

9561

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. FA-20-7-75
Office No. H-9561

LOCALITY

State CALIFORNIA
General Locality ... SANTA MONICA BAY
Locality ... OFFSHORE, PALOS VERDES POINT TO
SANTA MONICA

1975

CHIEF OF PARTY

..... R. E. Alderman

LIBRARY & ARCHIVES

DATE 11/30/76

9561

Charts

15144 Applied
15142 Applied
15101 applied
500 L Applied
5820 applied
9000 up

HYDROGRAPHIC TITLE SHEET

H-9561

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.

FA-20-7-75

State California

General locality Santa Monica Bay

Locality Offshore, Palos Verdes Point to Santa Monica

Scale 1:20,000 Date of survey ³20 Sept. - 23 Oct. 1975

Instructions dated 11 August 1975 Project No. OPR-411-FA-75

SHIP FAIRWEATHER
essel FA-5 (Hull 1001, EDP 2025), Ship (Hull MSS-20, EDP 2020)

Chief of party Cdr. Richard E. Alderman

Surveyed by Ens. Jeffrey D. Conrad

Soundings taken by echo sounder, ~~Edo Fathometer~~ Edo Fathometer (s/n 118)
Ross Fineline Fathometers (s/n 1046, 1047)

Graphic record scaled by Ross 5000 Digitizer, Edo Digitrak 261C

Graphic record checked by FAIRWEATHER personnel

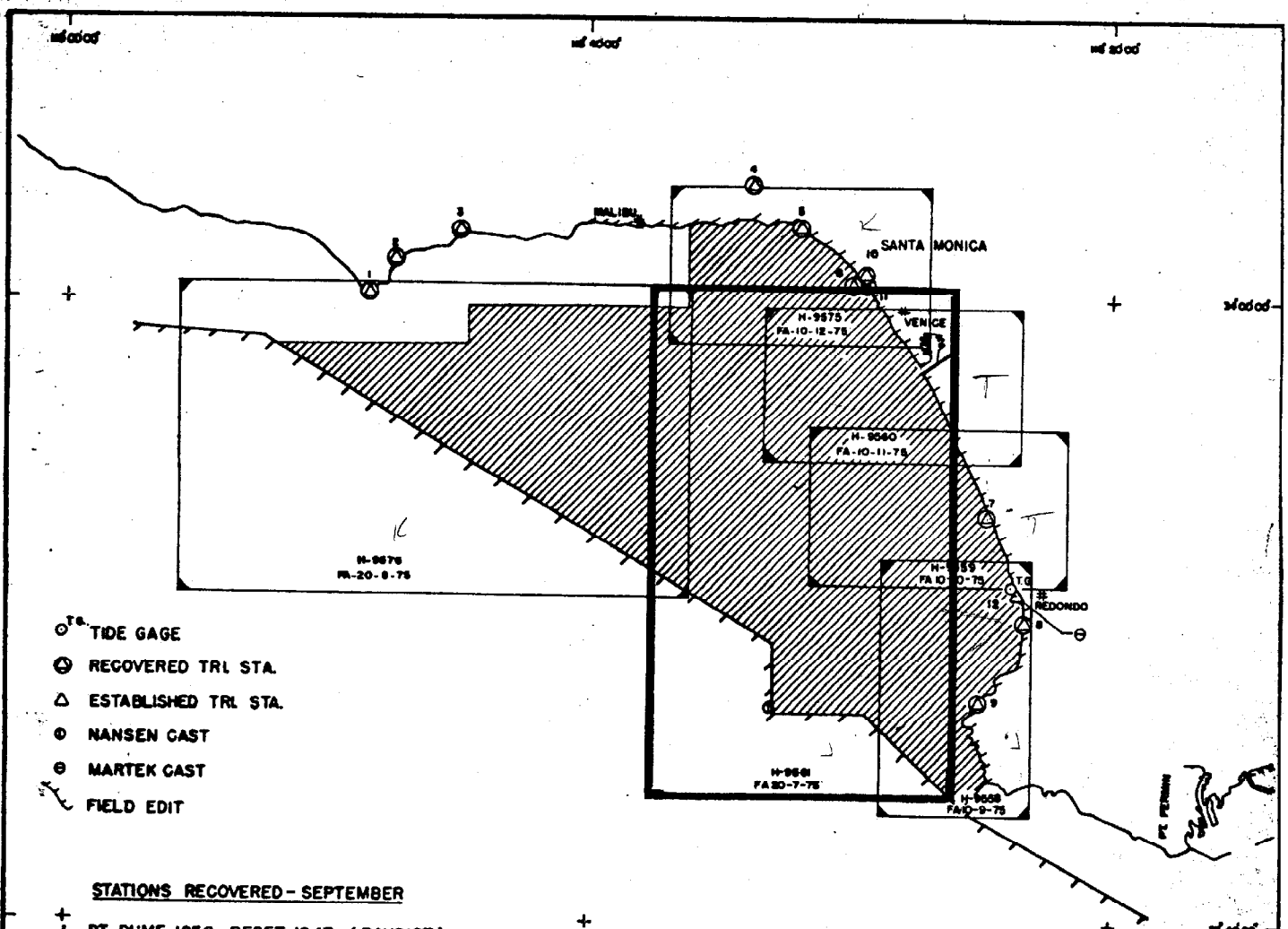
Positions verified by ~~XXXXXXXXXX~~ James L. Stringham Automated plot by PMC Xynetics Plotter

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

Soundings in fathoms ~~feet~~ at MHW MLLW

REMARKS: All survey records were kept on GMT. The mean longitude of the survey
is 118° 31.5'W. This ^{smooth} beatsheet is complete and adequate for charting.

