9470

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-5-1-74

Office No. H-9470

LOCALITY

State CALIFORNIA

General Locality SOUTHERN CALIFORNIA

Locality NEWPORT BAY

19 74

CHIEF OF PARTY
C. A. BURROUGHS

LIBRARY & ARCHIVES

DATE 1-5-77

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

Charts
5108
5142 ✓

9470

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9470

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-5-1-74

State: California

General locality: Southern California

Locality: Newport Bay

Scale: 1:5,000 — Date of survey: October 16-30, 1974

Instructions dated: June 5, 1974 — Project No. OPR-411-FA-74

Vessel: Ship FAIRWEATHER Launch FA-5 (hull 1001, EDP 2025)

Chief of party: Cdr. Charles A. Burroughs, NOAA

Surveyed by: FAIRWEATHER Personnel- A. D. Anderson, G. P. Kosinski, J. Gulley, W. L. Perryman

Soundings taken by echo sounder, ~~hand lead, pole~~ Ross Fineline Fathometer S/N 1046

Graphic record scaled by: Ross digitizer

Graphic record checked by: FAIRWEATHER Personnel

Verified by ~~Protracted by~~: Matthew G. Sanders — Automated plot by: PMC Xynetics Plotter

Sounding Verification by: Matthew G. Sanders

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW

REMARKS: The survey was run on GMT. The survey centers on longitude 117°54'W. This field sheet is complete and adequate for charting.

Applied to chts 6/12/77
CB.

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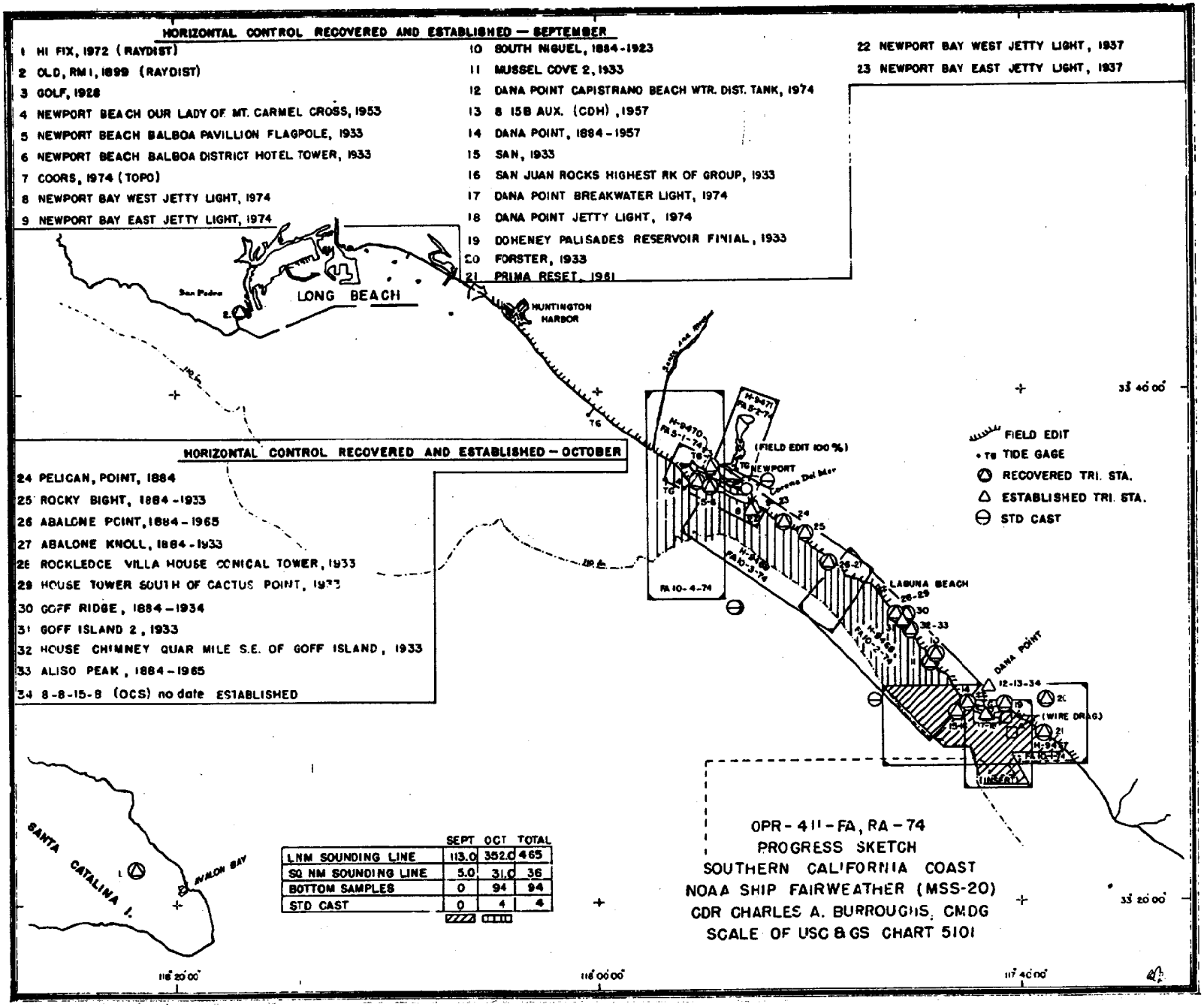
NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

