

9495

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-5-1-75
Office No..... H-9495

LOCALITY

State CALIFORNIA
General Locality SAN PEDRO BAY
Locality ... ANAHEIM BAY AND HUNTINGTON
HARBOR

1975

CHIEF OF PARTY

R. E. Alderman

LIBRARY & ARCHIVES

DATE 5/25/77

9495

Area 5

*Cht
51-3 met*

HYDROGRAPHIC TITLE SHEET

H-9495

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-5-1-75

State California

General locality San Pedro Bay

Locality Anaheim Bay - Huntington Harbor

Scale 1:5,000 Date of survey 27 March 1975 to 11 April 1975

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

Vessel FA-4 (hull #1233 EDP 2024)
FAIRWEATHER Launches

Chief of party CDR R.E. Alderman

Surveyed by LT(JG) A.M. Snella

Soundings taken by echo sounder, ~~hand held dipnet~~ Ross Fathometer (S/N 1054)

Graphic record scaled by Ross Digitizer

Graphic record checked by FAIRWEATHER Personnel

Positions verified

~~Positions~~ by James L. Stringham Automated plot by BMC/Xynetics Plotter

Soundings verified

~~Soundings~~ by James L. Stringham

Soundings in ~~feet~~ feet at MLLW

REMARKS: All records were kept on GMT. The mean longitude is

118°04' 37.5"W.

Applied to std 11-8-77
CSB

DESCRIPTIVE REPORT

NOAA SHIP FAIRWEATHER (MSS-20)

OPR-411-FA-75

SURVEY H-9495 (FA-5-1-75)

A. PROJECT

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

B. AREA SURVEYED

The area encompassed by FA-5-1-75 is all of Anaheim Bay inside the ends of the jetties and all navigable water of Huntington Harbor. Hydrography was accomplished from 27 March 1975 to 11 April 1975. ✓

C. SOUNDING VESSEL

All hydrography and bottom samples on this sheet were accomplished by launch FA-4 (hull #1233). ✓

D. SOUNDING EQUIPMENT

Launch FA-4 used a Ross Fineline Fathometer. A TRA corrector ranging from +2.0 feet to +2.4 feet, based on lead line comparisons taken during the project, was used. The sound velocity correctors were determined from Martek cast #1 taken in the outer harbor of Anaheim Bay. For details see Report on Corrections to Echo Soundings, OPR-411-FA-75. The depths of soundings on this sheet range from approximately 0 feet to 50 feet. ✓

Sounding Instrument:

<u>Vessel</u>	<u>Instrument</u>	<u>Model</u>	<u>S/N</u>
FA-4	Ross Fineline	5000	1054

 ✓

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 4670-2). The projection was a modified transverse Mercator at a scale of 1:5,000. One plotter sheet was required. The skew is 148° and the origin is at latitude 33°-43'04"N and the longitude at 118°01'44"W. A copy of the parameter tape printout is appended. ✓

F. STATION CONTROL

Horizontal control for this survey consisted entirely of existing triangulation intersection stations and visual signals located by standard photogrammetric techniques. All station positions are based upon the 1927 North American datum. ✓

G. POSITION CONTROL

Most of the hydrography on this survey was controlled by visual three-point sextant fixes observed on triangulation intersection stations and on signals located photogrammetrically. No control problems were encountered. ✓

Some of the narrow minor channels, canals, and slips in Huntington Harbor were controlled by dead reckoning. The launch was located by visual reference to distinctive piers, bulkheads, and bridges, and its position was plotted on the field sheet with respect to these shoreline features. Three-point sextant fixes were then scaled from the field sheet to permit automated processing of these positions. This method of control is believed to be entirely adequate considering the very confined nature of the areas surveyed. ✓

H. SHORELINE

The shoreline details were obtained from Class III manuscripts TP-00403 and TP-00404. All shoreline and topographic details were verified by field edit. ✓

The low water line was not delineated by soundings due to the small tide range and the numerous piers and vertical bulkheads in the harbors. ✓

I. CROSSLINES

The 35.4 n.m. of hydrography run on this sheet includes 5.3 miles of crosslines and sounding overlap. The crosslines and overlap are 18% of the main scheme hydrography. Comparisons at crossings are good, with no more than 2-foot variations around the outer entrance to Anaheim Bay. The 2-foot difference is due to swell action. ✓

J. JUNCTIONS

The survey junctions to the south with the 1:10,000 scale contemporary survey FA-10-2-75 (H-9493) which agrees within 2 feet in depths of 22 feet to 35 feet. The 2-foot variation is attributed to the ever present swell action.

