

9492

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-10-1-75
Office No..... H-9492

LOCALITY

State CALIFORNIA
General Locality SAN PEDRO CHANNEL
Locality HUNTINGTON BEACH

1975

CHIEF OF PARTY
Richard E. Alderman

LIBRARY & ARCHIVES

DATE 8/23/77

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

9492

18020 ✓
18022 ✓
X 18740 ✓
X 18746 ✓
X 18749 ✓

1

HYDROGRAPHIC TITLE SHEET

H-9492

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-10-1-75

State California

General locality San Pedro Channel

Locality Huntington Beach

Scale 1:10,000 Date of survey 7 March - 8 April 1975

Instructions dated 22 January 1975 Project No. OPR-411-FA-75

FAIRWEATHER Launches

Vessel FA-3 (Hull 1240, EDP 2023), FA-5 (Hull 1001, EDP 2025), FA-6 (Hull 1243, EDP 2026)

Chief of party CDR Richard E. Alderman, NOAA

Surveyed by LT(jg) A.M. Snella, LT(jg) S.E. Anderly, ENS G.P. Kosinski

Soundings taken by echo sounder, hand lead, pole Ross Fineline Fathometer (s/n 204065, 1046, & 1047)

Graphic record scaled by Ross 6000 Digitizer

Graphic record checked by FAIRWEATHER personnel

Positions verified

~~Positions~~ by Karol M. Hoops Automated plot by PMC Xynetics Plotter

Soundings

Verification by Karol M. Hoops

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

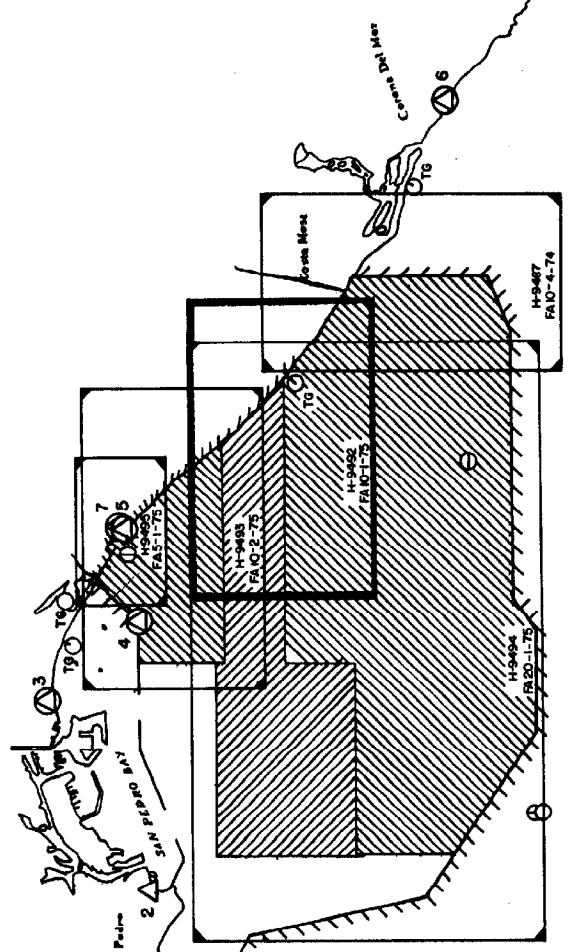
REMARKS: All survey records were kept on GMT. The mean longitude of the survey is 118°10'W. This boatsheet is complete and adequate for charting.

Misc. items removed from D.R. and filed in the Cahier with the field records.

*Applied to standards
3-21-78
WT*



Long Beach



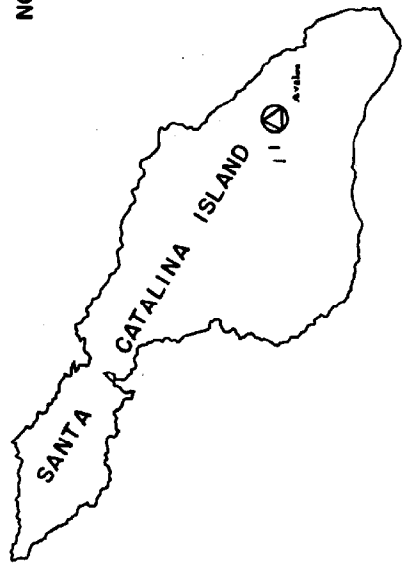
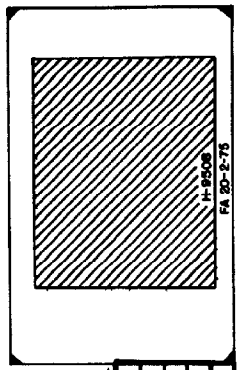
- TIDE GAGE
 - ⊙ RECOVERED TRI. STA.
 - △ ESTABLISHED TRI. STA.
 - ⊖ TDC CAST NANSEN
 - ⊕ MARTEK
- FIELD EDIT

HORIZONTAL CONTROL RECOVERED AND ESTABLISHED - MARCH -

- 1 HI FIX, 1972. (RAYDIST)
- 2 OLD, 1899 - RM3, 1975 (RAYDIST)
- 3 LONG BEACH VILLA RIVIERA HOTEL TOWER, 1932
- 4 LONG BEACH BREAKWATER EAST END LIGHT, 1963
- 5 SEAL BEACH NAVY DEPOT RADAR TOWER, 1956
- 6 PELICAN POINT, 1884
- 7 BRIDGE, 1956

OPR - 411 - FA, RA - 75
 PROGRESS SKETCH
 SOUTHERN CALIFORNIA COAST
 NOAA SHIP FAIRWEATHER (MSS-20)
 CDR RICHARD E. ALDERMAN, CMDG
 SCALE OF USC & GS CHART 5101

	MARCH	APR	TOTAL
LNM SOUNDING LINE	921	599	1520
SQ NM SOUNDING LINE	104	86	170
BOTTOM SAMPLE	60	125	185
TDC CAST NANSEN	1	1	2
MARTEK	0	2	2



118°00'00"

118°20'00"

DESCRIPTIVE REPORT

NOAA SHIP FAIRWEATHER (MSS-20)

OPR-411-FA-75

SURVEY H-9492 (FA-10-1-75)

A. PROJECT

This survey was accomplished in accordance with project instructions OPR-411-FA-75, Southern California Coast, dated 22 January 1975, and with change numbers 2 and 4 dated 18 February 1975 and 5 March 1975 respectively, and with the PMC OORDER.