U.S. G.P.O. 1972-769-565/519 REG.#6


HORIZONTAL CONTROL RECOVERED AND ESTABLISHED — SEPTEMBER
1 HI FIX, 1972 (RAYDIST)
2 OLD, RM1, 1899 (RAYDIST)
3 GOLF, 1928
4 NEWPORT BEACH OUR LADY OF MT. CARMEL CROSS, 1953
5 NEWPORT BEACH BALBOA PAVILLION FLAGPOLE, 1933
6 NEWPORT BEACH BALBOA DISTRICT HOTEL TOWER, 1933
7 COORS, 1974 (TOPO)
8 NEWPORT BAY WEST JETTY LIGHT, 1974
9 NEWPORT BAY EAST JETTY LIGHT, 1974
10 SOUTH NIGUEL, 1884-1923
11 MUSSEL COVE 2, 1933
12 DANA POINT CAPISTRANO BEACH WTR. DIST. TANK, 1974
13 8 15B AUX. (CDH), 1957
14 DANA POINT, 1884-1957
15 SAN, 1933
16 SAN JUAN ROCKS HIGHEST RK OF GROUP, 1933
17 DANA POINT BREAKWATER LIGHT, 1974
18 DANA POINT JETTY LIGHT, 1974
19 DOHENEY PALISADES RESERVOIR FINIAL, 1933
20 FORSTER, 1933
21 PRIMA RESET, 1961
22 NEWPORT BAY WEST JETTY LIGHT, 1937
23 NEWPORT BAY EAST JETTY LIGHT, 1937
HORIZONTAL CONTROL RECOVERED AND ESTABLISHED — OCTOBER
24 PELICAN, POINT, 1884
25 ROCKY BIGHT, 1884-1933
26 ABALONE POINT, 1884-1965
27 ABALONE KNOLL, 1884-1933
28 ROCKLEDGE VILLA HOUSE CONICAL TOWER, 1933
29 HOUSE TOWER SOUTH OF CACTUS POINT, 1933
30 GOFF RIDGE, 1884-1934
31 GOFF ISLAND 2, 1933
32 HOUSE CHIMNEY QUAR MILE S.E. OF GOFF ISLAND, 1933
33 ALISO PEAK, 1884-1965
34 8-8-15-8 (OCS) no date ESTABLISHED
LONG BEACH
San Pedro
HUNTINGTON HARBOR
NEWPORT
Corona Del Mar
LAGUNA BEACH
DANA POINT
SANTA CATALINA I.
AVALON BAY
(FIELD EDIT 100 %)
(WIRE DRAG)
FIELD EDIT
TG TIDE GAGE
RECOVERED TRI. STA.
ESTABLISHED TRI. STA.
STD CAST
33° 40' 00"
33° 20' 00"
118° 20' 00"
118° 00' 00"
117° 40' 00"
SEPT OCT TOTAL
LNM SOUNDING LINE 113.0 352.0 465
SQ NM SOUNDING LINE 5.0 31.0 36
BOTTOM SAMPLES 0 94 94
STD CAST 0 4 4
OPR-411-FA, RA-74
PROGRESS SKETCH
SOUTHERN CALIFORNIA COAST
NOAA SHIP FAIRWEATHER (MSS-20)
CDR CHARLES A. BURROUGHS, CMDG
SCALE OF USC & GS CHART 5101

DESCRIPTIVE REPORT
NOAA SHIP FAIRWEATHER (MSS-20)
OPR-411-FA-74

SURVEY H-9470 (FA 5-1-74)

A. PROJECT

This project was accomplished in accordance with project instructions OPR-411-FA-74 dated June 5, 1974, and with changes number 1-4 dated 5, 6, 20, and 26 September 1974, respectively.

B. AREA SURVEYED

The area surveyed included anchorages and inlets of Newport Bay from the jetty lights north to the highway Alt. 101 bridge that marks the entrance to the back bay. The survey was conducted from October 16 to October 30, 1974.

C. SOUNDING VESSELS

All hydrography on this sheet was accomplished by launch FA-5.

D. SOUNDING EQUIPMENT

The launch used a Ross Fineline Fathometer. A TRA corrector of +2.4 feet, based on the bar checks taken during the project, was used for the launch. The sound velocity correctors were determined from one Martek TDC cast taken within the survey area. For details see Report on Corrections to Echo Soundings, OPR-411-FA-74. The depths of soundings on this sheet range from approximately 0 feet to 76 feet.

Sounding Instruments:

Vessel	Instrument	Model	S/N
FA-5	Ross Fineline	5000	1046

E. BOAT SHEET

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 3750-1). The projection used was a modified transverse Mercator at a scale of 1:5,000. The skew is 335° and the origin is 33° 36' 35" N, 117° 56' 55" W. A copy of the parameter tape printout is appended.

F. STATION CONTROL

Horizontal control for this survey consisted of existing triangulation. The electronic control stations were located on triangulation or reference marks.

Geographic positions were determined for two fixed aids to navigation in this area. They are the entrance lights to Newport Beach Harbor. The lights were located previously and used for triangulation marks but have since been rebuilt. Computations were based on plans for the old lights obtained from the Coast Guard and measurements taken from the new lights. Both sets of lights were constructed on the same concrete foundations.

Two calibration points were located inside Newport Beach Harbor. These points were established using third-order resection and traverse.

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 of this report.

G. POSITION CONTROL

Newport Bay is a densly populated, exclusive, resort and residential area. Most of the triangulation stations within the immediate area have been destroyed or are inaccessible. Obtaining permission and control for the numerous signals needed to run visual hydrography in this constricted and winding harbor would have required much more time than was available for this project. Theodolite control was considered but again the constricted nature of the harbor and the lack of sites with unrestricted views of the bay would have made this method inefficient at best.