K. COMPARISON WITH PRIOR SURVEYS

Prior surveys of Anaheim Bay, probably done by the Corps of Engineers, were not available for comparison. As far as is known, Huntington Harbor has not been previously surveyed.

Item 38 of Pre-survey Review dated 24 September 1970 is Anaheim Bay Channel Light "9", charted in latitude 33°44'05", longitude 118°05'40". The photogrammetric location of this light was verified. It is plotted on the ~~field~~^{smooth} sheet and should be charted as shown. *Concur*

LNM 7/78
LNM 1A/78

Item 39 of Pre-survey Review dated 24 September 1970 is 10 Navy mooring buoys charted in Anaheim Bay. Sixteen mooring buoys were located in the outer and inner harbors and are plotted on the field sheet. It is recommended that they be charted as shown. *Concur*

L. COMPARISON WITH CHART

The boat sheet was compared with chart 5148 (No. 18323), San Pedro Bay, 18th edition, 9 February 1974, scale 1:18,000. The insert for Anaheim Bay, scale 1:9,000 was used.

In general, the survey shows considerable shoaling around the entrance to Anaheim Bay. The chart shows the channel to be dredged to a depth of 36 to 37.5 feet. The survey indicates a shoaling to 22 feet on the right side of the channel, outside the breakwater. On the inside of the breakwater, the right side of the channel shoals to a depth of approximately 30 feet. The center of the channel around the breakwater shoals to approximately ~~30~~³² feet.

The submerged piles charted in latitude 33°43'58"N, longitude 118°05'31"W were investigated by divers and found. The outermost submerged pile was located with a detached position and is plotted on the field sheet. It is recommended that these ruins continue to be charted as shown. *Origin - T-1164B (59-60)* *Concur*

Item 47a
The eight submerged piles charted in the inner harbor of Anaheim Bay were searched for by divers and none were found. Underwater ~~except at p 39 4462" 2 118° 05' 31"~~

visibility, however, was extremely poor and sufficient evidence to absolutely disprove the existence of any of the piles could not be obtained. It is recommended that their charting be continued. *Origin - #1648 (59-60), carried forward.*

Additional sections of the former bridge charted in latitude 33°43'54"N, longitude 118°05'08"W have been removed. Two submerged concrete piles were found by divers in the channel and are apparently remains of the bridge. These piles were located, are plotted on the ^{field} sheet, and should be charted. The present limits of the bridge deck ruins were located by measurements from triangulation station BRIDGE 1956, located on one end of the bridge, and are plotted on the ^{field} sheet. These limits should be revised accordingly on the chart.

LNm 7/75

No chart presently exists of the survey area east of the Pacific Coast Highway, which includes the channel to and all of Huntington Harbor.

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

There are a number of navigational aids located throughout this survey area, primarily along the main channel in Huntington Harbor. Those aids within Huntington Harbor are maintained by the Huntington Harbor Patrol. The Coast Guard maintains the navigational buoys in the inner and outer harbor areas of Anaheim Bay.

In addition to these navigational buoys, the Navy maintains a number of mooring buoys in the outer and inner harbor areas of Anaheim Bay.

All of the above buoys were located and are plotted on the field sheet.

O. STATISTICS

<u>Vessel</u>	<u>Total Positions</u>	<u>Hydrography, n.m.</u>
FA-4	609	35.4
Total area - 1.1 sq. n.m.		
Total bottom samples - 11		

P. MISCELLANEOUS

Greenwich Mean Time was used for all survey records.

A special field sheet was prepared which covered all of Anaheim Bay and its entrance channel, including soundings from Survey H-9493 (FA-10-2-75). This preliminary sheet was furnished to the Commanding Officer, Naval Weapons Station, Seal Beach, California at his request. Copies of relevant correspondence between the ship, the Navy, and Pacific Marine Center are appended to this report.