Applied to std 4-1-77
[Signature]



- ⊙ TIDE GAGE
- ⊕ RECOVERED TRL STA.
- △ ESTABLISHED TRL STA.
- ⊙ NANSEN CAST
- ⊕ MARTEK CAST
- FIELD EDIT

STATIONS RECOVERED - SEPTEMBER

- 1 PT. DUME 1856, RESET 1947 (RAYDIST)
- 2 TRESTLE, 1933
- 3 LATIGO 1927, RESET 1942
- 4 TOPANGA E-5 (LAG), 1935 (RAYDIST)
- 5 PALISADES 2 REFERENCE MARK 1927
- 6 SANTA MONICA LIGHT, 1958
- 7 MANHATTAN BEACH PIER BUILDING, 1927
- 8 REDONDO, 1927
- 9 PASEO, 1927

STATIONS RECOVERED - OCTOBER

- 10 BAY CITIES BLDG & LOAN ASSOC. TOWER 1933
- 11 SANTA MONICA NEW BEACH CLUB CHIMNEY 1927

STATIONS ESTABLISHED - OCTOBER

- 12 REDONDO BEACH WEST JETTY LIGHT 3 1975

	SEPT.	OCT.
L.R.M. SOUNDING LINE	0	1348
SO. N.M. SOUNDING	0	185
BOTTOM SAMPLES	0	120
STD CAST (MARTEK)	0	1
SERIAL TEMPERATURE CAST (NANSEN)	0	1
TIDE GAGE INSTALLED	1	0

OPR-411-FA, RA-75
 PROGRESS SKETCH
 SOUTHERN CALIFORNIA COAST
 NOAA SHIP FAIRWEATHER (MSS-20)
 CDR RICHARD E. ALDERMAN, CMDG
 SCALE OF NOS CHART 18740

DESCRIPTIVE REPORT

NOAA Ship FAIRWEATHER (MSS-20)

OPR-411-FA-75

Survey H-9561 (FA-20-7-75)

A. PROJECT

This survey was accomplished in accordance with project instructions OPR-411-FA-75, Southern California Coast, dated 11 August 1975, and with change numbers 1, 2, and 5 dated 19 August 1975, 22 August 1975 and 25 September 1975 respectively, and with the PMC OORDER. ✓

B. AREA SURVEYED

The general locality covered by the survey is offshore extending from Santa Monica, California to ^{Pt. Verdes Point.} ~~Pt. Fermin.~~ More specifically, the northern limit is defined by 33°59.76'N while the southern limit is defined by 33°41.5'N. The eastern boundary follows longitude 118°26.0'W while the western limit is 118°37.5'W. The southern limit was extended seaward in order to include the 110 fathom curve. In addition this expansion enabled the launch and the ship to develop Redondo Canyon more extensively. The area enclosing Redondo Canyon is defined by 33°49.5'N and 33°46.4'N. The eastern limit is defined by 118°26.5'W and the western limit by 118°33.0'W. A second canyon, Santa Monica Canyon which lies along the western limit of the boatsheet at approximately 33°55.0'N, was also developed. ✓

Hydrography was accomplished from 30 September 1975 to 23 October 1975.

C. SOUNDING VESSELS

All hydrography on this sheet was accomplished by launch FA-5 (hull 1001, EDP 2025) and the ship (hull MSS-20, EDP 2020). Bottom samples were taken by both vessels. ✓

D. SOUNDING EQUIPMENT

The launch used a Ross Fineline fathometer. A TRA corrector of +0.4 fathom, based on bar checks taken when seas permitted was used for the launch. Operating within the two canyon areas (Redondo Canyon and Santa Monica Canyon) necessitated using the ship to complete the hydrography. Due to the steeply sloping canyon walls and depths exceeding 150 fathoms, the Ross Fineline fathometer fared poorly. Depths exceeding 150 fathoms were unable to be recorded or digitized by the Ross equipment. The launch resorted to operating at near idle speed with no positive results. The ship used a Ross Fineline fathometer to record shallower depths. To ✓

accurately delineate the canyons the ship used an Edo deep water fathometer. The Edo sounded well, but because it has a much wider beam than the Ross fathometer, the two systems frequently failed to agree by several fathoms in steep areas where both units would sound simultaneously. A TRA corrector of +2.6 fathoms was used for the ship. The sound velocity correctors were determined from one Nansen cast taken within the project area. For details see Report on Corrections to Echo Soundings, OPR-411-FA-75. The depths of soundings on this survey range from approximately 17 to 337 fathoms. ✓

Sounding Instruments:

<u>Vessel</u>	<u>Instrument</u>	<u>Model</u>	<u>S/N</u>
FA-5	Ross Fineline	5000	1046
Ship	Ross Fineline	5000	1047
Ship	Edo Digitizer 261C Digitrak		118

E. BOATSHEET

All data was plotted by the shipboard Hydroplot system. The ship's PDP 8/e computer(s/n M-40-00000-1021) utilized a Complot plotter(model DP3-5, s/n 5848-17). The projection used was a modified transverse Mercator at a scale of 1:20,000. Two plotter sheets were required. The skew of both is 090°. The eastern sheet, FA-20-7B-75, has its origin at latitude 33°44.0'N and longitude 118°25'52"W. The western sheet, FA-20-7A-75, has its origin at latitude 33°44.0'N and longitude 118°30'30"W. Copies of the parameter tape printouts are appended. ✓