Since the signals from the existing Raydist stations were strong enough to track effectively within the bay, this method of positioning was selected. As the survey progressed however, sections of the data appeared to be shifted from the known track of the launch. This was especially apparent when the boat entered restricted inlets. The signals appeared most erratic within narrow channels and here the known track of the launch was plotted by reference to photoidentifiable objects and electronic lane counts were scaled from the field sheet for automated processing. (See Abstract of Adjustments to Electronic Positioning Data, Section I). In other areas, large blocks of data appeared to be slightly shifted. Care was taken during the survey

to make notes when the launch passed in close proximity to piers, bridges, or identifiable geographic features. These notes were used to aid in the calculation of correctors for the blocks of data. (See Abstract of Adjustments to Electronic Positioning Data, Section II).

The Hastings Raydist electronic positioning equipment, operated in the range-range mode, was used to control 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 RM 1 on Point Fermin. Launch FA-5 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 and in accordance with the preceeding discussion.

Calibration of the Raydist navigator was accomplished at fixed points located by third-order traverse. Base station operation was generally satisfactory. Electronic correctors, derived as stated, were applied to the observed ranges before plotting on the final field sheet. Slope corrections were not required.

H. SHORELINE

Shoreline detail information was obtained from shoreline manuscripts TP-00409 and TP-00410. Field edit of this area was completed during the survey. The low waterline was not defined within the harbor in most areas due to the almost universal presence of fixed piers or moored vessels.

I. CROSSLINES

Crosslines accounted for 17% (or 8.5 nm) of all hydrography completed on this survey. Comparisons at crossings agreed within 2 feet in all cases and generally within one foot.

J. JUNCTIONS

This survey junctions at the mouth of the harbor with FA-10-3-74 (H-9469) and at the highway Alt. 101 bridge marking the entrance to Back Bay with FA 5-2-74 (H-9471). Agreement with H-9469 is excellent, with no significant discrepancies. There is no overlap with H-9471 because of the impossibility of carrying Raydist beneath the highway Alt. 101 bridge.

K. COMPARISON WITH PRIOR SURVEYS

No prior surveys were available for comparison.

Item 35, Pre-Survey Review dated September 24, 1970, is a channel dredged to 10 feet as of June 1950 charted in latitude 33°36'48", longitude 117°55'36". This channel was carefully developed as shown on the field sheet, and the controlling depth appears to still be 10 feet. Concur

Item 36, Pre-Survey Review dated September 24, 1970, is a shoal reported to exist in latitude 33°36'24", longitude 117°53'06". Two sounding lines were run through the reported area and some shoaling ~~to eight and nine~~ 2-2½ less feet was located, as shown on the field sheet. Numerous boats in the area prevented further development. See item 6 & 8 Quality Control. Critique.

Item BT, Pre-Survey Review update of August 20, 1974, is a submerged groin reported at latitude 33°36.12', longitude 117°52.92'. This groin was located and is plotted in red on the field sheet. Shown as a ledge on the smooth sheet from TP-00410.

L. COMPARISON WITH THE CHART

C&GS Chart 5108 includes all of Newport Bay. The latest edition, the 11th, is dated February 27, 1971 and is at a scale of 1:10,000. Charted soundings agree very well, generally within one foot, with those on the field sheet with the exception of the shoaling in the channel northeast of Balboa Island and various man-made changes discussed elsewhere. The least depth in the turning basin is approximately 20 feet rather than 17 feet reported, an indication that dredging may have occurred. ✓

M. ADEQUACY OF SURVEY

All fathogram field survey records were scanned and checked for peaks and deeps. This survey is complete and adequate to supersede prior surveys for charting. ✓

N. AIDS TO NAVIGATION

All major aids to navigation were located and plotted on the field sheet, and were found to be as described in the light list and on C&GS Chart 5108. In addition to these, numerous privately maintained floating aids were found within the bay. These are subject to frequent movement and are not plotted on the field sheet. ✓

O. STATISTICS

Vessel	Total Positions	NM
FA-5	691	42.0

Total area - 0.7 sq. nm
Total Bottom Samples - 31

✓

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P. MISCELLANEOUS

Greenwich Mean Time was used for all survey records.

A new small inlet, called Promontory Bay, that does not appear on the photogrammetric manuscript has been constructed north of the Balboa Yacht Basin. A single line of hydrography was run in this bay. Shoreline for Promontory Bay was sketched from a copy of the contractor's plans and is shown in dashed red lines on the field sheet.

Fixes 4705-4720 were taken in a small triangular canal. It was necessary to lower the Raydist antenna to get under the bridge that separates this area from the main harbor. All soundings in this area were located by dead reckoning with respect to the major features in the area and electronic fixes were scaled from the field sheet for automated processing.

Seven additional bottom samples were taken but not plotted on the field sheet to avoid cluttering.

A Corps of Engineers party was commencing a channel survey of unknown extent in Newport Bay just as the FAIRWEATHER was departing the project area. It is assumed that their results will be furnished to the National Ocean Survey as usual. (bps. 94843-46) 1974

Survey operations were considerably hampered by the 9,000 plus boats of all sizes tied alongside, anchored, and underway (but not necessarily under control) in the bay.

Newport Bay is a rapidly-developing resort and residential area and further construction and change should be expected, particularly in the northern part of the main bay and in Back Bay.