Q. RECOMMENDATIONS

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

Huntington Harbor is a rapidly developing residential area. Construction of new canals, slips, and access waterways is in progress and some dredging is anticipated. Consequently, extensive shoreline and hydrographic changes are to be expected in the near future. Irrespective of future changes, it is recommended that Huntington Harbor, including the main approach channel, be charted, probably as an inset to the existing chart.

R. REFERENCES TO REPORTS

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

S. DATA PROCESSING PROCEDURES

Launch FA-4 used an ASI logger to acquire all on-line hydrographic data. Program AM 330, version 04/01/73, was used to convert the logger data to master format, program AM 202, version 11/10/72, was used for the station plot, and program AM 205, version 09/11/73, was used to generate the positioning and sounding plot.


Submitted by:

John C. Abright
for LTJG Andrew M. Snella, NOAA

APPROVAL SHEET

Field No. FA-5-1-75
Register No. H-9495

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)

FA-5-1-75

SIGNAL LISTING

OPR 411

✓ 014	SUNSET BEACH ABAND MIL TK 1956	Quad 3311812
014 4	33 42 32884 118 02 24692	139 0020 000000
✓ 015	HUNTINGTON BEACH MUN TANK 1956	Quad 3311812
015 4	33 42 42351 118 02 58281	139 0020 000000
✓ 016	SUNSET BEACH SUNSET LAND AND WATER CO NW WATER TANK 1953	Quad 3311812
016 4	33 43 27589 118 04 39208	139 0015 000000
✓ 017	SEAL BEACH NAVY DEPOT N TANK 1956	Quad 3311812
017 4	33 44 52127 118 05 19939	139 0050 000000
✓ 022	SEAL BEACH NAVY DEPOT RADAR TOWER 1956	Quad 3311812
022 4	33 43 50543 118 05 08143	139 0033 000000
✓ 025	SEAL BEACH UNDERSEAS CTR MAST 1974	Quad 3311812
025 4	33 43 55665 118 04 18057	139 0060 000000
✓ 026	BRIDGE 1956	Quad 3311812
026 4	33 43 52944 118 05 07591	139 0006 000000
100	POWER POLE	Photo TP-00404
✓ 100 4	33 42 41578 118 03 34986	243 0020 000000
101	JACK IN THE BOX CLOWN	Photo TP-00404
✓ 101 4	33 42 42000 118 03 45160	243 0020 000000
✓ 102	PALM TREE	Photo TP-00404
102 4	33 43 00811 118 04 01476	243 0024 000000
103	UNION 76 BALL	Photo TP-00404
✓ 103 4	33 43 14216 118 04 23148	243 0020 000000
✓ 104	POTHOLE	Photo TP-00404
104 4	33 43 16683 118 03 45829	243 0002 000000
✓ 105	CORNER BLKHD	Photo TP-00404
105 4	33 43 31711 118 04 32546	243 0002 000000
✓ 106	POWER POLE	Photo TP-00404
106 4	33 43 45473 118 04 33440	243 0020 000000
109	SEAL BEACH PIER S. E. CORNER	Photo TP-00403
109 4	33 44 07660 118 06 30222	243 0006 000000

✓ 200	ANAHEIM BAY RANGE FRONTLIGHT	Photo TP-00403
200	4 33 44 12820 118 05 28980	243 0005 000000
✓ 201	ANAHEIM BAY RANGE REARLIGHT	Photo TP-00403
201	4 33 44 17590 118 05 24780	243 0007 000000
✓ 202	ANAHEIM BAY EAST JETTY LIGHT 6	Photo TP-00403
202	4 33 43 35900 118 05 56980	243 0006 000000
✓ 203	ANAHEIM BAY WEST JETTY LIGHT 5	Photo TP-00403
203	4 33 43 39080 118 06 03340	243 0006 000000
✓ 204	ANAHEIM BAY CHANNEL LIGHT 9	Photo TP-00403
204	4 33 44 04640 118 05 39930	243 0004 000000