F. STATION CONTROL

Horizontal control for this survey consisted of existing triangulation stations, with the following three exceptions: (1) REDONDO BEACH WEST JETTY LIGHT 3 was established by third-order traverse; (2) REDONDO BEACH CALIBRATION BUOY was established by short traverse from REDONDO BEACH WEST JETTY LIGHT 3; and (3) MARINA DEL REY BREAKWATER CALIBRATION BUOY was established by a short traverse from a third-order resection temporary point. No photogrammetrically located signals were used for this survey. The 1927 North American datum was used for all computations, which are included in the Electronic Systems Calibration Report, OPR-411-FA-75. ✓

G. POSITION CONTROL

The Hastings Raydist electronic positioning equipment, operated in the range-range mode, was used to control all the hydrography on this sheet. ✓

The pattern I station was located over PT DUME 1856 on Pt. Dume and the pattern II station over TOPANGA CANYON E-5 (LAC) 1935, a Los Angeles

County Surveyor first-order triangulation station, located in Will Rogers State Park in the Santa Monica foothills. The ship and launch FA-5 each was equipped with a Raydist mobile transceiver, navigator, strip chart recorder and a 35 foot whip antenna. The strip chart was monitored and annotated at all times between calibrations. Electronic correctors were determined by averaging the calibrations normally taken twice daily.

Calibration of launch FA-5's Raydist navigator was accomplished by fixed point method using one or both of the calibration bridles established. Calibration of the ship's Raydist navigator was accomplished by the transit cut method using Wild T-2 theodolites set up over REDONDO 1927 and REDONDO BEACH WEST JETTY LIGHT 3, with each station initializing on the other. Miniranger distances were observed from both stations for check and comparison purposes.

Electronic correctors, derived from the calibration data, were applied to the observed ranges before plotting on the field sheet. Slope corrections were automatically applied by either the on-line or the off-line plot program.

Base station operation was excellent, with generally negligible drift between morning and evening calibration corrections and with very few lane jumps.

H. SHORELINE

No shoreline is included in the area covered by this survey.

I. CROSSLINES

The 547.5 n.m. of hydrography run on this sheet includes 61.9 miles of crosslines. The crosslines are 12.7% of the main scheme hydrography. Comparisons at crossings never exceeded 1 fathom.

J. JUNCTIONS

The survey junctions to the north with the 1:10,000 scale contemporary survey FA-10-12-75(H-9575) which agrees within 1 fathom in depths of 13 to 29 fathoms. The survey does not junction with any contemporary sheet to the south. The southern limit coincides with the project limit. To the east the survey junctions with three contemporary surveys. These will be discussed in order of increasing latitude. The 1:10,000 scale contemporary survey FA-10-9-75(H-9558) agrees within 1 fathom in depths of 23 to 192 fathoms. The 1:10,000 scale contemporary survey FA-10-10-75 (H-9559) agrees within 1 fathom in depths of 20 to 35 fathoms. The 1:10,000 scale contemporary survey FA-10-11-75(H-9560) agrees within 1 fathom in depths of 14 to 21 fathoms. The survey junctions to the west with the 1:20,000 scale contemporary survey FA-20-8-75(H-9576) which agrees within 1 fathom in depths of 32 to 171 fathoms.

K. COMPARISON WITH PRIOR SURVEYS

The boatsheet was compared with prior hydrographic surveys H-6259 (1:80,000) and H-5653(1:40,000) dated June 10 to September 1, 1937 and March 1935 respectively. Comparison of representative soundings between prior and present surveys did not exceed 1 fathom except in a few cases. The differences range from 2 to 7 fathoms, with the prior survey soundings the deeper. Each of these soundings lies in the Redondo Canyon area, where depths exceed 200 fathoms. The depth and steep slope may cause these discrepancies. It should be noted that velocity corrections have not been applied to soundings on the field sheet and will improve these comparisons. ✓

Only one Pre-Survey Review item, number 103, dated February 6, 1975, falls within this survey. It is described as an oil and gas seepage area, originating from NOS survey H-5653(1933-1934), and is charted at latitude 33°51.9'N, longitude 118°29.2'W. The launch searched this area thoroughly several times throughout the project and each time the oil slick appeared quite heavy. The observed oil and gas seepage area extends from 33°52.0'N, 118°29.2'W to latitude 33°52.0'N, longitude 118°27.8'W. It is recommended that this seepage area continue to be charted. Two other seepage areas are included in Item 103 but fall within the limits of FA-10-9-75(H-9558) and are discussed in the Descriptive Report of that survey. ✓

In addition to the numbered pre-survey review items investigated there are charted on 18744 three areas in which doubtful soundings occur. These areas are circled with dashed lines on the pre-survey review and were investigated as follows: ✓

Three soundings (27, 28, 29 fathoms) existing among soundings between 32 and 39 fathoms were investigated. These are charted at approximately 33°52.75'N, 118°32.2'W. The launch developed this region thoroughly at 100 meter spacing. The results verified the existence of the shoal soundings charted. In addition to finding a 27 fathom depth, a shoal area was found in this region in which depths of ~~24~~ and ~~26~~ fathoms occurred. It is recommended that the soundings be maintained and also that the shoalest depth (~~24~~ fathom) be charted. *Concur* ✓

The second item appearing is a charted shoal sounding of 30 fathoms among depths ranging between 33 and 38 fathoms. This shoal is charted at approximately 33°51.8'N, 118°30.4'W. The launch developed this region thoroughly at 100 meter spacing and found several shoal soundings, the least of which was ~~29~~ fathoms. It is recommended that the ~~29~~ fathom depth be charted. ✓

The final shoal appearing on the chart is a 37 fathom depth charted among depths ranging between 41 and 47 fathoms. This sounding is located at 33°47.5'N, 118°28.8'W. This region was developed extensively at 100 meter spacing. The shoal sounding was verified at the charted position. It is recommended that the sounding be maintained on the chart. ✓

L. COMPARISON WITH CHART

The field sheet was compared with chart 18744(5144), SANTA MONICA BAY, 19th Ed., May 24, 1975, scale 1:40,000. ✓

The survey compares very well with the chart. All soundings agree within one fathom. No obstructions or buoys exist within the survey area. ✓

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

No aids to navigation exist within the limits of the survey. ✓

O. STATISTICS

<u>Vessel</u>	<u>Total Positions</u>	<u>Hydrography, n.m.</u>
Ship	308	134.4
FA-5	1265	413.1

Total area - 88.0 Sq. n.m.