B. AREA SURVEYED

The area encompassed by FA-10-1-75 is bounded on the north by latitude 31°41.3'N. and on the south by latitude 33°37.5'N. The eastern limits are determined by longitude 117°59.5'W. and by the shoreline. The western limit is determined by longitude 118°07'W. Hydrography was accomplished from 7 March 1975 to 8 April 1975.

C. SOUNDING VESSELS

All hydrography on this sheet was accomplished by launches FA-3 (hull no. 1240, EDP 2023), FA-5 (hull no. 1001, EDP 2025), and FA-6 (hull no. 1243, EDP 2026).

D. SOUNDING EQUIPMENT

The launches used Ross Fineline fathometers. A TRA corrector +0.4 fathom, based on the bar checks taken during the project, was used for all launches. The sound velocity correctors were determined by meaning two Nansen casts and one Martek TDC 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 0 to 20 fathoms.

Sounding Instruments:

<u>Vessel</u>	<u>Instrument</u>	<u>Model</u>	<u>S/N</u>
FA-3	Ross Fineline	200-A	204065
FA-5	Ross Fineline	5000	1046
FA-6	Ross Fineline	5000	1047

E. BOATSHEET

All data was plotted by the shipboard Hydroplot system. The ship's PDP 8/e computer (S/N M-40-00000-1006) utilized a Complot plotter (model DP-3, S/N 4670-2). The projection used was a modified transverse Mercator at a scale of 1:10,000. Two plotter sheets were required. The skew of both is 0°. The southern sheet, FA-10-1A-75, has its origin at latitude 33°37.0'N and longitude 118°07.5'W. The northern sheet, FA-10-1B-75, has its origin at latitude 33°39.25'N and longitude 118°07.5'W. Copies of the parameter tape printouts are appended.

F. STATION CONTROL

Horizontal control for this survey consisted of existing triangulation stations, with the exception of OLD 1899 RM3 1975 which was established by third-order traverse especially for this project. The pattern I electronic control station was located over HIFIX 1972 and the pattern II station over OLD RM3 1975.

One calibration point was established near the east end of Long Beach Breakwater by third-order resection and traverse. (See Electronic Systems Calibration Report, OPR-411-FA-75). All other calibration signals were located over existing triangulation or were existing triangulation intersection stations.

No photogrammetrically-located signals were used for this survey. The 1927 North American datum was used for all computations, which are located in the appendix to this report.

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 HIFIX 1972 on Santa Catalina Island and the pattern II station over OLD 1899 RM3 1975 on Point Fermin. Launches FA-3, 5 and 6 were each equipped with a Raydist mobile transmitter, navigator, strip chart recorder and a 9 ft. whip antenna. The strip chart recorders were monitored and annotated at all times between calibrations. Electronic correctors were determined by averaging the calibrations normally taken twice daily.

Calibration of the Raydist navigator was accomplished at a fixed point located by third-order traverse or by visual three-point sextant fixes utilizing signals located over triangulation stations or triangulation intersection stations.

Base station operation was generally satisfactory. An unusually high incidence of mobile equipment failure was experienced early in the project. Failures occurred randomly and were not predominant in any one item or type of component. Deterioration of performance was encountered several times during the project due to heavy rain squalls in the area and there was one incidence of outside electronic interference that precluded operations for half a day.

Electronic correctors, derived from the calibration data, were applied to the observed ranges before plotting on the field sheet. Slope corrections were not required.

H. SHORELINE

The ^{boatsheet} shoreline details were obtained from Class III manuscripts TP-00404, TP-00405, and TP-00406. All shoreline and topographic details were verified by field edit.

The low water line was not delineated by the soundings, because surf conditions did not allow launch operations sufficiently close to the sloping sand beach.

I. CROSSLINES

The 286 n.m. of hydrography run on this sheet includes 29 miles of crosslines. The crosslines are 11% of the main scheme hydrography. Comparisons at crossings never exceeded 1 fathom.

J. JUNCTIONS

The survey junctions to the south and west with the 1:20,000 scale contemporary survey FA-20-1-75 (H-9494) which agrees within 1 fathom in depths of 8 fathoms up to 20 fathoms. The survey junctions to the north with the 1:10,000 scale contemporary survey FA-10-2-75 (H-9493) which agrees within 1/2 fathom in depths of 2 to 10 fathoms. The survey junctions to the east with the 1:10,000 scale survey FA-10-4B-74 (H-9487) and agrees with it within 1/2 fathom in depths of 2 to 9 fathoms.

K. COMPARISON WITH PRIOR SURVEYS

The boatsheet was compared with prior hydrographic surveys H-5523 (1:20,000), H-5524 (1:20,000), H-5532 (1:10,000), H-5533 (1:10,000), and H-6115 (1:40,000), dated July 1933 to August 1935. Comparison of representative soundings between prior and present surveys did not exceed 1 fathom, and in most cases averaged less. At all comparison locations the depth of the prior survey was greater.

The close comparison of the two surveys can be attributed to the uniformity of the sand bottom.

The following Pre-Survey Review items dated 24 September 1970 and updates dated 30 October 1973 and 20 August 1974 were investigated:

Item 12, a mooring buoy charted in latitude $33^{\circ}38.50'$, longitude $118^{\circ}02.00'$ was investigated and does not exist. This buoy does not appear on chart 5142 and the chart is correct in not showing it.

Item 13 and update item BP, two mooring buoys equipped with reflective material and marked with "HB", one charted in latitude $33^{\circ}39.39'$, longitude $118^{\circ}00.61'$, and the other charted in latitude $33^{\circ}38.84'$, longitude $117^{\circ}59.36'$ were investigated and not found. It is recommended that these buoys should not be charted.

Item 14, a white spherical mooring buoy labeled "H.B.L.D." and charted in latitude $33^{\circ}39.1'$, longitude $118^{\circ}00.5'$ was located on the present survey, is plotted in the field sheet, and should be charted as shown.