Comp by G.V.
✓ by A.S.S. 73

Replaces C&GS Form 567.
 TO BE CHARTED (If field party, ship or office)
 TO BE REVISED
 TO BE DELETED
 REPORTING UNIT: PH-7107 STATE: CALIFORNIA LOCALITY: SEAL BEACH DATE: 4-2-75
 NOAA SHIP: PHINABENTREE
 CHARTING NAME: ANAHEIM BAY RANGE
 JOB NUMBER: PH-7107 SURVEY NUMBER: TP-00403
 The following objects HAVE HAVE NOT been inspected from seaward to determine their value as landmarks.
 GPR PROJECT NO. N.A. 1927

CHARTING NAME	DESCRIPTION <small>(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)</small>	LATITUDE		LONGITUDE		METHOD AND DATE OF LOCATION <small>(See instructions on reverse side)</small>	OFFICE	FIELD	CHARTS AFFECTED
		D.M. Meters	''	D.P. Meters	''				
✓ 300 LIGHT	ANAHEIM BAY RANGE FRONT LIGHT	33 44	12 82	118 05	27 98	4-2-75		F-VIS-V	5142
✓ 301 LIGHT	ANAHEIM BAY RANGE REAR LIGHT	33 44	12 59	118 05	24 78	4-2-75		F-VIS-V	"
203 LIGHT	ANAHEIM BAY WEST JETTY LIGHT S	33 43	39 08	118 06	3 34	4-2-75		F-VIS-V	"
202 LIGHT	ANAHEIM BAY EAST JETTY LIGHT G	33 43	35 90	118 05	56 98	4-2-75	+78	F-VIS-V	"
204 LIGHT	ANAHEIM BAY CHANNEL LIGHT 9	33 44	04 64	118 05	39 93	4-2-75		F-VIS-V	"
NOV 2 1974 LIGHT	ANAHEIM BAY CHANNEL LIGHT 10 EXISTS	33 44	03 18	118 05	34 53	4-2-75		DELETE	"
LIGHT	ANAHEIM BAY NORTH PIER LIGHT EXISTS	33 43 9	98	118 05 2	88 9	4-2-75		DELETE	"
LIGHT	ALAMITOS	33	14 22	118 07	16	4-2-75		F-VIS-V	"
			438						"
			1126		06			5-V	"

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)

N/S
N/S
N/S

Comp by G.V.
 ✓ by A.S. Joe 23

NOAA FORM 76-40
 (8-74)

NON-FLUORESCENT AIDS FOR LANDMARKS FOR CHARTS

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

Replaces CGS Form 567.

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
 (Field Party, Ship or Office)

STATE

LOCALITY

DATE

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)

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

OPR PROJECT NO.

JOB NUMBER

SURVEY NUMBER

DATUM

POSITION

METHOD AND DATE OF LOCATION
 (See instructions on reverse side)

CHARTS
 AFFECTED

CHARTING NAME	DESCRIPTION <small>(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)</small>	LATITUDE		LONGITUDE		OFFICE	FIELD	CHARTS AFFECTED
		°	'	°	'			
022 TOWER	(SEAL BEACH NAVY DESERT RANGER TOWER 1956) ** HT. = 109' (115')	33	43	118	05		F-VIS-V 4-2-75	5142 5141
TRNH	(SEAL BEACH NAVY *REPLACED BY DEPT SOUTH WATER TRNH 1956) TYPE TRNH	33	44	118	05		DELETED 4-2-75	"
017 TRNH	(SEAL BEACH NAVY DEPT NORTH WATER TRNH 1952) ** HT. = 142' (182.)	33	44	118	05		F-VIS-V 4-2-75	"
TRNK	** Sunset Beach Sunset Land and Water Co., N.W. Water Tank (1953) ** HT. = 78' (87')	33	43	118	04		TRNG. 11-18-60 See Cl. 915 (76)	
	* NOT SUITABLE AS LAND MARK. NOT SUFFICIENTLY EARTH SURVEYED.							