Total bottom samples - 38

P. MISCELLANEOUS

Greenwich Mean Time was used for all survey records. No unusual submarine features exist on H-9561 except Redondo Canyon and Santa Monica Canyons, which are charted on 18744. The structure of these regions has not been altered. ✓

Redondo Canyon was developed using 200 meter spacing in depths ranging from 36 to 337 fathoms. Due to the steeply sloping canyon walls and extreme depths the Ross fathometer on the launch was unable to obtain digitized depths or any trace. This problem arose significantly in depths greater than 150 fathoms. As a result the ship operated in this region using an Edo fathometer. The depths recorded agree very well with the prior survey H-5653 and with chart 18744(5144). No comparison exceeds 1 fathom. The structure of the canyon on the boatsheet resembles that of the chart and prior survey. There has been no significant change. ✓

Santa Monica Canyon was developed using 200 meter spacing in depths ranging from 36 to 200 fathoms. Where necessary to determine the position of the canyon edge, 100 meter spacing was used. The Ross fath- ✓

ometer failed miserably in this region also. It seems that the sensitivity lacks strength to capture the sound pulses in depths exceeding 150 fathoms. Again, the ship completed the hydrography in the extreme deeps of the canyon. The depths recorded agree very well with the prior survey H-5653 and chart 18744. All soundings are within 1 fathom of agreement. The structure of the canyon has remained unaltered since the last survey. ✓

Q. RECOMMENDATIONS

It is recommended that this survey be accepted and used for charting purposes. ✓

R. REFERENCES TO REPORTS

Report on Corrections to Echo Soundings, OPR-411-FA-75 ✓
Electronic Systems Calibration Report, OPR-411-FA-75
Coast Pilot Report, OPR-411-FA-75
Field Edit Reports, OPR-411-FA-75

S. DATA PROCESSING PROCEDURES

The ship and launch FA-5 each used program RK-111, version 11/10/72 on its PDP 8/e computer to acquire and compile all on-line hydrographic data. The ship used program RK-211, version 8/16/74, on its PDP 8/e computer to plot the field sheet. ✓

Submitted by:

Jeffrey D. Conrad ENS NOAA

Ens. Jeffrey D. Conrad, NOAA

FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Los Angeles Outer Harbor, California, and were interpolated by PDP8e computer utilizing AM500. All times of both predicted and recorded tides are based on GMT.

One Fisher-Porter ADR gage was installed in the project area. Location and period of operation is as follows:

<u>Site</u>	<u>Location</u>	<u>Period</u>
King Harbor,	33°50.8'N	41 days
Redondo Beach	118°23.9'W	20 Sept. - 1 Nov. 1975

KING HARBOR

ADR gage (S/N 7403A3402M14) was installed 9-20-75 and ran satisfactorily for 41 days until removal on 11-1-75. On 10-2-75 at 1704Z the gage was found to be 2 minutes fast. The gage was corrected and no other time errors were observed. The marigram reads 2.1 feet greater than the staff.

Time & Height Differences

No hourly height tabulations were done as the only gage observed was an ADR using a paper punch data record. No time & height differences were examined as only the King Harbor gage was observed; the Los Angeles Outer Harbor and Santa Monica Pier gages' data is submitted directly to Tides Branch by contract observers.

Levels

In a comparison of installation and removal level records, the King Harbor tide staff had a negligible shift of 0.001 ft.

Zoning

No zoning was required or attempted as only data from the King Harbor gage was observed. It is recommended that any necessary zoning be done by the Tides Branch after a review of existing (Los Angeles Outer Harbor and Santa Monica Pier) and observed data.

GEOGRAPHIC NAMES

Survey No.

FA-20-7-75 (H-9561)

Name on Survey

	A	B	C	D	E	F	G	H	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	Photogrammetric Manuscript
Redondo Canyon	18744								1
Santa Monica Bay	18744	H-6259 H-5653							2
Santa Monica Canyon	18744 ⁰								3
									4
									5
									6
									7
									8
									9
									10
									11
									12
									13
									14
									15
									16
						APPROVED			17
						<i>Chas E Harrington</i>			18
						STAFF GEOGRAPHER -CS/r2			19
						3 Dec 1976			20
									21
									22
									23
									24
									25
									26
			7A						27

VELOCITY TABLE 0001SOUND VELOCITY CORRECTOR ABSTRACT

The following sound velocity correctors are to be applied to all soundings on sheets:

FA-10-9-75*	(H-9558)
FA-10-10-75	(H-9559)
FA-10-11-75	(H-9560)
FA-10-12-75	(H-9575)
<u>FA-20-7-75</u>	<u>(H-9561)</u>
FA-20-8-75	(H-9576)