Item 16 and update item AJ, five mooring buoys and two additional mooring buoys labeled "B" and "F" charted in the vicinity of latitude $33^{\circ}38.05'$, longitude $118^{\circ}00.21'$ were located on the present survey. These seven buoys, lettered "A" thru "G", are plotted on the field sheet and should be charted as shown. Located in the center of the mooring buoys and plotted on the field sheet are two very small can buoys about 18" in diameter and an orange and white striped spar buoy approximately 8 feet tall and 1 foot in diameter. The two can buoys are located near the spar buoy and labeled (10") and (12") respectively. They probably locate the charted pipelines that dead end there from the Edison plant. It is recommended that these three buoys be charted when larger scale charts are published, but that they be omitted from the present chart 5142.

Item update AH, mooring buoys charted in latitude $33^{\circ}39.03'$, longitude $118^{\circ}00.42'$ and latitude $33^{\circ}39.04'$, longitude $118^{\circ}00.32'$, were located on the present survey, and are plotted on the field sheet. They are not equipped with reflective material as described in the Pre-Survey Review. It is recommended that they be charted as shown.

Item update BO, a submerged metal buoy located at latitude $33^{\circ}39.7'$, longitude $118^{\circ}03.55'$, was investigated by launch development and was not located. The development is plotted on the field sheet. Because of the sandy bottom in this locale, the buoy probably has sanded in, possibly some distance from its original point of submergence. If it does exist it can probably be found only by diver or side-scanning sonar. It is recommended that no further investigation

be undertaken since the buoy was reported sunk in an area of ⁹ ~~8~~ fathoms and presents no danger to navigation. PSR item BY indicates the subm buoy has been removed. The ^{additional} buoy mentioned in PSR item BY is shown on the present survey. Item 15 and item update AE, fish haven obstructions respectively charted at latitude 33°38.00', longitude 118°01.00', and latitude 33°37.65', longitude 118°00.39', were investigated by launch development in a 500 meter square area as plotted on the field sheet. No obstructions were located, and it is recommended that these obstructions be ~~deleted from~~ the chart. (See Q.C. Report-item 5) _{retained on}

L. COMPARISON WITH CHART

The field sheet was compared with chart 18353 (5142), San Pedro Channel, 11th Ed., 20 April 1974, scale 1:80,000.

The survey compares very well with the chart. All soundings agree within less than a fathom. However, on chart 5142 in the approximate location latitude 33°39.00', longitude 118°06.50' a sounding of 14 fathoms appears in an area of 15 to 16 fathom soundings. No such sounding appears on the field sheet in this vicinity, and it is recommended that the 14 fathom sounding on 5142 be revised in accordance with the survey.

An obstruction is charted at latitude 33°38.00', longitude 118°01.00'. Launch development of this area appears on the field sheet, and no obstructions were located. It is recommended that this obstruction be ~~deleted from~~ 5142. (See PSR item 15 discussed above and QC Report-item 5) _{retained on}

A submerged rock of 1/2 fathom charted at latitude 33°40.30', longitude 118°01.80' was investigated by launch development as shown on the field sheet and the 1:2500 field sheet insert. The shoalest depth found was 1.1 fathoms which only verifies the existence of the shoal area. Time limitations prevented a more thorough search. It is recommended that the 1/2 fathom rock continue to be charted as shown.

As shown on the field sheet, there is a round mooring buoy located near "EVA" in latitude 33°39.77', longitude 118°03.58', and two cylindrical mooring buoys located near "EMMY" in latitude 33°39.73', longitude 118°02.50', and latitude 33°39.71', longitude 118°02.67'. It is recommended that these buoys be charted as shown.

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

Huntington Beach Lighted Bell Buoy 2HB is shown properly in the Light List and on chart 5142.

In addition there are a number of other aids to navigation located in the present survey area. Most prominent of these are the oil platforms "EVA" and "EMMY", both lighted, with horns. The Huntington Beach pier, which is lighted, is located in the area.

O. STATISTICS

<u>Vessel</u>	<u>Total Positions</u>	<u>Hydrography, n.m.</u>
FA-3	980	182.7
FA-5	413	98.7
FA-6	75	<u>4.1</u>
		285.5

Total area - 22.0 sq. n.m.
Total bottom samples - 46

P. MISCELLANEOUS

Greenwich Mean Time was used for all survey records. No unusual submarine features were found on H-9492. The cables and pipelines extending seaward to oil platforms "EVA" and "EMMY" are plotted on the field sheet.

Q. RECOMMENDATIONS

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

R. REFERENCES TO REPORTS

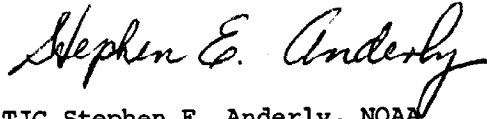
Report on Corrections to Echo Soundings, OPR-411-FA-75
Electronic Systems Calibration Report, OPR-411-FA-75
Coast Pilot Report, OPR-411-FA-75
Field Edit Reports, OPR-411-FA-75

S. DATA PROCESSING PROCEDURES

FA-3 used an ASI Logger to acquire and compile all on-line hydrographic data. FA-5 and FA-6 used program AM-100, version 11/10/72

on their PDP 8/e computers to acquire and compile all on-line hydrographic data. The ship used program AM 200, version 3/23/73, on its PDP 8/e computer to plot the field sheet. —

Submitted by:

A handwritten signature in cursive script that reads "Stephen E. Anderly". The signature is written in dark ink and is positioned above the typed name.

LTJG Stephen E. Anderly, NOAA

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 Form 362

Tide Station Used (NOAA Form 77-12): Huntington Beach

Period: April 2-8, 1975, 7 AM - 2 PM - 1975 per telecon Gray/Hubbard,
10/22/75

HYDROGRAPHIC SHEET: H-9492

OPR: 411

Locality: Off Huntington Beach

Plane of reference (mean lower low water): 8.1 ft.

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

Remarks: Zone direct.

James R. Hubbard

for Chief, Tides Branch

FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Los Angeles Outer Harbor, California, and were interpolated by PDP 8/E computer utilizing AM 500. All times of both predicted and recorded tides are based on GMT.

