9493

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-10-2-75

Office No. H-9493

LOCALITY

State ..... CALIFORNIA

General Locality ..... SAN PEDRO BAY

Locality ..... HUNTINGTON BEACH TO ALAMITOS BAY ENTRANCE

1975

CHIEF OF PARTY
R.E.ALDERMAN

LIBRARY & ARCHIVES

DATE 1-24-77

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

9493

Gen'l Chts
X 751 5141
X 5142
X 740 5145
X 5101
5020

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-9493

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-10-2-75

State California

General locality San Pedro Bay

Locality Huntington Beach to Alamitos Bay Entrance

Scale 1:10,000 Date of survey March 11, 1975 - April 8,1975

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

Vessel NOAA Ship FAIRWEATHER Launch FA-6 (hull #1243, EDP #2026)

Chief of party Richard E. Alderman, CDR

Surveyed by Ens. R. Morris

Soundings taken by echo sounder, hand lead, pole Ross Fineline Fathometer (S/N 1054)

Graphic record scaled by Ross Digitizer

Graphic record checked by FAIRWEATHER Personnel

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

Soundings verified by
~~XXXXXXXXXX~~ Karol M. Hoops

Soundings in fathoms ~~XXX~~ at ~~XXX~~ MLLW

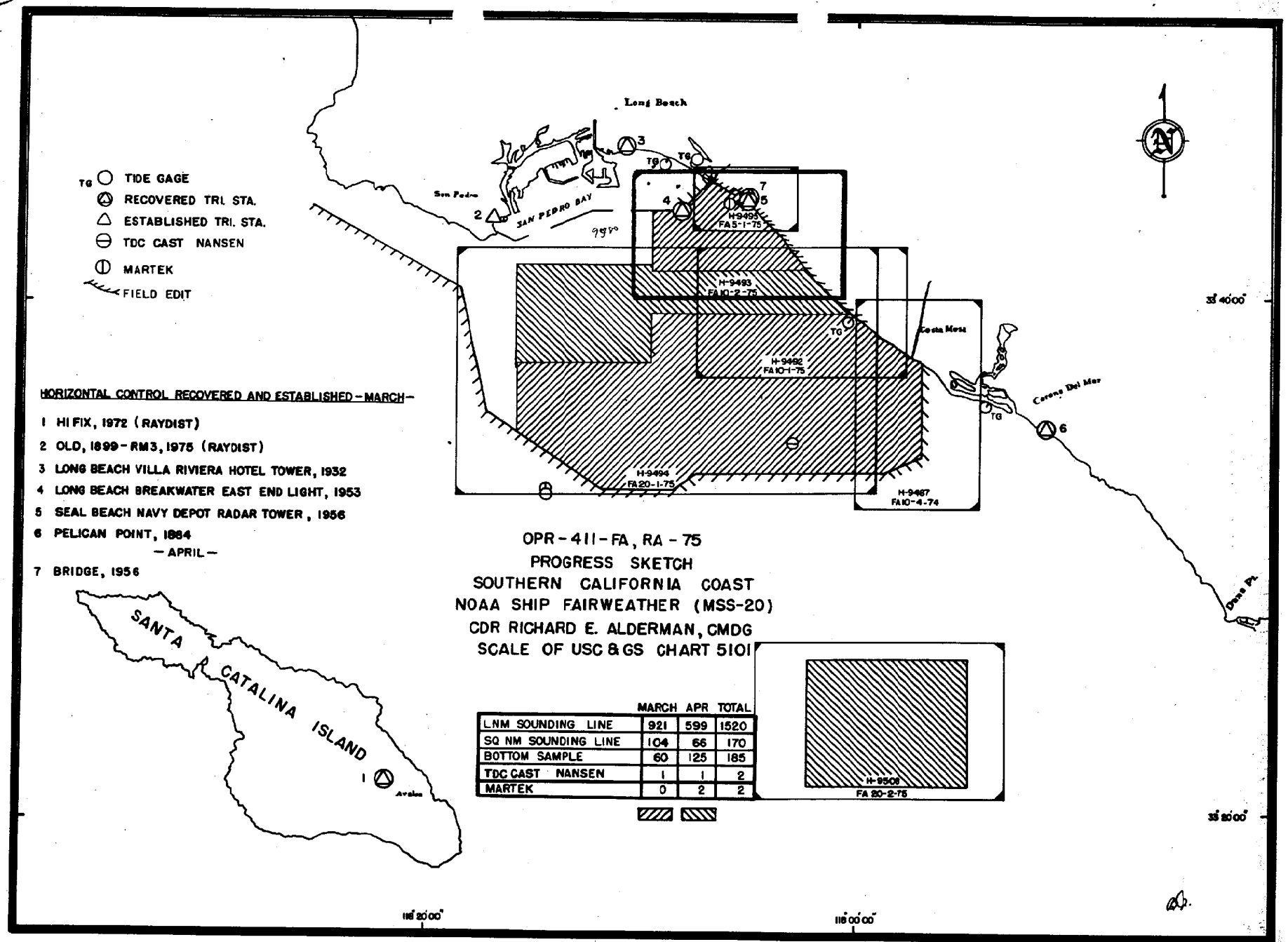
REMARKS: All survey records were kept on GMT. The mean longitude of the survey is 118°07'W. This ~~field~~ smooth sheet is complete and adequate for charting.

Applied to chts 6/17/77 CDS

2

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

☆ U.S. G.P.O. 1972-769-565/519 REG.#6



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	66	170
BOTTOM SAMPLE	60	125	185
TDC CAST NANSEN	1	1	2
MARTEK	0	2	2

DESCRIPTIVE REPORT

NOAA SHIP FAIRWEATHER (MSS-20)

OPR-411-FA-75

SURVEY H-9493 (FA-10-2-75)

A. PROJECT

This survey was accomplished in accordance with project instructions OPR-411-FA-75, Southern California Coast, dated 22 January 1975, and with changes No. 2 and 4 dated 18 February and 5 March respectively, and with the PMC OPORDER.