Q. RECOMMENDATIONS

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

R. REFERENCE TO REPORTS

Report on Corrections to Echo Soundings, OPR-411-FA-74
Electronic Systems Calibration Report, OPR-411-FA-74
Coast Pilot Report, OPR-411-FA-74
Field Edit Reports, OPR-411-FA-74
Horizontal Control Report, OPR-411-FA-74

S. DATA PROCESSING PROCEDURES

Program AM-170, version 11/10/72, was used on launch FA-5 to acquire and compile all its hydrographic on-line data.

Program AM-200, version 03/23/73, was used on the Ship's Hydroplot system to plot all of the survey data.

Submitted by:

John C. Dewright

for Lt(jg) Wayne L. Perryman, NOAA

APPROVAL SHEET

Field No. FA 5-1-74

Register No. H-9470

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

for Freddie L. Jeffries
Cdr. Charles A. Burroughs, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER MSS-20

SOUND VELOCITY CORRECTOR ABSTRACT

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

FA 5-1-74 (H-9470)
FA 5-2-74 (H-9471)

Depth (feet)	Corrector (feet)
0-2.9	+ 0.0
3.0-7.9	0.2
8.0-13.0	0.4
13.1-19.0	0.6
19.1-25.0	0.8
25.1-31.0	1.0
31.1-38.0	1.2
38.1-46.0	1.4
46.1-55.0	1.6

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TRANSDUCER CORRECTION ABSTRACT

TRA (TC/TI) TAPE: VESSEL 1001 FA-5 SURVEY FA-5-1-74 FATHOMETER S/N 1046 YR 74 PAGE OF

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
	+ 2.4 ft.	ALL		0.0	0.0	+ 2.4 ft.	0.0	0.0	

-11-

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STATION LIST
OPR-411

STA	O	LATITUDE	LONGITUDE	CRT	ELEV(M)	F(KHZ)	TYPE/NAME	SOURCE
001	4	33 21 2531	118 21 5072	250	500	3300.4	HI FIX 1972	331182
002	4	33 43 1294	118 16 5698	250	35	3300.4	OLD 1899 RM 1	331181
003	4	33 27 1564	117 41 2638	139	9		DANA PT OUTER BREAKWATER LIGHT	*
004	4	33 27 2437	117 41 2804	139	9		DANA PT INNER BREAKWATER LIGHT	*
005	4	33 27 5110	117 42 3017	139	62		DANA PT 1884 1957	331173
006	4	33 27 2561	117 42 4608	139	2		SAN JUAN ROCK (HIGHER OF TWO ROCKS) 1933	331173
007	4	33 27 3789	117 42 4092	139	50		SAN 1933	331173
008	4	33 27 4903	117 39 1510	139	120		DOHENEY PALISADES RESERVOIR FINIAL 1933	331173
009	4	33 28 2621	117 41 3785	139	112		8 15B AUX (CDH) 1967	*
010	4	33 27 5966	117 38 5436	139	260		FORSTER 1884	331173
013	4	33 30 4361	117 45 1255	139	16		HOUSE CHIMNEY 1/4 m S.E. OF GOFF ISLAND	331174
014	4	33 31 1716	117 45 1945	139	169		GOFF RIDGE	331174
015	4	33 30 5110	117 45 3478	139	9		GOFF ISLAND 2	331174
016	4	33 31 1419	117 45 4927	139	10		ROCKLEDGE VILLA HOUSE CONICAL TOWER	331174
017	4	33 29 5122	117 43 5804	139	285		SOUTH NIGUEL	331173
018	4	33 33 1403	117 49 0693	139	21		ABALONE POINT	331174
019	4	33 33 2247	117 49 0220	139	61		ABALONE KNOLL	331174
020	4	33 34 1964	117 50 1481	139	21		ROCKY BIGHT	331174
021	4	33 34 4768	117 51 0598	139	22		PELICAN POINT	331174
022	4	33 35 2262	117 52 3548	139	5		NEWPORT HARBOR EAST JETTY LIGHT	*
023	4	33 35 1783	117 52 4321	139	5		NEWPORT HARBOR WEST JETTY LIGHT	*
024	4	33 37 2211	117 54 4487	139	25		NEWPORT HARBOR HIGH SCHOOL TOWER	331174
025	4	33 36 0977	117 53 5255	139	25		NEWPORT HARBOR BALBOA PAVILION	331174
026	4	33 36 0600	117 53 5688	139	15		NEWPORT HARBOR HOTEL TOWER	331174
027	4	33 28 3135	117 41 3887	139	110		DANA POINT CAPISTRANO BEACH WATER DIST TANK	*

* Station established by FAIRWEATHER 1974. See horizontal control appendices to Descriptive Reports, OPR-411-FA-74.

ABSTRACT OF RAYDIST EQUIPMENT UTILIZATION

H-9467, H-9468, H-9469, H-9470, H-9471, H-9487

BASE STATION LOCATIONS

JULIAN DAYS 267 thru 304
Unit S/N 125, Frequency 1650.425 KHz, 35 ft. whip antenna on a 20 ft. tower with 50 ft. radial ground plane.
Location: HI FIX 1972 33°21'25.31" N, 118°21'50.72" W

JULIAN DAYS 267 thru 304
Unit S/N 124, Frequency 1650.015 KHz, 35 ft. whip antenna on a 40 ft. tower, with 50 ft. radial ground plane.
Location: OLD 1899 RM1 33°43'12.94" N, 118°16'56.98" W

MOBILE TRANSMITTERS

FA-3: Model TA-96B, S/N 96, Frequency 3300.465 KHz
FA-5: Model TA-96B, S/N 90, Frequency 3300.400 KHz
FA-6: Model TA-96B, S/N 83, Frequency 3300.520 KHz