VELOCITY TABLE 0002

SOUND VELOCITY CORRECTOR ABSTRACT

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

FA-5-1-75

(H-9495)

<u>Depth (feet)</u>	<u>Corrector (feet)</u>
0-4.0	+ 0.0
4.1-12.5	0.2
12.6-21.5	0.4
21.6-30.0	0.6
30.1-38.0	0.8
38.1-47.0	1.0
47.1-55.0	1.2
55.1-65.0	1.4

TRANSDUCER CORRECTION ABSTRACT

T/A (TC/PI) PAPE: VESSEL 1233 (FA-4) SURVEY FA 5-1-75 FATHOMETER S/N 1054 YR 75 PAGE OF

FROM TIME	T/A CORR.	DAY	VEL. TBL.	T/A corr. is the algebraic sum of these columns			COMMENTS
				INITIAL	SCALE-PHASE	DRAFT F. ARC S./SQUAT	
205500	+2.2 Ft.	086 087	0002	0.0	0.0	+2.2 Ft.	
164600	+2.4		0002	0.0	0.0	+2.4	
164630	+2.0	090	0002	0.0	0.0	+2.0	
162630	+2.2	091- 101	0002	0.0	0.0	+2.2	

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FIELD TIDE NOTE

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

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

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

BALBOA PIER

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

HUNTINGTON BEACH PIER

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

BELMONT PIER

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

ALAMITOS BAY

Bubbler gage (S/N 73A229) and staff were installed on 3-23-75 and ran satisfactorily for 19 days until removal on 4-11-75. The marigram reads 5.2 feet greater than the staff. This gage was installed to control hydrography in Alamos 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 Alamos 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

Tide Station Used (NOAA Form 77-12): Belmont Pier

Period: March 27-April 11, 1975

HYDROGRAPHIC SHEET: H-9495

OPR: 411

Locality: Anaheim Bay

Plane of reference (mean lower low water): 1.69 ft.

Height of Mean High Water above Plane of Reference is 4.73 ft.

Remarks: Zone direct.

James R. Hubbard
for Chief, Tides Branch

GEOGRAPHIC NAMES

H-9895

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	I		K	
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST				
ANAHEIM BAY												1
HUNTINGTON HARBOR												2
SAN PEDRO BAY												3
SUNSET BEACH												4
SEAL BEACH												5
SURFSIDE												6
												7
												8
												9
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												23
												24
												25

changed to "Harbour" (1-12-78 BGN) CSH

APPROVED

Chas. E. Harrington
STAFF GEOGRAPHER - CS1x2

24 JUNE 1977

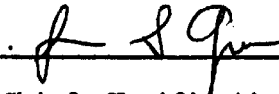
APPROVAL SHEET

FOR

SURVEY H- 9495

- 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: 5/9/77

Signed: 
Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9495

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET with Smooth PNO & excess overlay		1	BOAT SHEETS (mylar)		1	
DESCRIPTIVE REPORT		1	OVERLAYS (preliminary)		1	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1	Raw printouts and fathograms				
UMES	3					
BOXES						
T-SHEET PRINTS (List) TP-00403 and TP-00404 - not received at registration mcr 5/25/77						
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				615
POSITIONS CHECKED		615		
POSITIONS REVISED		20		
DEPTH SOUNDINGS REVISED		90		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control		13		
Verification of Positions		14		
Verification of Soundings		125		
Smooth Sheet Compilation		50		
ALL OTHER WORK		10		
TOTALS		212		
PRE-VERIFICATION BY Mr. James S. Green	BEGINNING DATE 9/5/75	ENDING DATE		
VERIFICATION BY <i>James L. Springham</i> Mr. James L. Springham	BEGINNING DATE 11/21/75	ENDING DATE 2/12/77		
REVIEW BY <i>R.W. Derkazan</i> 6 hrs.	BEGINNING DATE 10/18/77	ENDING DATE 7/12/77		

Reg. No. 9495

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

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

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

pos. 8056
8233
8242
8250.9
8250.6
8524

Reg. No. _____

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

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

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

H-9495

Items for Future Presurvey Reviews

This survey falls in an area of a maintained channel and turning basin for naval vessels and a newly developed harbor for pleasure craft. Future surveys might expect further development of the harbor area. Future surveys should include the investigation of piles and dolphins (Presurvey Review item 47a) not verified or disproved by the present survey and the investigation of the jetties discussed in paragraph 6 of the Quality Evaluation Report.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
334	1181	-	-	10 years

VERIFIER'S REPORT

H-9495

FA-5-1-75

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

I. INTRODUCTION

H-9495, 1975 is a basic survey in Anaheim Bay, including Huntington Harbor, California, conducted by the ship FAIRWEATHER in March and April 1975 in accordance with project instructions dated 22 January 1975.