B. AREA SURVEYED

The area surveyed on sheet FA-10-2-75 is located in the vicinity of Seal Beach. It is bounded by the Long Beach breakwater and shore on the north and east, latitude 33°41'15"N on the south, and longitude 118°09'30"W on the west. Hydrography was accomplished from 11 March to 8 April 1975.

C. SOUNDING VESSEL

All hydrography on this sheet was accomplished by launch FA-6 (hull no. 1243, EDP no. 2026).

D. SOUNDING EQUIPMENT

The launch used a Ross Fineline fathometer. A TRA corrector of +0.4 fathom, based on bar checks taken during the project, was used for the launch. The sound velocity correctors were determined by meaning two Nansen and one Martek TDC casts taken within the project area. For details see Report on Corrections to Echo Soundings, OPR-411-FA-75. The depths of soundings on this sheet range from approximately 0 fathom to 13 fathoms.

Sounding Instruments:

Vessel	Instrument	Model	S/N
FA-6	Ross Fineline	5000	1054

E. BOAT SHEET

The boat sheet projection used was a modified transverse Mercator. The scale is 1:10,000. The skew is 0°. The origin for FA-10-2A-75 is 33°40'00"N, 118°10'24"W. The origin for FA-10-2B-75 is 33°42'11"N, 118°10'24"W. All data was plotted by the shipboard Hydroplot system, utilizing the ship's PDP 8/e computer (S/N M-40-00000-1006) and Complot plotter (model DP-3, S/N 4670-2). 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 1899 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. Launch FA-6 was equipped with a Raydist mobile transmitter, navigator, strip chart recorder and a 9 ft. whip antenna. The strip chart recorder was 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 predominent 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

Shoreline detail information was obtained from class III shoreline manuscripts TP-00402, TP-00403, and TP-00404. Field edit was completed on manuscripts 403 and 404 in April 1975. Field edit responsibility for manuscript TP-00402 was assigned to the NOAA Ship DAVIDSON during its concurrent project OPR-511. The low water line could not be determined because of high surf conditions. A significant shoreline discrepancy at the junction of manuscripts TP-00403 and TP-00404 was noted. These manuscripts were compiled from photographs taken in different years and it was concluded that this discrepancy was due to the rapidly shifting sands along the shore (refer to Field Edit Report OPR-411-FA-75).

I. CROSSLINES

Crosslines accounted for 11.2% of all hydrography completed on this survey. Comparisons at crossings agreed within one fathom. The few minor discrepancies of approximately a fathom were caused by the ever-present swell action.

J. JUNCTIONS

The survey junctions with the 1:10,000 scale survey FA-10-1-75 (H-9492), the 1:20,000 scale survey FA-20-1-75 (H-9494), and the 1:5000 scale survey FA-5-1-75 (H-9495). All junctions agreed within one fathom.

K. COMPARISON WITH PRIOR SURVEYS

This survey was compared with the 1934 1:20,000 scale surveys H-5523, H-5524, H-5534, and with the 1934 1:40,000 scale

survey H-5487 and, with the exceptions noted below, agreed within one fathom. The 1934 soundings were generally shallower near shore. Greater discrepancies occurred in the Anaheim Bay Entrance Channel and along the Long Beach breakwater, neither of which existed at the time of the 1934 surveys.

Item 42, Pre-Survey Review dated 24 September 1970, is an obstruction, fish haven, charted at the end of Seal Beach Municipal Pier in latitude 33°44'08", longitude 118°06'30". This area was investigated by the NOAA Ship DAVIDSON during their project OPR-511 operations of March 1975, using a side-scanning sonar, and reference is made to their project report. Origin CL 1540 of 65 See Verifier's Report; para VI.

Item 43, Pre-Survey Review dated 24 September 1970, is a sunken wreck charted in latitude 33°43'35", longitude 118°06'22". The reported position was developed extensively by the launch, as plotted on the field sheet, but nothing conclusive was found. The NOAA Ship DAVIDSON conducted wire drag (tagline sweep) operations over this area during its project OPR-511 in March 1975, and in addition searched for the wreck with side-scanning sonar. Reference is made to their project report. Origin NM 49 of 68 See CL. 951 (1975) Recommend deleting wreck from chart.

Item 44, Pre-Survey Review dated 24 September 1970, is three mooring buoys charted in the vicinity of latitude 33°43'09", longitude 118°06'46". Two of these buoys were located on the present survey, are plotted on the field sheet, and should be charted as shown. The third mooring buoy has been removed and should be deleted from the chart. Origin NM 50 of 1965 Concur

Item BX, Pre-Survey Review up date of 6 February 1975, is the sanded-in keel and machinery of a 42-foot vessel at latitude 33°44.53', longitude 118°06.91'. The area was searched visually from the beach and nothing was found. However, the reported position is located in a non-navigated portion of the San Gabriel River which is clearly posted as a danger area because of obstructions. It is recommended that no charting action be taken. Concur
Origin LNM 50 of 1974

Item BM, Pre-Survey Review up date of 29 August 1974 is three mooring buoys numbered "CG5A", "CG5B", and "CG5C" located at latitudes 33°43.9', 33°44.05', 33°44.13', and longitudes 118°06.25', 118°06.55', and 118°07.0' respectively. These buoys were located and are plotted on the field sheet. It is recommended that they be charted as shown. Origin LNM 17 of 1973 Concur

Item AG, Pre-Survey Review up date of 30 October 1973, is a mooring buoy marked "CG5" located at latitude 33°41.5', longitude

118°03.1', where it replaced a buoy described in Item 11 of Pre-Survey Review dated 24 September 1970. It was located and is plotted on the field sheet. It is recommended that it be charted as shown. Origin L.NM 15 of 1971. Concur

L. COMPARISON WITH CHART

Charts #5148 (18th edition, 9 February 1974, scale 1:18,000) and #5142 (13th edition, 27 April 1974, scale 1:80,000) compared with the survey within one fathom In the survey area except within the Anaheim Bay Entrance Channel where considerable shoaling has evidently occurred and discrepancies of up to 1.3 fathoms were noted.