<u>DEPTH (FATHOMS)</u>	<u>CORRECTOR (FATHOMS)</u>
0.0-2.0✓	+ 0.0✓
2.1-4.0✓	0.1✓
4.1-8.2✓	0.2✓
8.3-11.0✓	0.3✓
11.1-14.0✓	0.4✓
14.1-18.8✓	0.5✓
18.9-22.0✓	0.6✓
22.1-27.5✓	0.7✓
27.6-34.9✓	0.8✓
35.0-43.1✓	1.0✓
43.2-53.6✓	1.2✓
53.7-65.0✓	1.4✓
65.1-77.0✓	1.6✓
77.1-79.0✓	1.8✓
79.1-100.0✓	2.0✓
100.1-112.0✓	2.2✓
112.1-137.0✓	2.5✓
137.1-168.0✓	3.0✓
168.1-200.0✓	3.5✓
200.1-231.0✓	4.0✓
231.1-260.0✓	4.5✓
260.1-294.0✓	5.0✓
294.1-337.0✓	5.5✓

* Excluding soundings in feet on the 1:5000 scale insert of King Harbor (see Velocity Table 0002).

JDC

OPR 411 SOUTHERN CALIFORNIA COAST FALL 1975

STATION LIST: H-9558, 9559, 9560, 9561, 9575 & 9576
 =====

STA	O	LATITUDE	LONGITUDE	CRT	ELEV	F	KHZ	SOURCE
---	-	---	---	---	---	---	---	---
		PT DUME 1856						
✓	001	0 34 00	05652 118 48	20652	250	0062	330040	Q-341183
		TOPANGA CANYON E-5 (LAC) 1935						
✓	002	0 34 03	40193 118 33	46981	250	0437	330040	(1)
		REDONDO BEACH WEST JETTY LT 3						
	004	0 33 50	27754 118 23	40498	250	0011	000000	(2)
		REDONDO 1927						
	005	0 33 49	39405 118 23	21230	250	0021	000000	Q-3311814
		BAY CITIES BLDG & LOAN ASSOC TOWER 1933						
	008	0 34 00	55744 118 29	44492	139	0000	000000	Q-341182
		PT DUME 1856						
	009	0 34 00	05652 118 48	20652	250	0062	000000	Q-341183
		MARINA DEL REY BREAKWATER TP 1975						
	010	0 33 57	36658 118 27	41864	250	0005	000000	(2)
		SANTA MONICA LIGHT 1958						
	011	0 34 00	27006 118 29	56399	250	0014	000000	Q-341182
		PASEO 1927						
	012	0 33 47	08799 118 25	02100	139	0063	000000	Q-3311814
		REDONDO BEACH WEST JETTY LT 3						
	101	0 33 50	27754 118 23	40498	250	0011	000000	(2)
		REDONDO BEACH EAST JETTY LT 2						
	102	0 33 50	30023 118 23	33796	243	0007	000000	(3)
		NW CORNER OF PIER						
	103	0 33 50	35281 118 23	35857	243	0005	000000	(3)
		NW CORNER OF BLDG						
	104	0 33 50	24765 118 23	31346	243	0005	000000	(3)
		PORTOFINO TOWER (CENTER)						
	105	0 33 50	40247 118 23	44997	243	0018	000000	(3)
		PORTOFINO LT 1						
	106	0 33 50	48556 118 23	52230	243	0003	000000	(3)

MAST OF PRINCESS LOUISE II
107 0 33 50 30704 118 23 30918 243 0020 000000 (3)

KING HARBOR LT 2
108 0 33 50 54365 118 23 56353 243 0002 000000 (3)

BREAKWATER PLATFORM (SOUTH END)
109 0 33 50 40669 118 23 56742 243 0005 000000 (3)

NORTH STACK OF 8
110 0 33 51 06524 118 23 41271 243 0040 000000 (3)

KHYC FLAGPOLE
111 0 33 50 56151 118 23 59075 243 0013 000000 (3)

STACK (240 FT)
114 0 33 55 45958 118 25 53371 243 0073 000000 (3)

STACK (334 FT)
115 0 33 55 07562 118 25 35191 243 0102 000000 (3)

NW CORNER OF PIER
118 0 33 50 19766 118 23 29129 243 0005 000000 (3)

LAT & LONG GRID FOR D. R. WORK
119 0 33 51 30000 118 24 15000 243 0000 000000 (3)

~~SPIRE — DELETED CL. 860 of 1976
120 0 33 53 12000 118 24 36000 243 0100 000000 (4)~~

REDONDO BEACH CALIBRATION BUOY
PATTERN I = 923.50
PATTERN II = 636.60

MARINA DEL REY BREAKWATER CALIBRATION BUOY
PATTERN I = 708.02
PATTERN II = 321.85

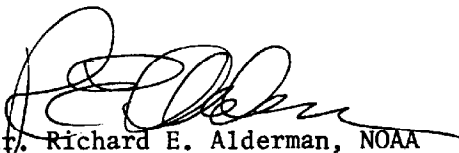
- (1) LOS ANGELES COUNTY SURVEY DEPARTMENT
- (2) SEE HORIZONTAL CONTROL ADDENDUM
- (3) PHOTO PICKED SIGNALS FROM MAP TP-00791
- (4) PHOTO PICKED SIGNALS FROM MAP TP-00790

APPROVAL SHEET

Field No. FA-20-7-75

Register No. H-9561

The field sheet and all accompanying records are hereby approved. The survey was conducted under my personal supervision and the field sheet and other records were examined daily. This survey is complete and adequate to supersede prior surveys for charting.



Cdt. Richard E. Alderman, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER (MSS-20)

1/28/76

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): Redondo Beach

Period: September 30-October 23, 1975

HYDROGRAPHIC SHEET: H-9561

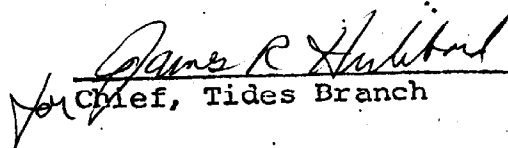
OPR: 411

Locality: Santa Monica Bay, California

Plane of reference (mean lower low water): 0.87 ft.