One Fisher-Porter ADR gage and three Bristol Bubbler gages were installed at four locations in the project area. Locations and periods of operation were as follows:

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD</u>
Balboa Pier, Newport Beach	33° 35.9' N 117° 54.0' W	30 Days 3-4-75 to 4-3-75
Huntington Beach Pier	33° 39.2' N 118° 00.3' W	38 Days 3-4-75 to 4-11-75
Belmont Pier, Long Beach	33° 45.3' N 118° 08.9' W	36 Days 3-6-75 to 4-11-75
Alamitos Bay	33° 45.5' N 118° 06.9' W	19 Days 3-23-75 to 4-11-75

BALBOA PIER

Bubbler gage (S/N 68A14941) and staff were installed 3-4-75 and ran satisfactorily for 30 days. The gage was removed 4-11-75. The marigram reads 2.7 feet greater than the staff. Because the concession stand operator at Balboa Pier was absent during attempts to tend the tide gage, it was not possible to gain access to the gage to make observations or wind the clock after 4-3-75. When the gage was removed 4-11-75 it was found with the clock run down. This problem is not serious as a 30 day record was obtained on this gage anyway, and the Huntington Beach Pier gage will serve to control hydrography after 4-3-75.

HUNTINGTON BEACH PIER

Bubbler gage (S/N 67A10286) and staff were installed 3-4-75 and ran satisfactorily for 38 days until removal on 4-11-75. The marigram reads 4.4 feet greater than the staff. The marigram displays two periods of pressure loss in the orifice-bellows system, each lasting about three hours and each self correcting. These occurred on 3-26-75 and 4-9-75. The tide curve was interpolated for the periods in question.

BELMONT PIER

ADR gage (S/N 7404A1193M2) was installed 3-6-75 and ran satisfactorily for 36 days until removal on 4-11-75. The tide staff from the ship Rainier's 1974 installation was used. On 3-11-75 at 1900Z the gage was found to be thirteen minutes fast. The time was corrected and no other time errors were observed. The marigram reads 20.0 feet greater than the staff.

ALAMITOS BAY

Bubbler gage (S/N 73A229) and staff were installed on 3-23-75 and ran satisfactorily for 19 days until removal on 4-11-75. The marigram reads 5.2 feet greater than the staff. This gage was installed to control hydrography in Alamitos Bay, but time limitations forced postponement of this survey until fall, 1975. These records may be useful, however, in controlling the survey accomplished in adjacent Anaheim Bay.

TIME & HEIGHT DIFFERENCES

Hourly height tabulations for Balboa Pier, Huntington Beach Pier and Alamitos Bay were examined for time and height differences among the respective tide cycles. No significant differences were observed.

LEVELS

All levels closed within the required limits of accuracy. Comparison of levels made at the installation and removal of each tide gage show no apparent tide staff shifts, with the exception of the Balboa Pier staff stop, which appears to have sunk 0.02 feet during its period of operation.

ZONING

No zoning was required or attempted in the field. It is recommended that any necessary zoning be done by the Tides Branch after a review of existing and observed data.

RECOMMENDATIONS

All gages performed well during the project period. The Nupro dampening valves on the Balboa Pier and Huntington Beach Pier gages worked very well in minimizing the effects of wave action. It is recommended that all gages to be used in areas of heavy swell be supplied with Nupro valves.

VELOCITY TABLE 0001

SOUND VELOCITY CORRECTOR ABSTRACT

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

FA-10-4B-74	(H-9487)
FA 10-1-75	(H-9492)
FA-10-2-75	(H-9493)
FA-20-1-75	(H-9494)

<u>Depth (fathoms)</u>	<u>Corrector (fathoms)</u>
0-2.0	+ 0.0
2.1-5.0	0.1
5.1-10.0	0.2
10.1-13.5	0.3
13.6-18.5	0.4
18.6-23.0	0.5
23.1-28.0	0.6
28.1-33.5	0.7
33.6-38.5	0.8
38.6-52.5	1.0
52.6-63.5	1.2
63.6-74.5	1.4
74.6-85.5	1.6
85.6-96.5	1.8
96.6-107.5	2.0
107.6-121.5	2.2
121.6-144.5	2.5
144.6-176.5	3.0
176.6-208.0	3.5

ABSTRACT OF RAYDIST EQUIPMENT UTILIZATION

H-9487, 9492, 9493, 9494 and 9508

BASE STATION LOCATIONS

JULIAN DAYS 66 thru 101

Unit S/N 124, Frequency 1650.015 KHz, 35 ft. whip antenna on a 20 ft. tower, with 50 ft. radial ground plane.

Location: HI FIX 1972 33° 21' 25.308"N, 118° 21' 50.720"W

Unit S/N 125, Frequency 1650.425 KHz, 35 ft. whip antenna on a 40 ft. tower, with a submerged water pipe system used for a ground plane.