A few problems exist in the display of the shoreline in the area of Huntington Harbor. Most of the problems in compiling the shoreline data is related to dredging and construction changes since the March 1971 photography utilized in manuscript TP-00404.

Projection parameters used to prepare the boatsheet have been modified to center the hydrography on the smooth sheet. Parameters used by Pacific Marine Center are appended in the smooth printout. All correctors used to plot and reduce soundings on H-9495 can be located in the smooth printout.

Tide correctors were computed using approved hourly heights from Belmont Pier tide gage.

H-9495 is a good basic survey in Anaheim Bay and Huntington Harbor, California, adequate to supersede present charted hydrography. No prior surveys exist in the area of Huntington Harbor.

H-9495, 1975 is an adequate sounding source for charting Huntington Harbour.

II. CONTROL AND SHORELINE

See ship's report, items F and G. The shoreline was transferred from unreviewed Class I maps TP-00403, scale 1:5,000 and TP-00404, scale 1:10,000, enlarged 2X.

TP-00403

Date of Photography	March 1972
Date of Field Edit	April 1975

TP-00404

Date of Photography March 1971
Date of Field Edit April 1975

The date of field edit was taken from field edit report Huntington Beach to Seal Beach, FAIRWEATHER 1975.

After receiving TP-00404, Class I manuscript, scale 1:10,000 at Pacific Marine Center, a comparison was made between the Class I manuscript and the Class III 1:5,000 manuscript utilizing the Kargl Reflecting Projector. As no changes were noted between the two manuscripts in the Huntington Harbour area, no (2X) enlargement of 1:10,000 Class I manuscripts was requested. The (2X) copy of the Class III manuscript was used for smooth sheet shoreline.

Two areas of dashed red shoreline are displayed on H-9495. These shall be referred to as Area (A) at approximate latitude $33^{\circ}43.7'N$ and longitude $118^{\circ}03.7'W$, and Area (B) at approximate latitude $33^{\circ}43.55'N$ and longitude $118^{\circ}04.65'W$.

Area A, a channel dredged subsequent to the photography used to compile TP-00404, is substantiated by hydrography and the Seal Beach Quadrangle and two place matts (Sea Gate and Huntington Harbour) attached to this* report. The channel limits were lifted from the field sheet and since its accuracy is unknown, it is shown on the smooth sheet in dashed red.

Area B, a minor change to the high water line, is substantiated by hydrography. Its limits were also taken from the field sheet. It is shown in dashed red as its accuracy is unknown.

Class I manuscript TP-00403 also disagrees with the smooth field sheet at approximate latitude $33^{\circ}43'56''N$ and longitude $118^{\circ}05'08.5''W$ on the display of an old bridge. See paragraph I of the Descriptive Report. The smooth field sheet display was used. The field data establishing the limits of the old bridge is not available at PMC; however, a solid red line is shown on the smooth sheet.

* A copy of Notice to Mariners No. 2 1976 is attached to support the ship's form 76-40, stating that Anaheim Bay Channel Light 10 no longer exists.

LNM 775

III. HYDROGRAPHY

Hydrography incorporated in this survey is adequate to delineate the bottom characteristics in the areas covered by hydrography.

See Para. 6; Q.C. Report.

* Filed with field records.

A development of the following items would have aided in producing a more detailed sheet:

Zero curve in Anaheim Bay, marsh area at latitude 33°43.95'N
longitude 118°05'W.

The boat basin ^{at sea} at approximate latitude 33°43.5'N and longitude
118°04.5'W.

A better annotated boatsheet ^{east} of longitude 118°05'15"W would have been a more desirable aid in compiling the smooth sheet. No prior survey data is available and the manuscript photography is old, considering the many new features.

As previously mentioned, there are three areas of disagreement between the Class I manuscripts TP-00403 and TP-00404. In all three cases, the verifier considered the smooth field sheet as the best source for the smooth sheet shoreline.