M. ADEQUACY OF SURVEY

All fathogram field survey records were scanned and checked for peaks and deeps. The area covered by sheet FA-10-2-75 is complete and adequate to supersede prior surveys for charting. Several minor splits, caused by erratic steering in following seas, occurred between lines off shore but because of the flat, sandy bottom these were not further developed.

N. AIDS TO NAVIGATION

Anaheim Bay Entrance buoys "1", "2", "3", and "4" are shown properly in the Light List and on charts 5142 and 5148. Coast Guard mooring buoys "CG5A", "CG5B", and "CG5C" were located and are plotted on the field sheet. It is recommended that they be charted as shown.

Two mooring buoys located in the vicinity of latitude 33°43'09", longitude 118°06'46" were located on the present survey and are plotted on the field sheet. An additional mooring buoy located at latitude 33°43'17", longitude 118°07'25" was located and is plotted on the field sheet. It is recommended that this buoy be charted. See para. K Item 44

An unmarked mooring buoy was located off the Seal Beach Pier at latitude 33°44'04", longitude 118°06'28". An unmarked spar buoy, purpose unknown, was also located off the Seal Beach Pier at latitude 33°43'59", longitude 118°06'38". It is recommended that both of these buoys be charted as shown on the field sheet.

O. STATISTICS

Vessel	Total Positions	Hydrography, n.m.
FA-6	1015	224.3

Total area - 13.4 sq. n.m.
Total bottom samples - 43

P. MISCELLANEOUS

Greenwich Mean Time was used for all survey records. A shoal at the entrance to the San Gabriel River prevented the extension of the survey into the river.

Q. RECOMMENDATIONS

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

R. REFERENCE TO REPORTS

Report on Corrections to Echo Sounding, 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

Program AM-170, version 11/10/72, was used on launch FA-6 to acquire and compile all its hydrographic on-line data.

Program AM-200, version 3/23/73, was used on the ship's Hydroplot system to plot the field sheet.

Submitted by:

Deborah Astle

Deborah Astle, Ens., NOAA

APPROVAL SHEET

Field No. FA-10-2-75

Register No. H-9493

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)

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 58281 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)

SCLWD

LONG BEACH VILLA RIVIERA HOTEL TOWER 1932
019 4 33 45 57179 118 10 54237 139 0050 000000 Q-3311811

LONG BEACH BREAKWATER EAST END LIGHT 1953
✓ 020 4 33 43 23400 118 08 10100 139 0008 000000 Q-3311812

LONG BEACH CHANNEL ENTRANCE EAST LIGHT 1953
021 4 33 43 23495 118 10 46867 139 0008 000000 Q-3311812

SEAL BEACH NAVY DEPOT RADAR TOWER 1956
✓ 022 4 33 43 50543 118 05 08143 139 0033 000000 Q-3311812

SAN PEDRO, PORTS OF CALL, SKY TOWER 1974
023 4 33 43 54882 118 16 33909 139 0094 000000 (3)

LONG BEACH LIGHT 1953
024 4 33 43 23530 118 11 09371 139 0008 000000 Q-3311812

(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. MELBY"

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

☑ TO BE CHARTED
☐ TO BE REVISED
☐ TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA SHIP FAIRWEATHER	CALIFORNIA	LONG BEACH	4-2-75

The following objects HAVE ☑ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-411	PH-7107	TP-00395	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
BLDG	(LONG BEACH VILLA RIVIERA HOTEL TOWER 1932) Off Sheet	33 45	45.08 1389	118 09	25.95 668		F-Vis-V 4-2-75	5142

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NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

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- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

☐ TO BE CHARTED ☐ TO BE REVISED ☐ TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA SHIP FAIRWEATHER	CALIFORNIA	LONG BEACH	4-2-75

The following objects HAVE ☑ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-411	PH-7107	TP-00396	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
RADIO MAST	(LONG BEACH RAD STA HFOX MAST 1974) 33/45/55.258 118/07/10.097 off sheet	3345	55.24 1702	11807	09.99 257		F-Vis-V 4-2-75	5142 5148

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Comp by G.V.
✓ by A.L.S. . 73

NOAA FORM 76-40 (8-74)
Replaces C&GS Form 567.

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

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

(See reverse for responsible personnel)

☑ TO BE CHARTED ☐ TO BE REVISED ☐ TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA SHIP FAIRWEATHER	CALIFORNIA	SEAL BEACH	4-2-75