Location: OLD 1899 RM3 1975 33° 43' 06.185"N, 118° 17' 01.404"W

MOBILE TRANSMITTERS

Ship: Model TA-96, S/N 90, Frequency 3300.400 KHz

FA-3: Model TA-96, S/N 90, Frequency 3300.400 KHz

FA-5: Model TA-96B, S/N 83, Frequency 3300.520 KHz

FA-6: Model TA-96B, S/N 96, Frequency 3300.465 KHz

MOBILE NAVIGATORS

Ship: Model ZA-75C, S/N 18, Frequency 370/450 Hz

FA-3: Model ZA-75C, S/N 18, Frequency 370/450 Hz

FA-5: Model ZA-75C, S/N 16, Frequency 330/490 Hz

FA-6: Model ZA-75C, S/N 21, Frequency 435/385 Hz

	HI FIX 1972										
001	4	33	21	25308	118	21	50720	250	0500	330040	Q-331182
	OLD 1899 RM3 1975										
002	4	33	43	06185	118	17	01404	250	0035	330040	(2)
	PELICAN POINT 1884										
003	4	33	34	47680	117	51	05976	139	0022	000000	Q-331174
	NEWPORT BAY EAST JETTY LIGHT										
004	4	33	35	22623	117	52	35480	139	0005	000000	Q-331174
	NEWPORT BAY WEST JETTY LIGHT										
005	4	33	35	17827	117	52	43211	139	0005	000000	Q-331174
	NEWPORT BEACH BALBOA PAVILION FLAGPOLE 1933										
006	4	33	36	09774	117	53	52552	139	0025	000000	Q-331174
	NEWPORT BEACH BALBOA DISTRICT HOTEL TOWER 1933										
007	4	33	36	05997	117	53	56884	139	0015	000000	Q-331174
	NEWPORT HARBOR HIGH SCHOOL TOWER 1933										
008	4	33	37	22108	117	54	44873	139	0025	000000	Q-331174
	NEWPORT BEACH OUR LADY OF MT CARMEL CROSS 1953										
009	4	33	36	24448	117	55	09823	139	0025	000000	Q-331174
	HUNTINGTON BEACH EDISON SE STK 1974										
010	4	33	38	37672	117	58	38793	139	0061	000000	(1)
	HUNTINGTON BEACH EDISON NW STK 1974										
011	4	33	38	40087	117	58	42982	139	0061	000000	(1)
	NEWPORT BEACH RAD KOCM MAST 1974										
012	4	33	37	55661	117	56	12903	139	0107	000000	(1)
	HUNTINGTON BEACH HS SPIRE 1933										
013	4	33	40	37632	118	00	05437	139	0036	000000	(1)
	SUNSET BEACH ABAND MIL TK 1956										
014	4	33	42	32884	118	02	24692	139	0020	000000	(1)
	HUNTINGTON BEACH MUN TANK 1956										
015	4	33	42	42351	118	02	53281	139	0020	000000	(1)
	SUNSET BEACH SUNSET LAND AND WATER CO NW WATER TANK 1953										
016	4	33	43	27589	118	04	39208	139	0015	000000	Q-3311812
	SEAL BEACH NAVY DEPOT N TANK 1956										
017	4	33	44	52127	118	05	19939	139	0050	000000	(1)
	LONG BEACH RAD STA KFOX MAST 1974										
018	4	33	45	55258	118	07	10097	139	0107	000000	(1)

019	4	33	45	57179	118	10	54237	139	0050	000000	Q-3311811
LONG BEACH VILLA RIVIERA HOTEL TOWER 1932											
020	4	33	43	23400	118	08	10100	139	0008	000000	Q-3311812
LONG BEACH BREAKWATER EAST END LIGHT 1953											
021	4	33	43	23495	118	10	46867	139	0008	000000	Q-3311812
LONG BEACH CHANNEL ENTRANCE EAST LIGHT 1953											
022	4	33	43	50543	118	05	08143	139	0033	000000	Q-3311812
SEAL BEACH NAVY DEPOT RADAR TOWER 1956											
023	4	33	43	54882	118	16	33909	139	0094	000000	(3)
SAN PEDRO, PORTS OF CALL, SKY TOWER 1974											
024	4	33	43	23530	118	11	09371	139	0008	000000	Q-3311812
LONG BEACH LIGHT 1953											

- (1) UNPUBLISHED FIELD POSITIONS FROM 1974 GEODETIC FIELD PARTY G-16
- (2) SEE "OLD 1899 RM3 1975 GEODETIC POSITION COMPUTATION"
- (3) UNPUBLISHED FIELD POSITIONS FROM "LOCATION OF LANDMARKS, SAN PEDRO, CALIFORNIA, MARCH 1974, R. B. MELEY"

APPROVAL SHEET

Field No. FA-10-1-75

Register No. H-9492

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.



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

GEOGRAPHIC NAMES

Survey No.

H-9492

Name on Survey

On Chart No 18746
 On previous survey
 On U.S. Coast and Geodetic Survey Charts
 From local information
 On local maps
 P. D. Guide or Map
 Rand McNally Atlas
 U. S. Light List

Photogrammetric Manuscript

	A	B	C	D	E	F	G	H		
HUNTINGTON BEACH	X								TP-00405	1
SAN PEDRO CHANNEL	X									2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
									APPROVED	18
									<i>Chas E. Harrington</i>	19
									STAFF GEOGRAPHER - C51x2	20
									23 Sept. 1977	21
										22
										23
										24
										25

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9492

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET with smooth PNO & excess overlay		1	BOAT SHEETS (3 parts, ^{2-mylar} 1-paper)		1 2	
DESCRIPTIVE REPORT		1	OVERLAYS (preliminary)		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1-smooth			
CAHIERS	1		with depth records			
VOLUMES	2					
BOXES						

T-SHEET PRINTS (List)
TP-00404, TP-00405, TP-00406, 1:10,000

SPECIAL REPORTS (List)
Echo Soundings Report, Horizontal Control Report, Electronic Calibration Report (copy) Field Edit Report (copy)

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				1549
POSITIONS CHECKED		1549		
POSITIONS REVISED		8		
DEPTH SOUNDINGS REVISED		116		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS) HIT			
Verification of Control		4		
Verification of Positions		45		
Verification of Soundings		117		
Smooth Sheet Compilation		18		
ALL OTHER WORK		20		
TOTALS	1	201	12	
PRE-VERIFICATION BY James S. Green, Chief, Verification Br.	BEGINNING DATE 6/23/75	ENDING DATE 6/23/75		
VERIFICATION BY <i>Carol M. Hoops</i> Carol M. Hoops, Carto Tech.	BEGINNING DATE 7/3/75	ENDING DATE 6/24/77		
REVIEW BY QUALITY CONTROL BY <i>X. W. Wellman</i> X. W. Wellman	BEGINNING DATE	ENDING DATE 9-23-77		

D. E. Engle

8 hrs.

Burns and Burns 2/28/78

Reg. No. H-9492

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. H-9492

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:

Information for Future Presurvey Reviews

The three obstructions charted in the southeast corner of the present survey area should be investigated during future work in the area to determine the extent of development subsequent to the date of the present survey.

The position of the rock carried forward to the present survey in lat. $33^{\circ}40.29'$, long. $118^{\circ}01.78'$ is considered questionable due to inconsistencies in the prior survey records relative to the position of the rock. During future work in the area, the existence of the rock should be verified or disproved by formal or improvised wire-drag methods.