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

Remarks: Zone direct.



Chief, Tides Branch

APPROVAL SHEET

FOR

SURVEY H- 9561

- 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: 11/5/76

Signed: _____

f. S. Green

Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 9561

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO, excess overlays		1	BOAT SHEETS (2-parts, mylar)		1	
DESCRIPTIVE REPORT		1	OVERLAYS		7 XX	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1-with P/O					
VOLUMES	1					
BOXES			1-smooth P/O, sawtooth rec.			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1579
POSITIONS CHECKED		1579		
POSITIONS REVISED		16		
DEPTH SOUNDINGS REVISED		270		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control		5		
Verification of Positions		30		
Verification of Soundings		92		
Smooth Sheet Compilation		14		
ALL OTHER WORK		15		
TOTALS		156	HIT 10	
PRE-VERIFICATION BY Ms. Karol Hoops	BEGINNING DATE 2/2/76	ENDING DATE 2/11/76		
VERIFICATION BY Mr. James Stringham	BEGINNING DATE 3/19/76	ENDING DATE 10/13/76		
REVIEW BY Q.C. Inspector R.W. Devigarian 40 hr	BEGINNING DATE 1/18/77	ENDING DATE 1/25/77		

Carabeno 8 hr 2/4/77 R.W. Devigarian 25 Feb 77 6 hrs.
U.S. G.P.O. 1972-769-562/439 REG.#6

REGISTRY NO. H-9561

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

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

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

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

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

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

H-9561

Information for Future Presurvey Reviews

The area covered by the present survey is considered to be relatively stable and there are no noteworthy items for a future Presurvey Review.

The bottom is considered adequately developed on the present survey.

<u>Position</u>	<u>Index</u>	<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
334	1183	3	2	50 years
334	1184	0	1	50 years
335	1183	3	2	50 years
335	1184	1	2	50 years

VERIFIER'S REPORT

FA-20-7-75

H-9561, 1975

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

I. INTRODUCTION

The Hastings Raydist electronic positioning equipment, operating in the range-range mode, was used to control all the hydrography on H-9561, 1975.

Projection parameters used to prepare the boatsheet have been revised to center the hydrography on the smooth sheet. Parameters used by Pacific Marine Center are appended in the smooth printout. All correctors used to plot and reduce soundings on H-9561, 1975 can be located in the smooth printout.

Launch hydrography was accomplished with launch 2025 in depths ranging from 1 to 150 fathoms over most of the survey. Ship FAIRWEATHER conducted hydrography in the area of Redondo Canyon at approximate latitude $33^{\circ}48'00''$ north and longitude $118^{\circ}31'00''$ west and Santa Monica Canyon at approximate latitude $33^{\circ}55'20''$ north and longitude $118^{\circ}36'00''$ west.

NOAA Ship FAIRWEATHER operated the Ross fineline fathometer and EDO fathometer in the canyon areas. The majority of the soundings recorded on the EDO system were over 150 fathoms in depth.

During the verification of H-9561, 1975 the primary fathometer system was not identified. The procedure being soundings shoaler than 100 fathoms were taken from the Ross fathometer, soundings deeper than 100 fathoms were scanned from the EDO digitrak system. Extensive time was applied during verification of H-9561, 1975 to scan and correct soundings contained in the ship FAIRWEATHER's records because of digitizing problems with the EDO digitrak system. The digitizing of incorrect depths will account for disagreements between the smooth field sheet and H-9561, 1975 smooth sheet.

The following plotted positions 4426 to 4443 day 276 launch 2025 appear to be plotted with raw electronic rates on the smooth boatsheet.

Field sheet soundings were reduced from Los Angeles outer Harbor predicted tides. H-9561, 1975 smooth sheet soundings were reduced from Redondo Beach tide gage and approved by Tide Branch, Rockville. Tide correctors are accepted as correct.

II. CONTROL AND SHORELINE

See Ship's Report items: F, G and H.

H-9561, 1975 is considered an off-shore survey and requires no shoreline. The pipeline located at approximate latitude $33^{\circ}55.1'$ north and longitude $118^{\circ}29.0'$ west was transferred from TP-0788 unreviewed Class I manuscript scale 1:10,000 from edge of hydrography on H-9561, 1975 to approximate longitude $118^{\circ}29'20''$ west with the aid of the Kargle reflecting projector. From the manuscript edge at longitude $118^{\circ}29'20''$ west to the charted end of pipeline a list of coordinates and sketch from Chief, Coastal Mapping in coordination with the chart 18744 scale 1:40,000 was used to portray the inked pipeline on H-9561, 1975 smooth sheet. (See attached sketch in this report.) Deleted beyond long $118^{\circ}30'$. See Q C report

III. HYDROGRAPHY

The basic hydrography incorporated ^{configuration} in this survey was adequate to delineate the bottom characteristics and to determine the least depths. There were no major difficulties encountered in verification of the main scheme soundings, and the crosslines were in excellent agreement. *The usual depth curves have been adequately delineated.*

IV. CONDITION OF THE SURVEY

The smooth hydrographic records, overlays and report are adequate and conform with the requirements of the hydrographic manual and PMC OORDERA

V. JUNCTIONS

H-9561, 1975 survey junctions with the following contemporary surveys with excellent agreement.