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-411	PH-7107	TP-00403	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	ANAHEIM BAY RANGE FRONT LIGHT	33 44	12.82 395	118 05	28.98 746		F-Vis-V -4-2-75	5442 5148
LIGHT	ANAHEIM BAY RANGE REAR LIGHT	33 44	17.59 542	118 05	24.78 638		F-Vis-V 4-2-75	" "
LIGHT	ANAHEIM BAY WEST JETTY LIGHT 5	33 43	39.08 1204	118 06	3.34 86		F-Vis-V 4-2-75	" "
LIGHT	ANAHEIM BAY EAST JETTY LIGHT 6	33 43	35.90 1106	118 05	56.98 1467	+78	F-Vis-V 4-2-75	" "
LIGHT	ANAHEIM BAY CHANNEL LIGHT 9	33 44	04.64 143	118 05	39.93 1028		F-Vis-V 4-2-75	" "
LIGHT	ANAHEIM BAY NO LONGER CHANNEL LIGHT 10 EXISTS	33 44	03.18 98	118 05	34.53 889		DELETE 4-2-75	" "
LIGHT	ANAHEIM BAY NO LONGER NORTH PIER LIGHT EXISTS	33 43.9		118 05.2			DELETE 4-2-75	" "
LIGHT	ALAMITOS BAY WEST JETTY LIGHT 1	33 44	14.22 438	118 07	16.16 496		F-Vis-V 4-2-75	" "
LIGHT	ALAMITOS BAY EAST JETTY LIGHT 2	33 44	11.26 347.5	118 07	09.75 251		F-Vis-V 4-2-75	" "
LIGHT	ALAMITOS BAY CHANNEL LIGHT 3 off Sheet	33 44	57.16 1761	118 07	57.97 1491	+53	F-Vis-V 4-2-75	" " 16

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Comp by C.V.
V by A.L.S. Dec 73

NOAA FORM 76-40 (8-74)
Replaces C&GS Form 567.

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

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
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- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

☑ TO BE CHARTED ☐ TO BE REVISED ☐ TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA SHIP FAIRWEATHER	CALIFORNIA	SEAL BEACH	4-2-75

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-411	PH-7107	TP-00403	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
TOWER	(SEAL BEACH NAVY DEPOT RADAR TOWER 1956) ** HT. = 109'(115')	33 43	50.57 1558	118 05	8.16 210		F-Vis-V 4-2-75	5142 5148
TANK	(SEAL BEACH NAVY DEPOT SOUTH WATER TANK 1956) * REPLACED BY DIFFERENT TYPE TANK	33 44	44.675 1376.4	118 05	14.316 368.5		DELETE 4-2-75	"
TANK	(SEAL BEACH NAVY DEPOT NORTH WATER TANK 1956) ** HT. 142'(182')	33 44	52.115 1605.7	118 05	19.935 513.1		F-Vis-V 4-2-75	"
TANK	** Sunset Beach, Sunset Land and Water Co., NW Water Tank. (1953) HT. = 78'(87')	33 43	27.588 850.0	118 04	39.208 1009.4		Triang. 11-18-60 See CL. 915 (76)	
	* NOT SUITABLE AS LANDMARK. NOT SUFFICIENTLY VISIBLE FROM SEAWARD.							
	** From T-11648 (1963)							

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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)

Depth (fathoms)	Corrector (fathoms)
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

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 5ØØ. 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:

SITE	LOCATION	PERIOD
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 occured 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.

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): Belmont Pier, Huntington Beach

Period: March 11-April 8, 1975

HYDROGRAPHIC SHEET: H-9493

OPR: 411

Locality: Outside of Anaheim Bay

Plane of reference (mean lower low water): 1.69 ft.-Belmont Pier
8.1 ft. Huntington Beach

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

Remarks: Recommended zoning:
North of 33°42' zone direct on Belmont Pier
South of 33°42' zone direct on Huntington Beach

James R Hubbard
for Chief, Tides Branch

GEOGRAPHIC NAMES

Survey No.

Name on Survey	On Chart No. (A)	On previous survey No. (B)	On U.S. topographic map (C)	From local information (D)	On local maps (E)	P.O. Guide or Maps (F)	Rand McNally or other (G)	U.S. Light Lists (H)	K	n-Sheet
ANAHEIM BAY ✓									TP-ØØ14Ø2	1
LONG BEACH BREAKWATER ✓									TP-ØØ14Ø2	2
SAN PEDRO BAY ✓									TP-ØØ14Ø3	3
SEAL BEACH ✓									TP-ØØ14Ø3	4
SUNSET BEACH ✓									TP-ØØ14Ø4	5
SURFSIDE ✓									TP-ØØ14Ø3	6
SAN GABRIEL RIVER ✓										7
HUNTINGTON BEACH										8
ALAMITOS BAY										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
							APPROVED			19
							Chas. E. Harrington			20
							STAFF GEOGRAPHER - C51x2			21
							27 Jan. 1977			22
										23
										24
										25
										26

APPROVAL SHEET

FOR

SURVEY H-9493

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: 7 Dec 1976

Signed: [signature]

Title: Chief, Verification Branch

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

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 9493

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & smooth PNO, excess overlays	1	BOAT SHEETS (2 parts, mylar)	1 ½
DESCRIPTIVE REPORT	1	OVERLAYS (preliminary)	7 Ø

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			1-smooth			
CAHIERS	1 with Printout					
VOLUMES	1					
BOXES						

T-SHEET PRINTS (List)
TP-ØØ4Ø2, TP-ØØ4Ø3

SPECIAL REPORTS (List)

NONE

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				1Ø43
POSITIONS CHECKED		1Ø43		
POSITIONS REVISED		66		
DEPTH SOUNDINGS REVISED		195		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		Ø		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		Ø		
	TIME (MANHOURS)			
Verification of Control		3		
Verification of Positions		47		
Verification of Soundings		86		
Smooth Sheet Compilation		21		
ALL OTHER WORK		12		
TOTALS	3	169	HIT 18	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY James S. Green	8 July 1975	8 July 1975
VERIFICATION BY Karol M. Hoops, Cartographic Technician	14 July 1975	15 October 1976
REVIEW BY Q.C. Insp. Robert W. Derkazarian 42hrs Contact 14 hrs 5/12/77 R. D. Sanocki 6/1/77 Chief	BEGINNING DATE	ENDING DATE 11 Mar 77

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U.S. G.P.O. 1972-769-562/439 REG.#6

REGISTRY NO. 9493

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:

pos. 652104 rec. # 1535
733102
744302
745500

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: During update the following soundings should be put into excess or revised:

Sounding	Lat.	Long.	Disposition
5'	33° 43.98'	118° 07.59'	excess
5^2	33° 43.94'	118° 07.59'	excess
5^1	33° 43.94'	118° 07.54'	revise to 5 fathoms

The printout has not been annotated since time considerations precluded the acquisition of the records. During update the position overlay will be available and the position numbers pertaining to the referenced soundings can be readily determined. K.W.W. 6-7-78

H-9493

Items for Future Presurvey Reviews

The bottom has basically remained unchanged since the prior surveys of 1933-34. With the building of the several jetties and a breakwater, the bottom topography has been affected in the inshore depths. Future surveys should include investigation of the Presurvey Review items not verified or disposed of in Verifier's Report, paragraph VI.

