', longitude 118°32.9' that were specifically mentioned in the survey records were properly identified for their intended purpose during quality control.

4. The bottom characteristic brought forward from H-5601 and Additional Work (1933-37) in the area of a seamount at latitude 32°47.95', longitude 118°31.5' was mistakenly identified in respect to material and source.

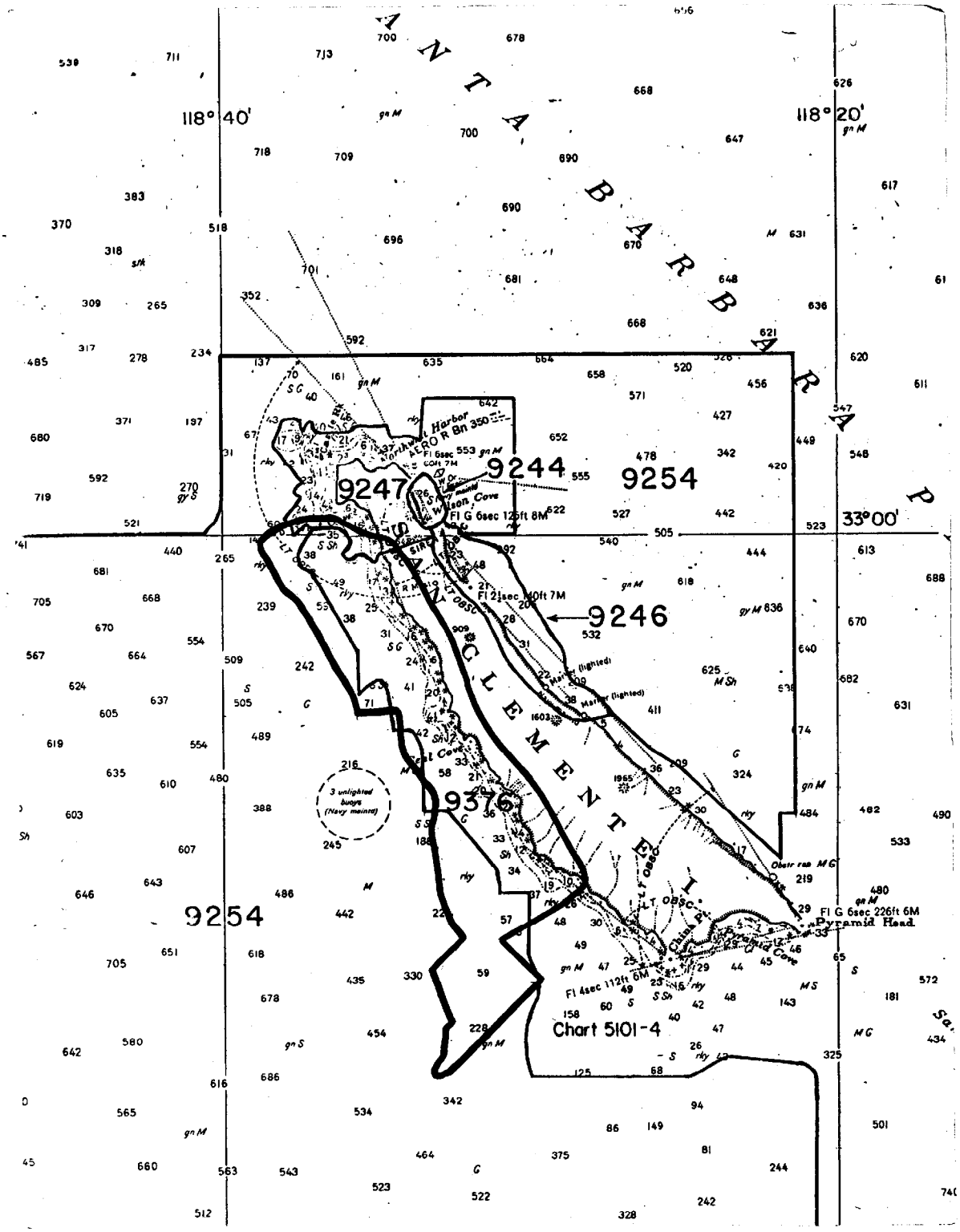
5. The source of charted information was not stated in the Verifier's Report. The charted hydrography originates with the prior surveys considered under the heading "Prior Survey Comparison" supplemented by some chart letters.

6. A comparison was not made with H-6616 (1936) WD and H-6167 (1936) WD during verification. No conflicts between effective drag depths and present depths were found during quality control.

7. Some additional prior soundings, rocks, and bottom characteristics were carried forward to the present survey during quality control in order to better delineate the character of the bottom in inshore areas. The present survey is considered adequate to supersede the prior surveys in the common area.

8. Limits of large areas of kelp delineated by black dashes on the smooth sheet originate with the contemporary photogrammetric manuscripts in the common area of the present survey. Evidences of kelp on the surface were apparently observed by photogrammetry in areas indicated on the fathograms by traces identified to be kelp by the hydrographer. However, these traces do not extend to the surface. Insofar as the aforementioned sources taken together describe the condition of kelp known to exist in this area, the character of this feature is considered to be adequately shown on the smooth sheet.

cc:
C35
C351


SANTA BARBARA
SAN CLEMENTE I.
118° 40'
118° 20'
33°00'
9247
9244
9254
9246
9376
9254
Harbor
AERO R Bn 350
Fl 6sec 553
Wilson Cove
Fl G 6sec 125ft 8M
Fl 2sec 40ft 7M
3 unlighted buoys (Navy mainte)
Fl 4sec 112ft 6M
Fl G 6sec 226ft 6M
Pyramid Head
Chart 5101-4

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9376

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
18762	11/9/78	R.A. Lillis	Full ~~Part~~ Before After Verification Review Inspection Signed Via (1)
			Drawing ~~No.~~ 16 RCS 11-14-78
18763	11/6/78	R.A. Lillis	Full ~~Part~~ Before After Verification Review Inspection Signed Via (1)
			Drawing No. 12 RCS 11-14-78
18740	11/13/78	R.A. Lillis	Full ~~Part~~ Before After Verification Review Inspection Signed Via (1)
			Drawing No. 44 RCS - 11-14-78
18022	11/13/78	R.A. Lillis	Full ~~Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 40 RCS - 11-14-78 Exam - No Corr
18020	11/13/78	R.A. Lillis	Full ~~Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 31 RCS - 11-14-78 Exam - No Corr
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

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

USCOMM-DC 8558-P63