<u>Position Index</u>		<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
333	1181	1	2	50 years
333	1180	5	2	25 years
334	1181	3	6	25 years

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-949²~~4~~

FIELD NO. FA-20-1-75

California, San Pedro Channel, Huntington Beach

SURVEYED: 7 March - 8 April 1975

SCALE: 1:10,000

PROJECT NO. OPR-411-FA-75

SOUNDINGS: Ross Fineline Fathometer
S/N's 1046, 1047, 204065

CONTROL: Raydist

Chief of Party.....CDR Richard E. Alderman
Surveyed by.....LT(jg) A.M. Snella, LT(jg) S.E.
Anderly, ENS G. P. Kosinski
Automated plot by.....Xynetics Plotter (PMC)
Verified by.....Karol M. Hoops
22 June 1977

I. INTRODUCTION

NOAA Ship FAIRWEATHER conducted this basic survey in accordance with Project Instructions dated 22 January 1975. The area surveyed includes the inshore hydrography off Huntington Beach, CA.

The smooth sheet soundings are reduced using actual tides from the Huntington Beach gage.

The only major difficulty encountered in this survey was a 16 lane Raydist loss on day 066. The area involved is included in the main scheme. The strip chart was adequately annotated and possible lane jumps marked. There are three crosslines run on different days and adjacent soundings to all sides of these lines. All crossline and junction soundings fall within acceptable tolerances. Therefore, the ship's corrections were accepted and verified as shown.

H-9492 is a good basic survey, adequate to supersede all prior surveys within the areas of common coverage.

II. CONTROL AND SHORELINE

Horizontal and Position Control is adequately described in paragraphs F and G of the Descriptive Report.

Shoreline details have been transferred to the smooth sheet from the following class I unreviewed manuscripts: TP-~~00404~~ and TP-~~00405~~ of 1971-75, TP-~~00406~~ of 1971-74.

III. HYDROGRAPHY

Crossline soundings are in excellent agreement with main scheme lines with soundings agreeing within 1/2 fathom throughout the sheet.

Standard depth curves with the exception of the zero ^{and one fathom} curves have been adequately developed. The ship states surf conditions hampered development of the zero curve. (See Q.C. Report-item 10)

Hydrography incorporated in this survey is adequate to delineate the bottom configuration and determine least depths.

IV. CONDITION OF SURVEY

For the most part, the hydrographic records meet the requirements of the Provisional Hydrographic Manual. There were two significant exceptions: 1) Positions 6001 thru 6009 plot at least three inches apart. This presented a problem since the survey was computed using straight line interpolation. Inbetween soundings were given their own positions to control the line but are not represented by duplicate position numbers. The same line comprises a deficiency in the survey because the sounding interval of 20 seconds resulted in excessive spacing between soundings. Fathograms were rescanned to provide needed soundings. 2) The original Electronic Calibration Report was lost. 3) During the development of pre-survey review item B0 at 33°39.7'N, 118°03.55'W, the launch experienced a possible lane loss on both rates. Even though the adjustment was made, the actual lane loss on the strip chart is not apparent. Since the soundings in the development are representative of the area, the data was accepted.

All other records conform.

V. JUNCTIONS

The following surveys junction with H-9492:

This survey joins H-9487, 1974 (1:10,000) to the east. All junction soundings agree within 1/2 fathom. Curves and junction notes are inked in agreement.

H-9493, 1975 (1:20,000) joins to the north. A satisfactory junction was accomplished without adjustments. (See Q.C. Report-item 1)

H-9494, 1975 (1:20,000) joins to the west and southeast. Junction soundings are in agreement, with the exception of the 10-fathom curve. This area was an artificial fish haven which affects this depth curve on H-9494 only. The depth curve as shown on H-9494 should be modified showing an isolated 10 fathom curve delineating the fish haven. 20-fathom curve and junction notes are inked accordingly. (See Q.C. Report-item 2)

VI. COMPARISON WITH PRIOR SURVEYS

A
H-5523, 1:20,000 (~~1934~~) (1933-34)
H-5524, 1:20,000 (1934)

The above prior survey soundings generally agree within one fathom. The present survey depths being slightly deeper. These differences in soundings do not necessarily reflect change in the bottom configuration but could be attributed to the more accurate surveying methods employed at this time, and to the rounding-off to whole fathoms all soundings greater than 11 fathoms on the prior surveys.

B
H-6115, 1:40,000 (1934-35)

All soundings are in generally good agreement with the present survey with the exception of the 14 fathom sounding at 33°38.9'N, 118°06.6'W. The present survey does not indicate the shoal; therefore, the sounding has not been transferred to the smooth sheet. (See Q.C. Report-item 6)

C
H-5532, 1:10,000 (1934)
H-5533, 1:10,000 (1934)

Soundings from these two surveys are generally shoaler with the maximum difference of approximately 1 fathom. There has also been a noticeable displacement of the shoreline. Both of these could be explained by a combination of wind and weather effects and survey techniques. No soundings have been transferred due to the fathom difference in soundings. H-5532 - A pier at 33°40'04", 118°01'01" does not appear on the present survey. This discrepancy should be referred to the photogrammetry division for resolution. (See Q.C. Report-item 4)

This present survey is adequate to supersede all the forementioned surveys for the areas of common coverage.

VII. COMPARISON WITH CHART 18746 (C&GS 5142), 13th Edition, April 20, 1974

A. Hydrography. (See Q.C. Report-item 8) 18749 (C&GS 5148), 15th Edition, February 22, 1975 (See Q.C. Report-item 7)
Comparison was made with Chart 18746. All soundings originate on prior surveys of the area discussed in Section VI above. (See Q.C. Report-item 9)

B. Aids to Navigation (See Q.C. Report-item 8)

Charted aids to navigation were generally the pre-survey review items. All of which have been investigated by the ship and adequate disposition made in Section K of the Descriptive Report.

This survey is adequate to supersede all charted hydrography within the survey limits.

VIII. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey adequately complies with Project Instructions, dated 22 January 1975, and changes numbers 2 and 4, dated 18 February and 5 March 1975.

IX. ADDITIONAL FIELD WORK

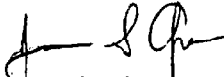
This is a good basic survey. No additional field work is recommended.