Crossline soundings are in good agreement considering the unnatural dredged bottom hydrography.

IV. CONDITION OF SURVEY

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

Pre-survey Review, item 47A, dated 9/24/70 was not covered completely during H-9495 survey. Detached position 9049, Day 101, deals with only one of the four items of PSR 47A. See Comparison with Chart section.

^{Para K}
See Ship's Report for items 38 and 39 coverage. Mooring buoys are located by visual sextant angles.

U.S. Army Engineer Hydrographic Survey of June 1972 reflects dredging changes to supersede most shoal soundings with dashed circle on PSR copy 9/24/70.

The aid to navigation buoys description contained in Volume, No. 3, is difficult to interpret for display on the smooth sheet.

A major change was made to the buoy symbol for detached position 9018, page 6, volume 3. The description for the nun buoy was changed from nun buoy No. 2 as contained in red below the original information in black ink to a junction buoy symbol (red nun, 2 black stripes). Volume 3, page 7, position 9021 contains information for another nun 2 plotting 400 to 600 east of position 9018.

H-9495 adequately complies with project instructions dated 22 January 1975.

Note in black
considered
correct

V. JUNCTION

An adequate junction was effected
~~This survey junctions~~ with H-9493, 1975 at the entrance to Anaheim Bay. The thirty-foot depth curve was drawn solid and supercedes a five- and one tenth-fathom sounding displayed on H-9493, 1975.

H-9493 REVISED

VI. COMPARISON WITH PRIOR SURVEYS

There are no NOS prior surveys of Anaheim Bay and Huntington Harbor. H-9495, 1975 was compared to U.S. Army Engineer Hydrographic Survey June 1972, scale 1 to 200 feet inside Anaheim Bay and 1 to 400 feet at Channel Entrance.

The comparison between H-9495 and Corps of Engineers 1972 survey was good but generally revealed a shoaling trend in Anaheim Bay entrance and main dredged channel since the 1972 conditional survey.

H-9495, 1975 is adequate to supersede the Corps of Engineers in the main channel area but it is recommended that the Corps of Engineers conditional survey be used in conjunction with H-9495 for chart update because of many inshore soundings appearing on the Corps of Engineer survey of 1972. The two surveys together give a complete coverage of Anaheim Bay

VII. COMPARISON WITH CHART

H-9495, 1975 was compared to 5148, 18th Edition, February 9, 1974. Agreement between H-9495, 1975 and Chart 5148 was good. The charting source was not known. *is several Corps of Engineers surveys (BPs) of several years.*

The following recommendations can be made after the comparison (Pre-survey Review items):

The sixteen-foot sounding at approximate latitude 33°43'51"N longitude 118°05'30"W is superseded by an 18-foot sounding.
Origin, C-E condition Survey March 66, BP 69377. Concur

Submerged pilings should be held as charted except for the submerged piling at latitude 33°43'57"N longitude 118°05'31"W. It should be extended out to detached position 9043.
Origin, T-11648 (59-60), carried forward.

PSR #47a The Dolphin at approximate latitude 33°44'02"N longitude 118°05'31"W is not charted correctly, see detached position 9049, Day 101. Topographic position from TP-00403 held by the present smooth sheet. *chart visible dolphin (NOT USED)*

Controlling depths in Entrance to Anaheim Bay as charted are not compatible with the present survey. The verifier notes the following:

	<u>Charted Controlling Depth</u>	<u>Recommended Controlling Depth</u>
Left Quarter	36 feet	27 feet
Middle Half	36 feet	32 feet
Right Quarter	37½ feet	23 feet

H-9495, 1975 confirms the controlling depth of 38 feet in Anaheim Bay.

(See ship's report, item L, Comparison with Chart)

H-9495, 1975 is adequate to supersede the charted information. ^{in the common area.} The verifier recommends that the Corps of Engineers conditional survey of June 1972 be used in conjunction with H-9495 for a more complete coverage of Anaheim Bay.

Floating Aids to Navigation, ^{east} ~~west~~ of longitude 118°05'09"W are privately maintained. The mooring buoys located in Anaheim Bay are maintained by the U. S. Navy. See ship's report, Item N.