Position Index		Bottom Change	Use	Resurvey
Lat.	Long.	Index	Index	Cycle
334	1181	3	6	25 years

VERIFIER'S REPORT

H-9493 FA-1Ø-2-75

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

I. INTRODUCTION

H-9493 is a basic survey in San Pedro Bay conducted by FAIRWEATHER in March and April 1975 in accordance with project instructions dated 22 January 1975.

One major problem was encountered during verification. There appeared to be a time break in hydro on day 72. During that time a lane loss was experienced by launch 6 and went unnoticed until the preliminary sounding stage of verification. The fact that the bottom was quite symmetrical in this area enabled the verifier to* correct this error. This was accomplished by adding 8 lanes to the rates from Hi-Fix, 1972 and 6 lanes to the rates from Old, 1899 Rm. 3 1975. A slight holiday was created across the sheet at latitude 33°42'2Ø". It is the verifier's judgement that the holiday does not compromise the quality of the survey. See H/T Report

Duplicate position numbers reflect changes in course or speed as the capability of adding rates to soundings did not exist at the time of preliminary position verification.

Projection parameters used to prepare the boatsheets have been modified to center the hydrography on the smooth sheet. These parameters are appended.

Tide correctors were computed using approved hourly heights from Belmont Pier and Huntington Beach.

II. CONTROL AND SHORELINE

Raydist control was employed by FAIRWEATHER launches. (See section G. Ship's Descriptive Report.)

The shoreline and topographic details were transferred from unreviewed Class I manuscripts: TP-ØØ4Ø2, TP-ØØ4Ø3, TP-ØØ4Ø4. Photography of the included area was flown in March 1971, March 1972 and July 1974. Field edit was accomplished in July 1975. Apr. and See Q.C. Report, para 1.

III. HYDROGRAPHY

Hydrography incorporated in this survey is adequate to delineate bottom ~~characteristics.~~ configuration.

* This work includes pos. 6767-6820 which also includes a major portion of the crosslines below lat. 33°42'30" which has been rejected during the H.I.T. Inspection and does not appear on the present smooth sheet. See H/T Report.

Crossline soundings are in excellent agreement with main scheme lines, with exception of those noted in the HIT Report. See HIT Report, and para. I above. The zero curve could not be developed due to surf conditions.

IV. CONDITION OF SURVEY

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

V. JUNCTIONS

This survey junctions with H-9492, 1975 (1:10,000) to the South; H-9494, 1975 (1:20,000) to the Southwest; H-9495, 1975 (1:5,000) at the Anaheim Bay entrance; and H-9580, 1975 (1:10,000) to the West. See Q.C. Report, para 2.

All junctions with the exception of H-9495 have been completed. Curves and junction notes are inked. Soundings are in ~~excellent~~ good agreement.

Junction note and curves have been left in pencil in the junction area with H-9495 due to the stage of processing. No difficulty in junctioning is anticipated.

VI. COMPARISON WITH PRIOR SURVEYS

H-9493 was compared with H-5487, 1933-34 (1:10,000); H-5523 (1933-34) and H-5524, (1934) (1:20,000); H-5532, 1934 (1:10,000); ~~and H-5534, 1934 (1:40,000).~~ All comparisons were good, with soundings generally agreeing within one fathom. Inshore soundings on H-5532, south of 33°42'30" where the inshore areas are less developed in the 1975 survey data, indicate a 100 meter shoreward displacement of the 3 fathom curve when compared with H-5532 data. Therefore, prior survey soundings have not been transferred to supplement the 1975 survey.

Shoreline depicted on all prior surveys has changed due to man made features, dredging is apparent in the entrance to Anahiem Bay and Alamitos Bay and the Long Beach Breakwater has been built. All changes are included in the shoreline manuscripts and have been applied to the smooth sheet.
The present survey is adequate to supersede these prior surveys in the common area.
All pre-survey review items are adequately covered by the ship with the exception of item 42, an obstruction at latitude 33°44'28", longitude 118°06'32". This item was investigated by DAVIDSON. Chart discrepancy reports are not available at PMC. See page 4 of Ship's Descriptive Report. See CL 951 (1975) #112 Recommend retaining as charted.

One pre-survey item, "CA", included with records of H-9580 would plot within the sheet limits of H-9493, but is not shown on the smooth sheet. The bait barge was not there at the time of this survey. All information available was addressed in the verifier's report and descriptive report of H-9580. Information available to this verifier is appended. Origin LNM 14 of 1975 Recommend charting as mooring buoy and temporary barge.

~~All soundings on H-9493 are adequate to supersede prior survey soundings.~~ See Q.C. Report, para 4.

VII. COMPARISON WITH CHART See QC. Report, para 5.

Chart comparison was accomplished using charts 18749 (formerly C&GS 5148) 18th Edition, 9 February 1974 (1:18,000) and C&GS 5142, 13th Edition, 20 February 1974 (1:80,000) with DMA updates.

Comparison with 5142 is in good agreement. Chartlet for the area for H-9493 is appended to this report. Filed with field records.

Detailed comparison was made with chart 18749. Special attention was given controlling depths and buoys.