MOBILE NAVIGATORS

FA-3: Model ZA-75C, S/N 21, Frequency 385/435 Hz
FA-5: Model ZA-75C, S/N 16, Frequency 330/490 Hz
FA-6: Model ZA-75C, S/N 18, Frequency 370/450 Hz

ABSTRACT OF ADJUSTMENTS TO
ELECTRONIC POSITIONING DATA

Section I - Scaled Electronic Lane Counts for DR Positions

Position #	Day	Scaled Values Pattern #1	Pattern #2
4321	295/296	1120.04	0820.16
4322		As Observed	
4525	296	1152.86	0850.35
4526	296	1151.10	0851.43
4527	296	1149.15	0852.58
4528	296	1148.56	0853.02
4535	296	1146.17	0854.54
4536	296	1147.25	0853.93
4537	296	1148.25	0853.24

Section II - Electronic Lane Correctors for Positions Shifted to Agree with DR Information

Position #	to Position#	Day	Pat #1	Pat #2
4190	4272	294	-0.25	-0.28
4583	4584	296	-0.25	-0.28
4701	4704	298	-0.25	-0.28
4290	4308	295/296	-0.28	+0.08
4572	4573	296	-0.44	-0.55
4545	4551	296	-0.29	-0.19
4552	4558	296	-0.35	-0.13
4505	4510	295/296	+0.79	+0.90

Position #	to	Postiton #	Day	Pat #1	Pat #2
4529		*	296	-0.38	-0.21

* 4th depth after 4532

FIELD TIDE NOTE

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

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

SITE	LOCATION	PERIOD
Dana Point Harbor	33° 27.7' N 116° 42.3' W	40 Days 9-19-74 to 10-29-74
Newport Bay Turning Basin	33° 37.0' N 117° 55.3' W	30 Days 9-18-74 to 10-9-74 and 10-21-74 to 10-31-74
Newport Dunes, Newport Beach	33° 37.1' N 117° 53.6' W	41 Days 9-20-74 to 10-31-74
Balboa Pier, Newport Beach	33° 35.9' N 117° 54.0' W	42 Days 9-19-74 to 10-31-74
Huntington Beach Pier	33° 39.2' N 118° 00.3' W	20 Days 10-11-74 to 10-30-74

Dana Point Harbor

ADR gage (S/N 7404A1193M2) and staff were installed 9-19-74 and ran satisfactorily for 40 days. The gage was removed 10-29-74. The marigram reads 10.0 feet greater than the staff.

Newport Bay Turning Basin

ADR gage (S/N 7304A1380M18) and staff were installed 9-18-74. On 9-26-74 the floatwire was found off the drum and was replaced. The gage ran until 10-9-74 at which time the paper takeup ceased to function. This problem was corrected and rediscovered several times, resulting in unsatisfactory data, until 10-21-74 at which time the problem was solved.

The gage ran satisfactorily until removal on 10-31-74. The marigram reads the same as the staff.

Newport Dunes

Bubbler gage (S/N 67A16202) and staff were installed on 9-20-74 and ran satisfactorily for 41 days until removal on 10-31-74. The marigram reads 3.5 feet greater than the staff.

Balboa Pier

Bubbler gage (S/N 67A10286) and staff were installed on 9-19-74 and ran satisfactorily for 42 days until removal on 10-31-74. The marigram reads 6.3 feet greater than the staff.

Huntington Beach Pier

Bubbler gage (S/N 68A14941) and staff were installed on 10-11-74 and ran satisfactorily for 20 days until removal on 10-30-74, in accordance with a late change to the project instructions. The marigram reads 6.3 feet greater than the staff.

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 Huntington Beach Pier staff, which appears to have sunk 0.03 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. Data from the Newport Bay control tide station is also available for support of the Newport Bay survey.

Recommendations

The standard dampening valves on the Balboa Pier and Huntington Beach Pier bubbler gages were turned up to their limit, but the pens still traced a five foot wide path on the marigrams during times of heavy swells. It is recommended that Nupro type dampening valves be installed on all bubbler gages to be used in this area in the future.

June 4, 1975

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): Newport Dunes

Period: September 20 - October 21, 1974

HYDROGRAPHIC SHEET: H-9470

OPR: 411

Locality: Newport Beach, Southern California

Plane of reference (mean lower low water): 4.7 ft.

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

Remarks: Zone direct.

James R. Hubbard
for Chief, Tides Branch

GEOGRAPHIC NAMES

Survey No. H-947Ø

Name on Survey	A On Chart No.	B On previous survey No.	C On U.S. Quad Maps	D From local information	E On local maps	F P.O. Guide or Map	G Rand McNally Atlas	H U.S. Light List	K	
BALBOA BEACH										1
BALBOA ISLAND ✓										2
BALBOA ISLAND NORTH CHANNEL ✓										3
BALBOA REACH										4
BALBOA YACHT BASIN ✓										5
BAY ISLAND ✓										6
BAY SHORES ✓										7
COLLINS ISLAND ✓										8
CORONA DEL MAR ✓										9
CARONA DEL MAR BEND ✓										10
~~ENTRANCE CHANNEL~~										11
GRAND CANAL ✓										12
HARBOR ISLAND ✓										13
HARBOR ISLAND REACH ✓										14
LIDO ISLE ✓										15
LIDO ISLE REACH ✓										16
LIDO PENINSULA ✓										17
LINDA ISLE ✓										18
NEWPORT BAY (TITLE)										19
NEWPORT BEACH ✓										20
~~NEWPORT BEACH~~										21
~~NEWPORT HEIGHTS~~										22
NEWPORT ISLAND ✓										23
~~PACIFIC OCEAN~~										24
PROMONTORY BAY ✓										25
~~PROMONTORY PT.~~										26