H-9576, 1975 scale 1:20,000 to the west, H-9575, 1975 scale 1:10,000 to the north, H-9559, 1975 scale 1:10,000 to the east, H-9558, 1975 to the east southeast. H-9559, 1975 contains information on the pipelines and three soundings were transferred to H-9559, 1975 from H-9561, 1975 accompanied with a dashed depth curve.

All junction notes and curves are inked. No contemporary survey was accomplished to the south and north-northeast of H-9561, 1975. Depth curves are left in pencil.

VI. COMPARISON WITH PRIOR SURVEYS

H-5653, 1933-34-35 scale 1:40,000 (soundings in fathoms) is the primary prior survey for charted sounding information.

Considering the year of the prior survey and the advances in control and sounding equipment, very good agreement exists between H-5653, 1933-34-35 and H-9561, 1975. In depths of 20 to 100 fathoms disagreement of 1 to 4 fathoms exist. In depths from 100 to 300 fathoms in canyon areas disagreements of 1 to 8 fathoms are reflected. The disagreements between H-5653 and H-9561 are attributed to better electronic positioning system for the 1975 survey.

H-5653, 1933-34-35 was used as a supplemental aid in drawing final inked depth curves.

No soundings were transferred to H-9561, 1975 from H-5653, 1933-34-35.

H-9561, 1975 supersedes H-5653, 1933-34-35 in common areas of hydrography.

VII. COMPARISON WITH CHART

H-9561, 1975 and Chart 18744 19th Edition, May 24, 1975 are in good agreement indicating a stable bottom with only minor changes. Chartlet 18744 is submitted with smooth sheet H-9561, 1975.

VIII. COMPLIANCE WITH INSTRUCTIONS

H-9561, 1975 adequately complies with the project instructions OPR-411-FA, RA-75, Southern California Coast dated 11 August 1975, and under subsequent changes. (See Ship's Report item A.)

IX. ADDITIONAL FIELD WORK

This is a good basic survey, complete and adequate for charting purposes and to supersede prior survey.

Respectfully submitted,


James L. Stringham
Cartographic Technician
13 October 1976

Examined and approved,



for James S. Green
Chief, Verification Branch

Sept. 22, 1976

Jim Green

P.M.C.

Dear Jim:-

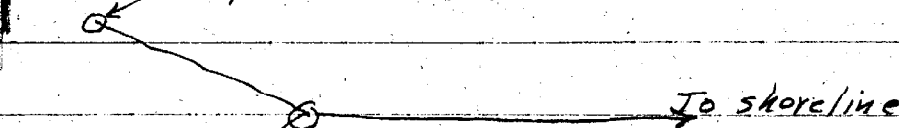
Searched out the data on the pipelines, (EL SEGUNDO)

Found and have noted the following:-

(1) Hyperion Sewage Treatment Plant - 5 mile outfall (144" dia.).

Lat. $33^{\circ}55'14.442''$

North End Long. $118^{\circ}31'43.565''$



Fork Point

Lat. $33^{\circ}54'43.519''$

Long. $118^{\circ}31'13.950''$

South End.

Lat. $33^{\circ}54'07.293''$

Long. $118^{\circ}31'33.045''$



(2) - Hyperion Sewage Treatment Plant - 7 mile outfall (20" dia)



End.

LAT. $33^{\circ}55'36.3013''$

Long. $118^{\circ}33'10.0114''$

As you can see, these terminals plot outside of our map limits.
This info. should be sufficient for your needs.

A.G.R.



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

Date: 4 November 1976

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

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

Subject: PMC Hydrographic Survey Inspection Team Report, H-9561

This survey is a basic hydrographic survey of a portion of Santa Monica Bay, California. The survey was conducted by NOAA Ship FAIRWEATHER in 1975 under Project Instructions OPR-411-FA-75 dated 11 August 1975. Minor cartographic corrections have been made on the smooth sheet as a result of the inspection process.

This is a well executed survey. Redondo and Santa Monica Canyons are well developed as were doubtful soundings from the pre-survey review. An unusually large number of soundings were revised during the verification process (see Verifier's Report, Section I.).

The inspection team finds H-9561 to be a very good basic survey, adequate for charting and to supersede common areas of prior surveys. Well done, FAIRWEATHER.

Donald E. Nortrup
Donald E. Nortrup, LCDR

Richard D. Lynn
Richard D. Lynn

Dean R. Seidel
Dean R. Seidel, LCDR

John C. Albright
John C. Albright, LCDR

Administrative Approval

H-9561

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



Eugene A. Taylor, RAIM
Director, Pacific Marine Center

11/5/76

Date



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

C352

January 25, 1977

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

THRU: Chief, Quality Control Branch

FROM: R. W. DerKazarian *R. W. DerKazarian*
Quality Evaluator

SUBJECT: Quality Control Report for H-9561 (1975), Offshore, Palos Verdes Point to Santa Monica, Santa Monica Bay, California

Survey H-9561 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as follows:

1. The following information supplements "Control and Shoreline" in the Verifier's Report: The sewerline located in latitude $33^{\circ}55.67'$ was transferred to the present survey from TP-00788 to the limit of the compilation at longitude $118^{\circ}30'$. A geographic position of the outfall furnished by the Coastal Mapping Division, Atlantic Marine Center, is attached to the present survey Descriptive Report.