Soundings portrayed on the chart are, for the most part, from the prior surveys which require no further consideration. Evidence of application of data from Corps of Engineers surveys is apparent. Agreement of charted soundings from prior surveys is good.

Controlling depths in the Entrance to Anaheim Bay as charted are not compatible with the present survey.

The verifier notes the following:

	Charted Controlling Depth	Recommended Controlling Depth
Left Quarter	34 feet	30 feet
Middle Half	38 feet	31 ~~32~~ feet
Right Quarter	37 feet	28 feet

All soundings and aids to navigation shown on the smooth sheet are adequate to supersede charted information unless redredging in the Anaheim Bay Entrance has occurred. The newly dredged soundings should be shown.

VIII. COMPLIANCE WITH INSTRUCTIONS

H-9493 adequately complies with Project Instructions dated 22 January 1975.

IX. ADDITIONAL FIELD WORK

This is a very good basic survey and needs no additional field work.

Respectfully submitted,

Karol Hoops

Karol Hoops
Cartographic Technician
15 October 1976

Examined and approved,

James S. Green
Chief, Verification Branch

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From work accomplished on H-9580 (1975), pages 66 through 72 filed with present survey 62 records.

Pre-survey Review Item "CA"

The bait barge reported in Local Notice to Mariners No. 14 of 1975 was recovered and located. The barge is a wooden structure on steel sphere floats, built in the shape of a letter U, with piers forming the legs and a white house with reflectors forming the base. The barge is California license number CF 2888 EH, owned by Mr. Dan Nich of 12139 Graystone Avenue, Norwalk California 90650, phone 213-868-7970. It was the owner who reported the barge to the Coast Guard as unlighted, when his power boat broke down, and he was unable to transport batteries to the barge. He has found other transportation, and the barge is now lighted by a small, upward pointing white light with a fish-eye lens to show around the horizon.

The owner was contacted, and reported that the barge was not in commercial use, because he could not yet find a wholesale supply of bait. He intends to keep the barge for his kids. The barge will be hauled in November 1975 for bottom repairs or maintenance, and returned to the identical anchorage. This is to be accomplished by leaving the single anchor and chain, with a marker buoy when the barge is hauled out, then retrieving the mooring in about February 1976 and resecuring it to the barge.

The barge was located by taking sextant angles from Long Beach villa Riviera Hotel Tower, 1932, to seven other triangulation marks, plotting the resultant fixes, fairing through them the lines

(circles, actually) of position, and choosing the most probable position of the barge by fitting it with least squares techniques to the seven LOP's developed from the angles read. The root mean square error of the fit was 5.2 meters or less, so the barge is located with reasonable accuracy to 33° 43' 42.246" N and 118° 07' 16.089" W. See the accompanying figure for a graphical depiction of the location scheme.

r/kpd

Relocated nearby Bait barge (lighted) to the above position
3/3/78 DC

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship Rainier, MSS-21
FPO Seattle Washington 98799

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Mr. Dan Nich
12139 Graystone Avenue
Norwalk, California 90650

Dear Mr. Nich:

On 23 October 1975 I located your bait barge off the Seal Beach pier, as part of the Rainier's project OPR-411-75. At your request, I am furnishing the location of the barge to you for transmission to the Army Corps of Engineers. This location is subject to office verification, but a preliminary estimate indicates that the accuracy is on the order of five meters. The barge was located by sextant angles measured from triangulation of third order or better.

The barge location is 33° 43' 42.246" N, 118° 07' 16.089" W. A duplicate copy of this letter is furnished for transmission to the Army Corps of Engineers. If you are unable to return your barge to the same mooring when the bottom repairs are finished, please inform the Rainier, refering to this letter and project number PSR-CA, OPR-411-75. Your cooperation with our survey work is very much appreciated.