20

GEOGRAPHIC NAMES

Survey No. H-947Ø

Name on Survey	A On Chart No	B On previous survey No	C On U.S. Quadrangle Maps	D From local information	E On local maps	F P.O. Guide or Map	G Rand McNally Atlas	H U.S. Light List	K	
SAN PEDRO CHANNEL										1
THE ARCHES ✓										2
THE RHINE										3
~~TURNING BASIN~~										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
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										24
										25
										26

APPROVED

Chas. E. Harrington

STAFF GEOGRAPHER – C51x2

24 Jan. 1977

APPROVAL SHEET

FOR

SURVEY H- 9470

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: 12/13/76

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. 9470

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & smooth PNO, excess ovly.	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	10

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1-with printouts					
VOLUMES	2					
BOXES			1-with cahier, sndg. vols., sawtooth rec. & tides			

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)*

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED		691		
POSITIONS REVISED		75		
DEPTH SOUNDINGS REVISED		59		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		7		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control	3			
Verification of Positions		103		
Verification of Soundings		154		
Smooth Sheet Compilation		190		
ALL OTHER WORK				
TOTALS	3	447	HIT 18	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY James S. Green	4-29-75	4-29-75
VERIFICATION BY Matthew G. Sanders [signature]	8-28-75	10-29-76
REVIEW BY		

23

Carter 13 hr 3/15/77

QC Eval. S.R. Myers 32 hrs Jan 24 1977 R.D. Sanocki 8 hrs 21 Apr 77

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

REGISTRY NO. H-9470

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

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

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. _____

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

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

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

H-9470

Information for Future Presurvey Reviews

Man-made changes predominate in this area and will largely control frequency of resurveys.

Position Index		Bottom Change	Use	Resurvey
Lat.	Long.	Index	Index	Cycle
333	1180	5	2	25 years

+ The shoreline shown on the smooth sheet in the area of Pt. Montara Bay was revised to agree with the final reviewed photogrammetric manuscript TP-00410.
Two piles located in the immediate vicinity of Lat. 33°36'31", Long. 117°53'38" on the smooth sheet were revised to agree with the final reviewed photogrammetric manuscript TP-00410.

12/5/78

VERIFIER'S REPORT

H-9470 FA-5-1-74

This sheet was constructed and plotted at the Pacific Marine Center, Seattle, Washington. Information relating to this survey follows as specified by Chapter 6 of the Provisional Hydrographic Manual.

I. INTRODUCTION

This survey was accomplished by the Ship FAIRWEATHER during the 1974 season. The Hastings Raydist electronic positioning equipment, operating in the range-range mode, was used to control all hydrography on this sheet. The procedures used for position control during the survey are questionable, these procedures will be described during Item II. Control and Shoreline.

II. CONTROL AND SHORELINE

See sections F and G for Control and section H for Shoreline. The reception of continuous transmission was impossible, due to the configuration of the area surveyed. Therefore, the survey was conducted as a pseudo visual survey in that the positioning was determined by adjusting the electronic rates to known points of topography. This method has been evaluated as being adequate to chart the area, with the knowledge that the channel is defined on the chart as being periodically dredged by the Corps of Engineers.

The topographic manuscripts are:

TP-00409

Date of Photography	March, 1971
Date of Field Edit	September, 1974

TP-00410

Date of Photography	March, 1971
Date of Field Edit	September, 1974

III. HYDROGRAPHY

The sounding lines and crosslines are in good agreement, revealing a bottom configuration that is consistent with reported dredged depths. ~~See section H. Shoreline of the Descriptive Report.~~

IV. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate. This survey is adequate for charting.

V. JUNCTIONS

Survey H-9470, 1974 joins the following surveys:

H-9469, 1974 entrance to Newport Bay
H-9471, 1974 highway alternate 101 bridge

The junction with H-9469 is in good agreement. There is no junction between H-9471. See section J. Junctions of the Descriptive Report.

VI. COMPARISON WITH PRIOR SURVEYS

The last previous survey of the area was made in 1926. Since that time the area has been subjected to silting, dredging, and extensive shoreline development. The current survey conclusively discredits the validity of the prior survey. Consequently, despite its deficiencies, H-9470 is the best information available for charting purposes.

VII. COMPARISON WITH THE CHART

The smooth sheet was compared with chart 18335 (5108), 11th Edition, February 27, 1971, scale 1:10,000. The charted soundings were visually compared with the smooth sheets. The agreement is within the accepted limits. It is believed that the charted soundings are from Corps of Engineers survey. The agreement is good, therefore, this survey is adequate to supersede the charted hydrography.

Aids to Navigation are adequately shown.

VIII. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the project instructions.

IX. ADDITIONAL FIELD WORK

No additional field work is recommended. This survey is an adequate basic survey.

Respectfully submitted,

Matthew G. Sanders
Cartographic Technician
November 4, 1976

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

Date: 6 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-9470

This survey is a basic hydrographic survey of Newport Bay, California. The survey was conducted by NOAA Ship FAIRWEATHER in 1974 under Project Instructions OPR-411-FA-74, dated 05 June 1974. As a basic hydrographic survey, H-9470 suffers serious deficiencies.

Newport Bay is an enclosed harbor separated from San Pedro Channel by a developed peninsula averaging 0.2 nm in width. The bay itself is basically a network of channels, many of which are dredged, around several islands. There is virtually no natural shoreline.