Respectfully submitted,



Karol M. Hoops
Cartographic Technician
June 22, 1977

Examined and approved,



James S. Green
Chief, Verification Branch

APPROVAL SHEET

FOR

SURVEY H-9492

- 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: 30 June 1977

Signed: 


Title: Chief, Verification Branch



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

Date: 5 August 1977

To: Eugene A. Taylor, RADM
Director, PMC

From: 
Glen R. Schaefer, CDR
Chief, Processing Division

Subject: PMC Hydrographic Survey Inspection Team Report, H-9492


This survey is a basic hydrographic survey of Huntington Beach, CA. The survey was conducted by NOAA Ship FAIRWEATHER in 1975 in accordance with Project Instructions OPR-411-FA-75, dated 22 January 1975.

This survey, considering prescribed line spacing and scale, constitutes an adequate delineation of the bottom configuration. The near shore area bounded by Lat. $33^{\circ}39'N$ and $33^{\circ}40'N$, Long. $118^{\circ}00'W$ and $118^{\circ}01'W$ was not surveyed due to surf conditions. In consideration of the differences of soundings in adjacent areas with prior surveys, it is recommended that soundings not be carried forward from prior surveys. It is not recommended that additional field work be accomplished in this changeable area which is mostly less than two fathoms in depth, less than 200 meters from the beach, and which is charted at a scale of 1:80,000.

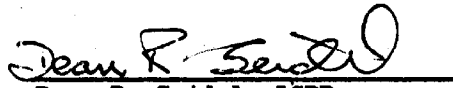
The hydrography for JD 66 (Position #2001-2147) had a total of 16 lane jumps on Pattern I, dispersed throughout the day. This hydrography is bounded by Lat. $33^{\circ}37.5'N$ - $33^{\circ}39.5'N$, Long. $118^{\circ}01.5'W$ - $118^{\circ}04.0'W$. A positive resolution of control with Raydist operational problems of this magnitude is very questionable. The verification was further complicated by the loss of Daily Calibration abstracts. This data was retained, in spite of the "shakey" control, based on the consistent junction with surrounding hydrography and intersecting crosslines, all of which were run on different days. This means of resolution is considered feasible because the area is characterized by a flat smoothly sloping bottom.

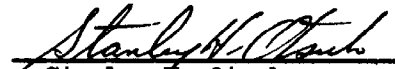


The inspection team finds survey H-9492 to be a fair basic survey, adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.


for Donald E. Nortrup, LCDR


John C. Albright, LCDR


Dean R. Seidel, LCDR


Stanley H. Otsubo

ADMINISTRATIVE APPROVAL
H-9492

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



Eugene A. Taylor, RADM
Director
Pacific Marine Center

5 August 1977

Date



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

C352

September 23, 1977

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

THRU: Chief, Quality Control Branch

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

SUBJECT: Quality Control Report for H-9492 (1975) California,
San Pedro Channel, Huntington Beach

A quality control inspection of H-9492 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, junctions, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

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

1. The depth curves in the junctional area between the present survey and H-9493 (1975) on the north were not in coincidence thus necessitating appropriate revisions during quality control evaluation (see the memo dated August 6, 1976, from the Office of Marine Surveys and Maps entitled "Depth Contour Agreement in Overlap Areas").
2. There were unreconciled junctional sounding differences affecting the 10-fathom curve in the vicinity of lat. 33°37'30", long. 118°00'00". Necessary revisions were accomplished during quality control evaluation. An adequate junction was effected with H-9494 (1975) on the west and south during quality control evaluation.



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3. Signals #10 and #11 should have been annotated as landmarks during verification (see provisional manual-section 7.3.11.1). Appropriate notes were added to the smooth sheet during quality control evaluation.

4. Reference Verifier's Report-Section VI-C:

Inasmuch as the referenced pier and the 0.5-fathom rock in lat. $33^{\circ}40.29'$, long. $118^{\circ}01.28'$ are not verified or disproved by the present survey, they should have been carried forward as a 0.5-fathom rock and pier ruins in an appropriate color indicating origin with H-5532 (1934) (see provisional manual-section 6.3.7.3).

It is noted, however, that there are some inconsistencies in the prior survey records which cast doubt on the validity of the position of the 0.5-fathom rock. Inasmuch as the plotted position cannot be readily refuted, the rock was carried forward to the present survey during quality control inspection.

Section VI-C of the Verifier's Report is supplemented by the following:

The pier referenced above and the 0.5-fathom rock in lat. $33^{\circ}40.29'$, long. $118^{\circ}01.28'$ are not verified or disproved and were, therefore, carried forward to supplement the present survey.

5. Reference Section K (PSR items 15 and AE) of the Descriptive Report:

The obstructions were not located and are not necessarily disproved by the present survey. In addition, as "fish havens" these items may be subject to further future development. The two referenced obstructions should be retained as presently charted.

6. Section VI-B of the Verifier's Report is supplemented by the following:

Present depths are generally 1 fathom deeper than prior depths in the vicinity of the 20-fathom curve. Some of this difference is attributed, however, to the use of integral fathoms on the prior survey as opposed to fathoms and tenths on the present survey.

7. The larger scale chart 18749 (formerly 5148) covering a portion of the area of the present survey was not included in the chart comparison covered in Section VII of the Verifier's Report (see sections 5.3.4(L) and 6.3.10 of the provisional manual and the memo dated 3-21-77 from the Office of Marine Surveys and Maps entitled "Verifier's Report Format"). The fact that the largest scale chart is not included in Section L (Comparison with Chart) of the Descriptive Report does not relieve the verifier of the responsibility of using the proper chart(s) during verification.

During quality control evaluation, comparison was made between the present survey and the edition of chart 5148 indicated in red in Section VII of the Verifier's Report.

8. The "Comparison with Chart" Section of the Verifier's Report is customarily subdivided into separate sections; e.g., A. Hydrography, B. Controlling Depths (where applicable). C. Aids to Navigation (see provisional manual-section 6.6(12) and the memo dated March 21, 1977, from the Office of Marine Surveys and Maps entitled "Verifier's Report Format").

Section VII of the Verifier's Report does not conform to the commonly accepted format and was, therefore, appropriately annotated during quality control evaluation.