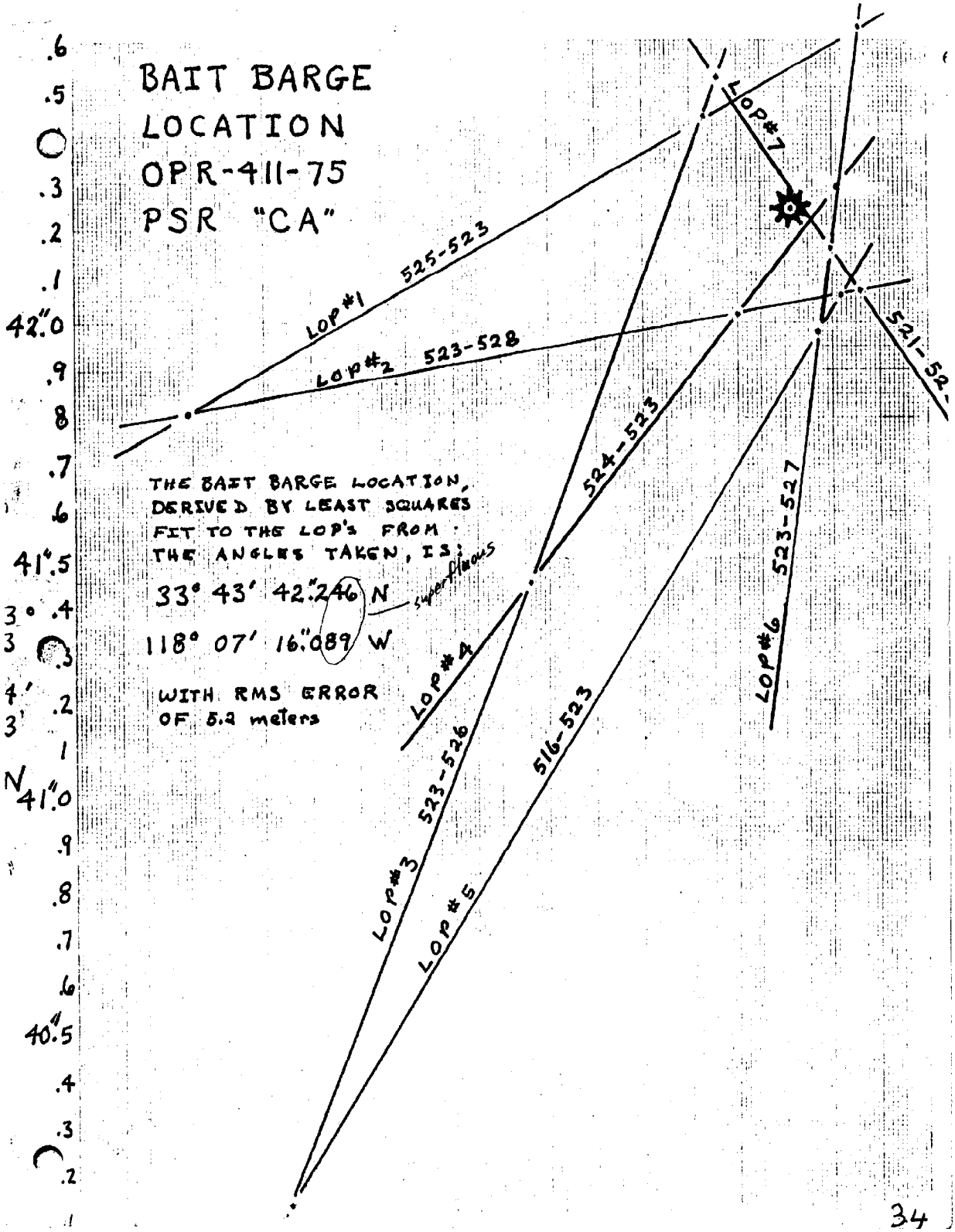
Respectfully,

Kent Paul Dolan
LT, NOAA Corps

Approved for transmittal:

Charles K. Townsend
CDR, NOAA Corps
Commanding Officer
NOAA Ship Rainier

ADVANCE COPY
SUBJECT TO OFFICE
VERIFICATION


BAIT BARGE
LOCATION
OPR-411-75
PSR "CA"
LOP#1 525-523
LOP#2 523-528
LOP#7
524-523
LOP#4
523-526
LOP#3
516-523
LOP#5
523-527
LOP#6
THE BAIT BARGE LOCATION, DERIVED BY LEAST SQUARES FIT TO THE LOP's FROM THE ANGLES TAKEN, IS:
33° 43' 42".246 N
118° 07' 16".089 W
WITH RMS ERROR OF 5.2 meters
superfluous
42".0
41".5
41".0
40".5
N

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center

Date: 23 December 1976

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

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

Subject: PMC Hydrographic Survey Inspection Team Report, H-9493

This survey is a basic hydrographic survey of the alongshore area in the vicinity of Anaheim Bay, California. The survey was conducted by NOAA Ship FAIRWEATHER in 1975 in compliance with Project Instructions OPR-411-FA-75 dated 22 January 1975.

With one exception, development of the bottom configuration is well done. Near shore development south of latitude 33°42.5'N is lacking. Two charted tanks southeast of Anaheim Bay were not reported as landmarks by the field unit. These tanks are of landmark value according to the ship's Operations Officer at the time of the survey. The subject tanks are indicated as landmarks on the smooth sheet and should continue to be charted as such.

Positions 6767 thru 6820 were rejected during the inspection process. The accuracy of these positions was questioned by the verifier because of poor crossline comparisons and anomolous depth curves. Uncompensated Raydist lane jumps are suspected as the cause of the discrepancies. Attempts to adjust the positional data failed to yield a resolution which could be substantiated by the records and endorsed as meeting applicable accuracy standards. The rejected data includes one main-scheme sounding line and crosslines in the southern portion of the survey. It is the opinion of the inspection team that this rejection of data has minimal effect on the overall delineation of the bottom configuration by the survey and, consequently, no additional field work is recommended.

The inspection team finds H-9493 to be a very good basic survey, adequate for charting and to supersede common areas of prior surveys. Administrative approval is recommended.

Donald E. Nortrup, LCDR

Dean R. Seidel, LCDR

John C. Albright, LCDR

for Stanley H. Otsubo

Administrative Approval

H-9493

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.

E. A. Taylor

Eugene A. Taylor, RADM
Director, Pacific Marine Center

1/4/77
Date

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

C352

March 11, 1977

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

THRU: Chief, Quality Control Branch

FROM: R. W. DerKazarian
Quality Evaluator

SUBJECT: Quality Control Report for H-9493 (1975), Huntington Beach to Alamitos Bay Entrance, San Pedro Bay, California

Survey H-9493 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, shoreline transfer, 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. Topographic manuscripts were not listed separately in the Verifier's Report as necessary to identify the individual date of the survey when their dates of photography and field edit differ. The following is a list of topographic manuscripts, with their respective dates of photography and field edit, which were utilized on the present survey. (See Verifier's Report Format dated March 21, 1977.)

   a. TP-00402 of 1974-75

   b. TP-00403 of 1972-75

   c. TP-00404 of 1971-75

2. An adequate junction was effected with H-9580 (1975) to the west. However, shoaler depths of 0.3 fathom to 0.5 fathom were obtained on the junctional survey in depths of 8 to 14 fathoms. The remaining junctional sheets were not available for evaluation but will be discussed in their quality control evaluation.

3. Elevations of three landmarks and a concrete cylinder in latitude 33°41.45', longitude 118°02.61', have been added to the smooth sheet from prior topographic manuscripts T-11648 and T-11649 of 1959-60.