2. The following information supplements "Comparison with Chart" in the Verifier's Report: The charted hydrography originates primarily with prior survey H-5653 (1933-35), supplemented with prior surveys H-4784 (1928), H-4559 (1925-26, 28), and H-1341a (1875-76), which require no further consideration except for the items mentioned below:

a. The "rky" bottom characteristics charted in the area of the present survey from H-1341a (1875-76) should be deleted from the chart. The "rky" characteristics are in marked contrast to the sand, mud, and ooze determined in this general area by the present and other surveys and are considered to be faulty. It is possible that no sample was obtained and the rocky was deduced from the "feel" of the bottom.



b. The charted 59-fathom sounding in latitude $33^{\circ}55.08'$, longitude $118^{\circ}33.42'$ from prior survey H-4559 (1925-26, 28) and several other shoaler soundings from H-1341a (1875-76) have been discredited by the present survey and should be removed from the chart.

c. See the discussion of the Presurvey Review items in paragraph K of the Descriptive Report.

The comparison with the chart should be concluded with an evaluation of the adequacy of the present survey to supersede the charted information.

3. The Verifier's Report does not follow the commonly accepted format in its discussions of "Hydrography," "Comparison with Prior Surveys," and "Comparison with Chart."

cc:
C351

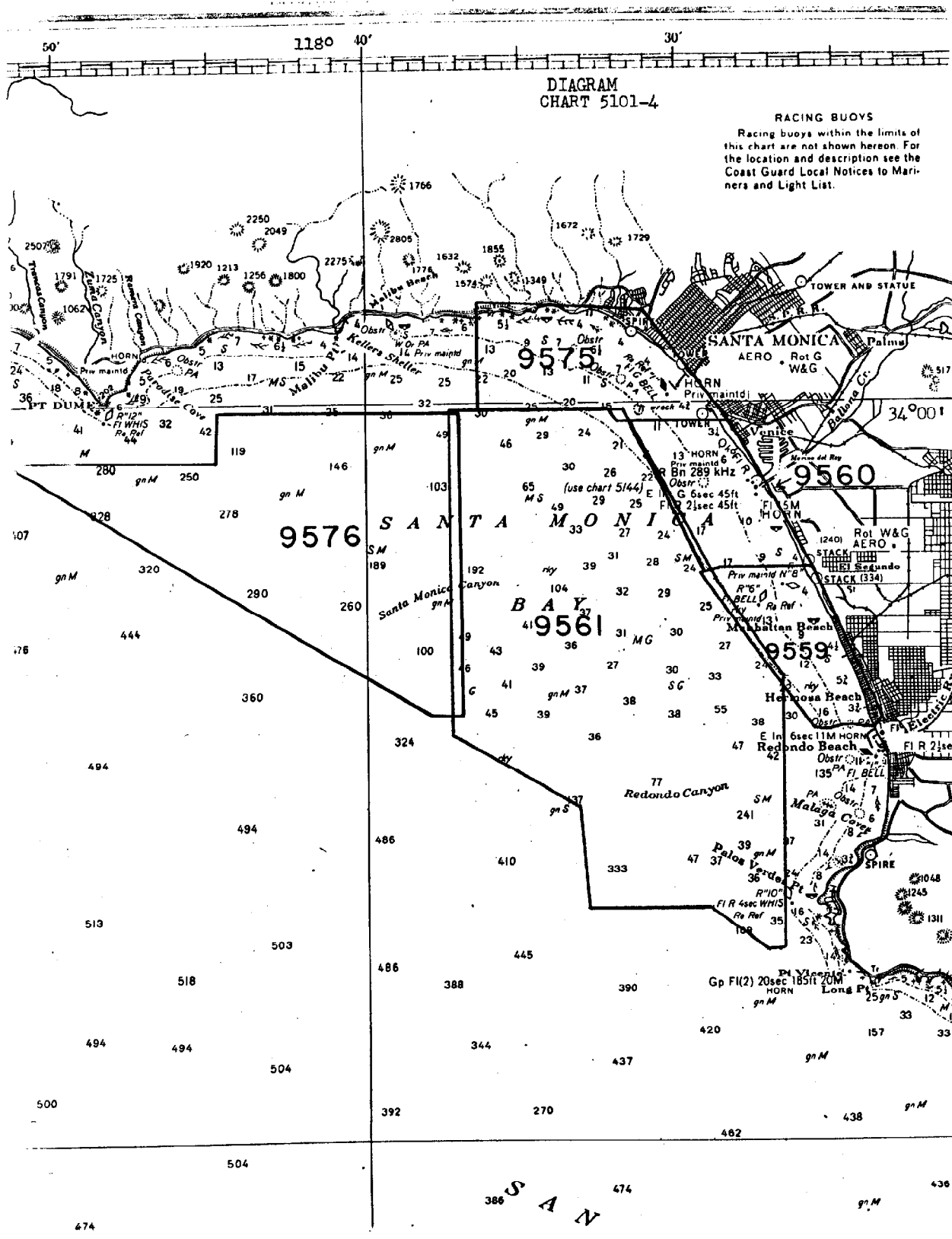


DIAGRAM
CHART 5101-4

RACING BUOYS
 Racing buoys within the limits of this chart are not shown hereon. For the location and description see the Coast Guard Local Notices to Mariners and Light List.

SANTA MONICA BAY

38° 50' N
118° 30' W

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9561

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
9000	6-15-77	J. Bailey	Full Part Before After Verification Review ^{RC} Inspection Signed Via Drawing No. <i>Added sndg "26"; Revised 100 fm depth curve</i>
18744 (5144)	2/9/78	Cortto/RCs	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Fully applied</i>
5142	2-24-78	Hamilton RC	Full Part Before After Verification Review Inspection Signed Via Drawing No.
18740 (5101)	3-3-78	Gregory B. Norris RCs	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>44 Revised "192" fthm sndg to "158"</i>
18022 (5020)	5-19-78	Gregory B. Norris RCs	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>39 Revised "192" fthm sndg to "158"</i>
18020 (5002)	12-20-78	Hamilton w/w	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>31</i>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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