The survey was conducted using Raydist as the primary means of control. Numerous positions were adjusted in the field to conform to the OIC's perceived D.R. track. The adjustments are not substantiated by recorded estimated positions in the field records. The necessity to adjust positions is likely the result of distortion in the Raydist signals induced by intervening land masses. The ship justifies its use of Raydist control on the strength of signal in the bay, see Descriptive Report, Section G. A strong Raydist signal is not necessarily a distortion free signal, particularly when transmission is over intervening land.

This survey was conducted at a time when the field unit was plotting all soundings by position. Consequently, position numbers were not assigned each time the sounding vessel changed course. Unfortunately the survey was computed at PMC prior to implementation of the position on every sounding routine and, as a result, all in-between soundings were smooth plotted by interpolation between numbered positions. The verifier has inserted numerous additionalpositions to offset the effects of interpolation. Despite this effort the sounding lines remain somewhat generalized.

In sum, the accuracy of the positional data on this survey does not meet the standards for a basic survey at a 1:5,000 scale.

Three dashed circle soundings appear on the pre-survey review of the area. There is no evidence that these areas were investigated in the field. The questionable soundings have been neither verified nor disproven. The development of PSR Item #36, shoaling in Balboa Island North Channel, is substantiated by the hydrography although the development is minimal. An 18 foot sounding was recorded in the dredged portion of Lido Isle, an area charted with a dredged depth of 20 feet. This sounding may warrant additional development.

At the time FAIRWEATHER was completing this survey the Corps of Engineers was setting up to conduct a condition survey of the bay. This survey should be examined to determine whether or not the above items are adequately developed. If, after examining the COE survey, ambiguity remains in any of the items it will be possible to have FAIRWEATHER investigate during the Spring 1977 project.

The inspection team finds H-9470 to be a fair basic survey. It is adequate to supersede the prior survey to the extent that it disproves the validity of that survey. Charting of Newport Bay should be based primarily on the most recent Corps of Engineers condition survey and/or surveys conducted under the auspices of local jurisdictions. H-9470 should be considered as a supplement only to these surveys. Administrative approval is recommended under the foregoing conditions. (DPS 9-4843-46)

Donald E. Nortrup, LCDR

A. E. Eichelberger

John C. Albright, LCDR

Dean R. Seidel, LCDR

Administrative Approval

H-9470

The smooth sheet and reports of this survey have been examined. The survey suffers from a deficiency in the accuracy of hydrographic control. It is adequate to supersede prior survey H-4546 (1926) to the extent that it discredits the validity of that survey. The data from this survey is approved for use in charting only as information supplemental to the most recent Corps of Engineers condition survey of the bay and/or surveys conducted under the auspices of local jurisdiction.

E. A. Taylor

Eugene A. Taylor, RADM
Director, Pacific Marine Center

12/15/76
Date

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

C352

January 21, 1977

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

THRU: Chief, Quality Control Branch

FROM: G. K. Myers
Quality Evaluator

SUBJECT: Quality Control Report for H-9470 (1974), California, Southern California, Newport Bay

A quality control inspection of H-9470 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, transfer of topographic information, decisions and actions by the verifier, and cartographic presentation of data.

A mooring buoy and marker buoy located on the field edit at latitude 33°36.37', longitude 117°53.91' and latitude 33°35.7', longitude 117°52.68', respectively, were transferred to the smooth sheet by the quality evaluator.

Some submerged piles were brought forward from T-11654 (1959) during quality evaluation in order to supplement the present survey.

The quality examination revealed a general conformity with National Ocean Survey standards and requirements except as follows:

1. This survey is deficient in not providing field information regarding the disposition of some charted piles, ruins, and rocks. Some of these in the area of subsequent man-made changes are considered submerged.

2. A statement to the effect that the shoreline revision in red on the smooth sheet was determined by the hydrographer should have been made under the heading, "Control and Shoreline," in the Verifier's Report.

3. The statement in the Verifier's Report that the aids to navigation are adequately shown is incomplete. The verifier should have specified that the charted positions of aids adequately mark the features intended.

4. The verifier did not complete a summary evaluation of the hydrography on the present survey as prescribed in section 6.6(8) of the Provisional Hydrographic Manual. Additional comments are made below for inclusion under the heading, "Hydrography," in the review.

a. The usual depth curves are adequately delineated; however, the existence of many small boat piers alongshore impeded the delineation of the 0- and 6-foot curves and portions of the 12-foot curve. In some areas the 3-foot curve was added to accentuate shoal features.

b. The development of bottom configuration and the investigation of least depths are considered adequate. However, the positions of soundings reflect estimated distances from alongshore features and other adjustments and may be somewhat in error.

5. The statement that the present survey supersedes the prior survey within the common area should have been made under the heading, "Comparison with Prior Survey," in the review. [See Provisional Hydrographic Manual--section 6.6(1)].

6. Tabulated controlling depths based on 1950-62 Corps of Engineers surveys and a channel legend from a privately-maintained channel survey of 1950 (Bp-46835) pertain to this area. [See Provisional Hydrographic Manual--section 6.6(12b)]. The following statements concerning these dredged areas should have been included under the heading, "Comparison with Chart."

a. In general present depths are in harmony with charted controlling depths except for occasional conflicts along the edges of the channels. These may occur in some instances because of positional uncertainties on the present survey.

b. Present depths in the outside quarters of the charted controlling depth areas covering Balboa Island North Channel in some places are about 2-2.5 feet shoaler than those tabulated.

c. The charted controlling depth note - 10 FT JUNE 1950 - in the immediate vicinity of latitude 33°36.8', longitude 117°55.6' is in agreement with the present survey and should be retained on the chart with an updating annotation.

d. The 13-foot sounding charted at latitude 33°36.05', longitude 117°53.18' in the dredged area of Newport Bay channel from a 1962 Corps of Engineers survey is considered disproved by the present survey and the 1974 Corps of Engineers survey (Bp-94844) and should be deleted from the chart.