9. Section VII-A of the Verifier's Report is supplemented by the following:

Attention is directed to the items discussed in Sections K and L of the Descriptive Report and to the following:

a. The Obstruction Fish Haven charted in the vicinity of lat. $33^{\circ}39.20'$, long. $118^{\circ}00.30'$ from Chart Ltr. 1540/65

was not investigated on the present survey and should be retained as presently charted.

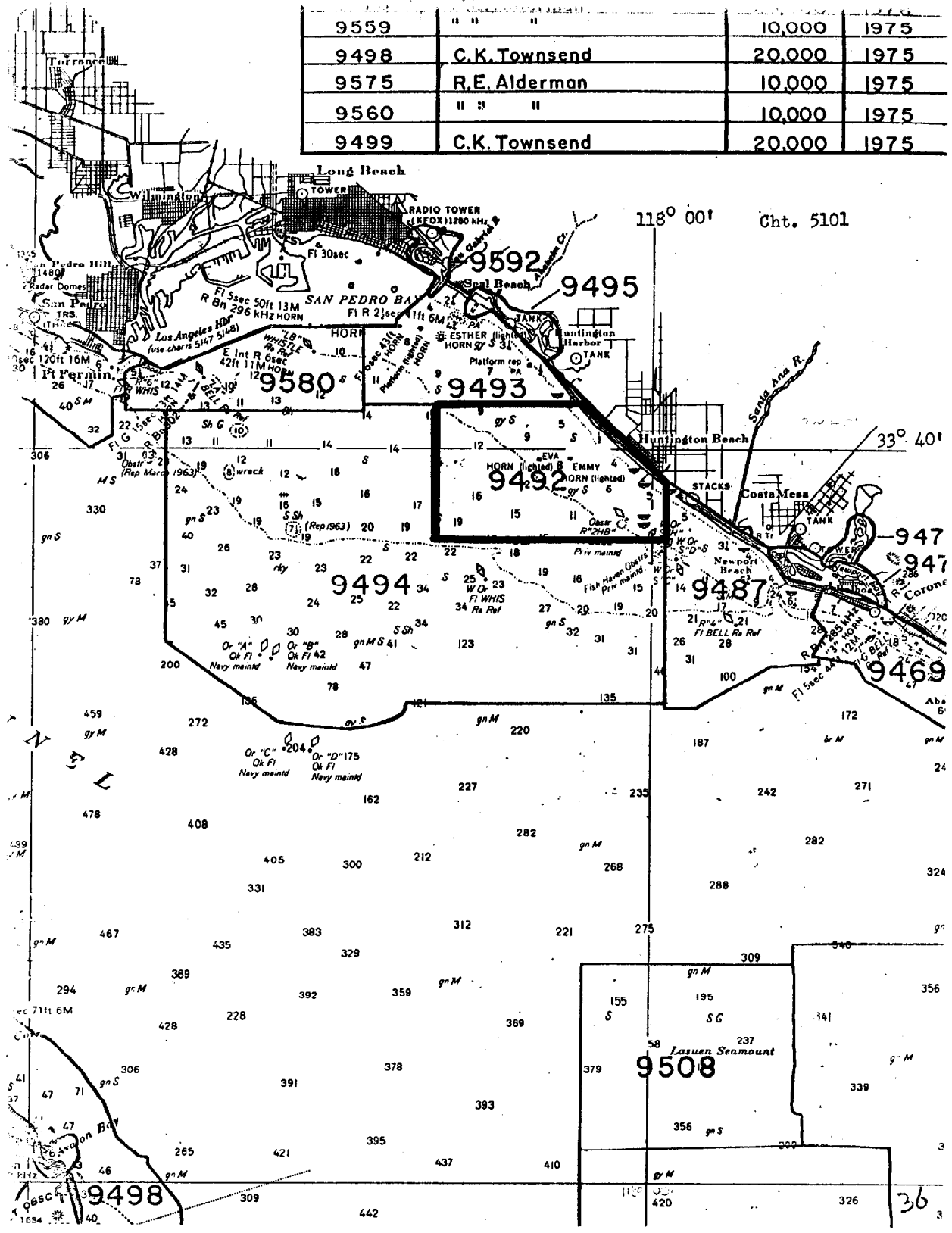
b. The Obstruction charted in lat. $33^{\circ}37.63'$, long. $117^{\circ}59.85'$ ostensibly originates with the 1970 Light List positions of fish haven buoys "E" and "F" as indicated on Aid Proof No. 22 (chart 5142) dated May 8, 1970. The obstruction is considered to be charted in error inasmuch as the referenced source document fails to reveal any justification for its charted position (about one-tenth minute north of the Light List positions of the fish haven buoys). These buoys were subsequently re-located according to LN to M 10 of 1971 and are correctly charted with the obstruction symbol about 500 meters south of the above erroneous position.

10. It is common practice to add charted supplemental depth curves to the smooth sheet. The 6-fathom curve appears on chart 5142 and was, therefore, added to the present survey during quality control evaluation. It is recommended that such charted supplemental depth curves be added during the verification of future hydrographic surveys.

Section III of the Verifier's Report is supplemented by the following:

A supplemental 6-fathom depth curve was added to improve the delineation of the bottom and to satisfy the requirements of the chart compiler.

9559	" " "	10,000	1975
9498	C.K. Townsend	20,000	1975
9575	R.E. Alderman	10,000	1975
9560	" " "	10,000	1975
9499	C.K. Townsend	20,000	1975



118° 00' Cht. 5101

33° 40'

N
A
V
I
G
A
T
O
R

Lasuen Seamount

36

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9492

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
18749	4/78	<i>Contra/RCS</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. 47
18746	7/19/78	<i>R.A. Lillis/RCS</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. 32
18740 (5101)	5-10-78	<i>Angus B. Nair/RCS</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. 44 REVISED several sndgs
18022 (5020)	5-19-78	<i>Angus B. Nair/RCS</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. 39 Exam; No corr
18020	11-22-78	<i>R.A. Lillis</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. 31
18749	3-13-81	<i>R.A. Lillis</i>	Full ^{Supplied} Part Before After Verification Review Inspection Signed Via Drawing No. 50
			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 Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.