4. In the Verifier's Report under "Comparison with Prior Surveys" two Presurvey Review items are discussed which do not originate with an NOS source. It would be desirable to discuss such items under "Comparison with Charts" which is considered a more appropriate section for such a discussion. (See Provisional Hydrographic Manual section 6.3.10.)

5. The following statement should be noted to clarify the "Comparison with Chart" of the Verifier's Report:

Charted hydrography is supplemented by several items charted from various Local Notice to Mariners and chart letters.

With the exception of several items not verified or disproved and noted in paragraph K of the Descriptive Report or paragraph VI of the Verifier's Report, the present survey is adequate to supersede the charted hydrography in the common area.

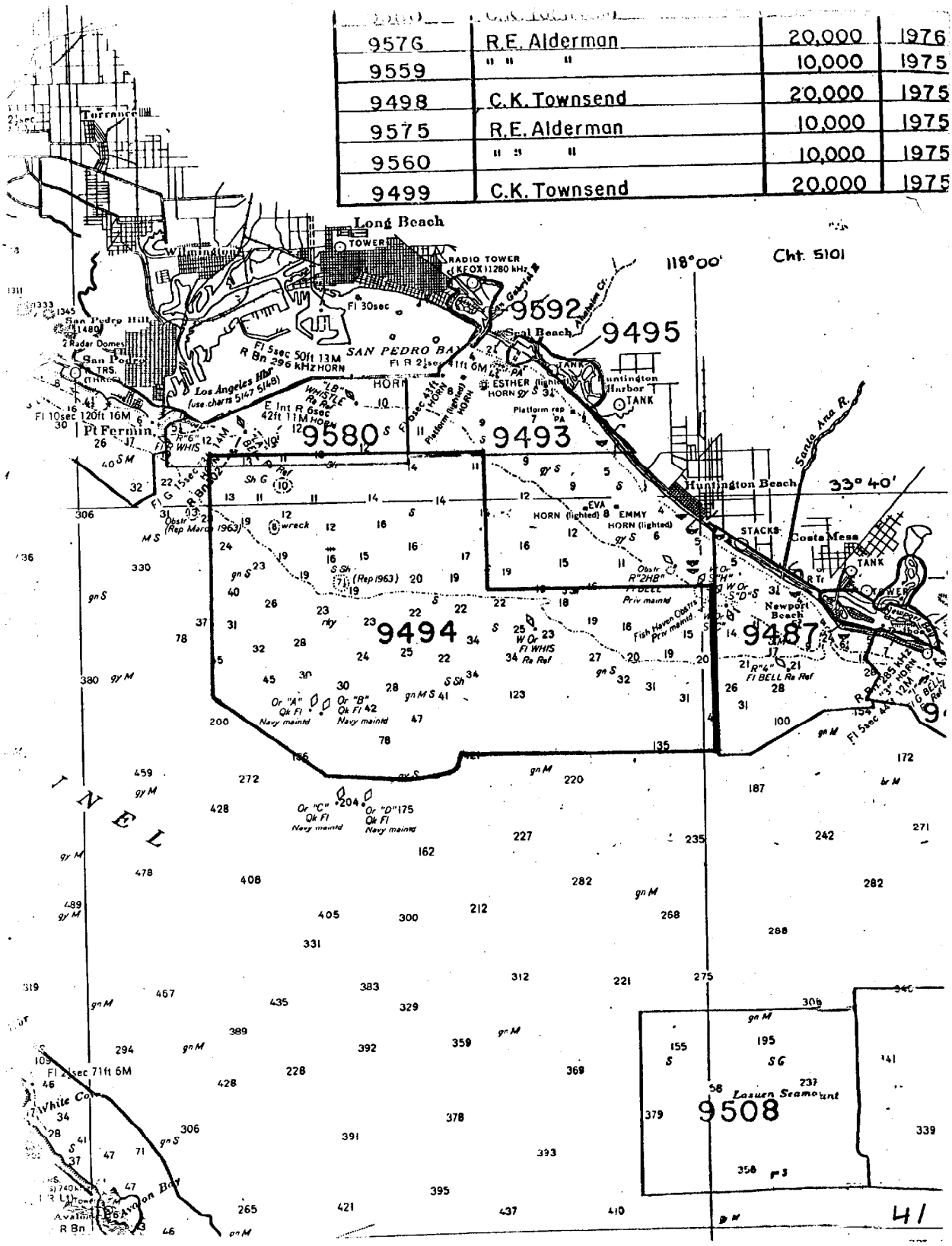
6. The Ross digital depth recorder used on this survey malfunctioned on sections of many lines. This was evident by the sawtooth initial profile marking from about .2 fathom above to .2 to .3 fathom below the zero value.

A comparison with junctional soundings from H-9580 (Ship RAINIER) on the west indicates present depths on sections of many lines to be from .2 to .5 fathom deeper than junctional soundings. A comparison with prior soundings of surveys of 1933-34 also reveals many present depths to be .2 to .5 deeper than prior depths. A comparison between present survey analog readings and digital readings reveals comparable differences.

It is considered that these differences are indicative of the error in many of the present survey soundings.

cc:
C351

9576	R.E. Alderman	20,000	1976
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



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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9493

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
5148	3-2-78	Hamilton ✓	Full ~~Part Before~~ After Verification Review Inspection Signed Via
18749			Drawing No. 3/3/78 D.C.
18751			
5147	3-6-78	Hamilton ✓	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
18746	5-16-78	[illegible]	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5142)		RAS	Drawing No. 32 Revised sndgs & depth curves
18740	5-16-78	[illegible]	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5101)		RAS	Drawing No. 44 Revised sndgs & depth curves
18022	5-19-78	[illegible]	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(5020)		RAS	Drawing No. 39 Exam; No corr
18749	1-7-81	R. A. Lillis	Reapplied
Inset			Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 50 "I" & #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.

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

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