7. A statement to the effect that the dredged canal and basin in the vicinity of latitude 33°36.7', longitude 117°53.75' from TP-00410 are not charted should have been made by the verifier. (See Provisional Hydrographic Manual--section 6.3.10.)

8. Presurvey Review items should have been cross-referenced in the Verifier's Report. The disposition of these charted features are noted in section K of the Descriptive Report.

9. Since recourse had to be made to estimated positions from topographic features in adjusting questionable control, a greater number of notes by the hydrographer should have been made part of the hydrographic records.

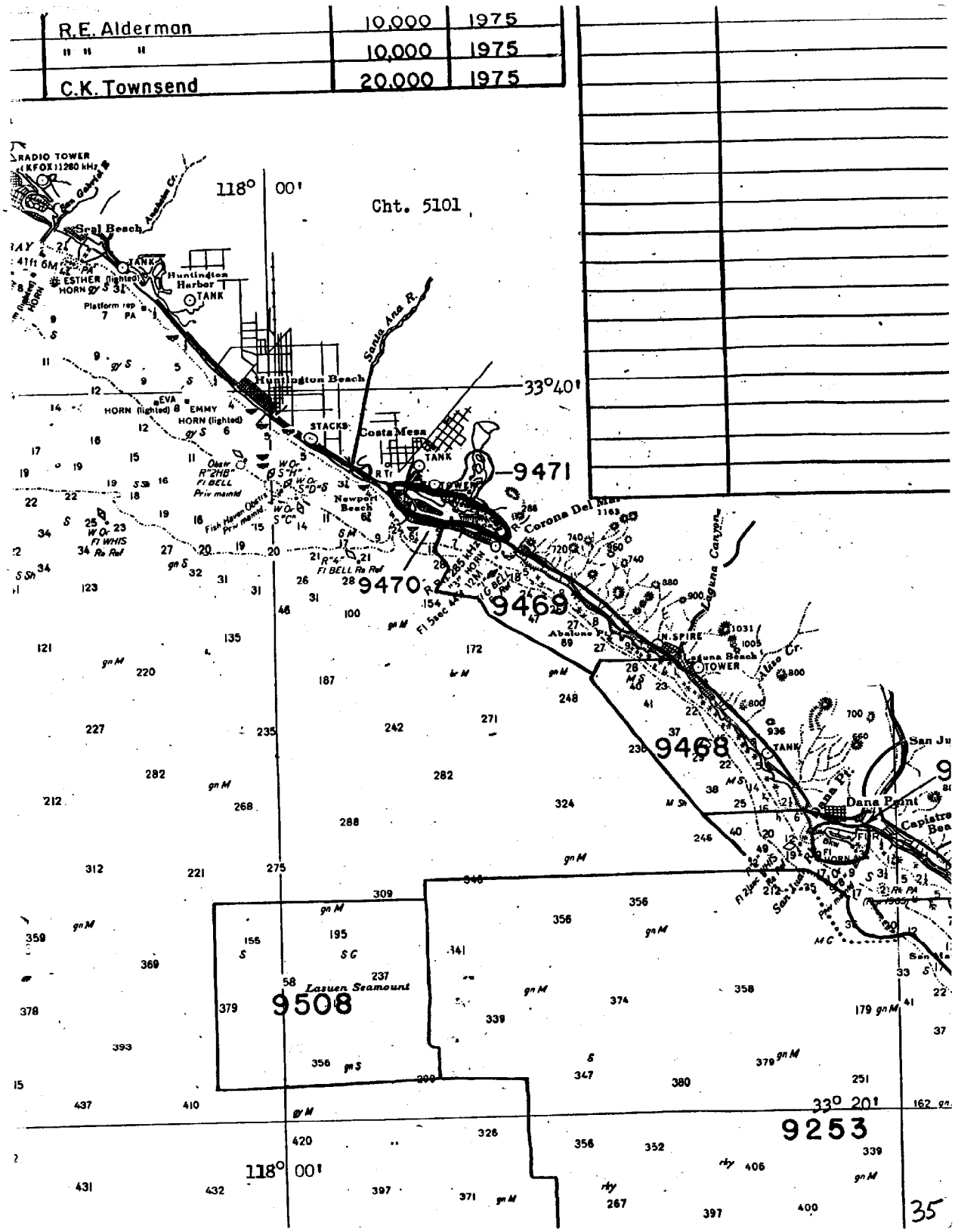
10. A number of soundings read on kelp or grass were revised or rejected during quality evaluation.

11. Charted landmarks originating with T-11654 (1963) were transferred to the present survey during quality evaluation.

12. It is considered that a less exact transfer of the hundreds of piers to the preliminary sounding plot would have adequately served the purpose and would have saved a significant amount of time.

cc:
C351

R.E. Alderman	10,000	1975
" " "	10,000	1975
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. 9470

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
18746	10-26-78	[illegible] RCS	(Full) ~~Part Before~~ (After) Verification Review Inspection Signed Via
			Drawing No. 33 Exam; No coverage at this scale
18754	12/8/78	Costtes ww	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Consider fully applied
			(mostly superseded by BP's 94843-46)
18740	12/8/78	Costtes ww	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. NO CORR this scale
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63