VII. ADDITIONAL FIELD WORK

This is a good basic survey in the Anaheim Bay area covered within the present chart inset on Chart 5148, 18th Edition, February 9, 1974.

It is suggested by the verifier if Huntington Harbor is included on Chart 5148 as an inset, current aerial photography be flown before the chart is produced.

Respectfully submitted,

James L. Stringham
James L. Stringham
Cartographic Technician
February 12, 1977

Examined and approved,

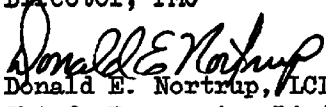
J. S. Green
James S. Green
Chief, Verification Branch



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

Date: 11 May 1977

To: Eugene A. Taylor, RADM
Director, PMC

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

Subject: PMC Hydrographic Survey Inspection Team Report, H-9495

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

Neither Anaheim Bay nor Huntington Harbor have been previously surveyed by NOS although Anaheim Bay is charted as an inset on Chart 5148. The area is characterized by extensive shoreline development. This survey is an adequate delineation of the bottom configuration at the time of the survey. However, due to the pervasiveness of development in the area, continuing changes in shoreline and bottom configuration are likely, particularly in Huntington Harbor. Shoreline manuscripts of the area were compiled from 1971 photographs and several changes were noted at the time of the survey (see Verifier's Report, Section II). Future charting efforts should include consideration of Corps of Engineers condition surveys of the area and all available survey information from local authorities.

The most significant shoreline change is the channel extension in the vicinity of 33°43.7'N, 118°03.7'W. The source of this shoreline delineation is unknown and its accuracy indeterminate.

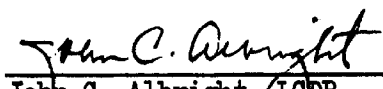
Portions of the hydrography in Huntington Harbor were controlled by dead reckoning. Under the circumstances, this is considered acceptable but the method is the least desirable of all positioning methods. Confidence in the hydrography would have been enhanced had the hydrographer annotated periodic estimated positions.

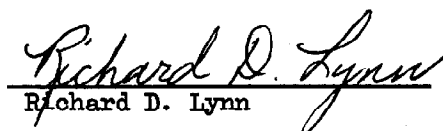


The inspection team finds survey H-9495 to be a good basic, harbor survey. No prior surveys exist. If used in conjunction with the most recent condition survey, H-9495 is adequate for charting. Administrative approval is recommended.


Donald E. Nortrup, LCDR

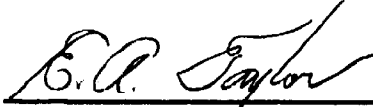

Dean R. Seidel, LCDR


John C. Albright, LCDR


Richard D. Lynn

ADMINISTRATIVE APPROVAL
H-9495

The smooth sheet and reports of this survey have been examined and the survey, if used in conjunction with the most recent condition survey of the area, is adequate for charting.



Eugene A. Taylor, RADM
Director
Pacific Marine Center

12 May '77
Date



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

C352

July 12, 1977

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

THUR: Chief, Quality Control Branch


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


SUBJECT: Quality Control Report for H-9495 (1975), Anaheim Bay and
Huntington Harbor, San Pedro Bay, California

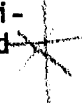
Survey H-9495 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the 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. Recorded detached positions would have been desirable delineating the mean high water line as shown in red on the present smooth sheet. See Provisional Hydrographic Manual section 4.5.8.
2. The mooring buoys and a sounding on wreck (cartographic code 101) located by the present survey have not been symbolized on the smooth sheet correctly. See Provisional Hydrographic Manual appendix B.
3. Two detached positions in the vicinity of latitude $33^{\circ}43.97'$, longitude $118^{\circ}05.62'$ representing shoals were added from the raw data printout and fathogram. These positions should have been recorded in the sounding volumes accordingly.
4. An adequate junction was effected with H-9493 (1975) during the quality evaluation.
5. Prior reviewed topographic manuscript T-11648 (1959-60) had several items such as piles and dolphins not verified or disproved by the present survey and three landmark descriptions not shown on the present survey. These items have been carried forward to supplement the present survey.

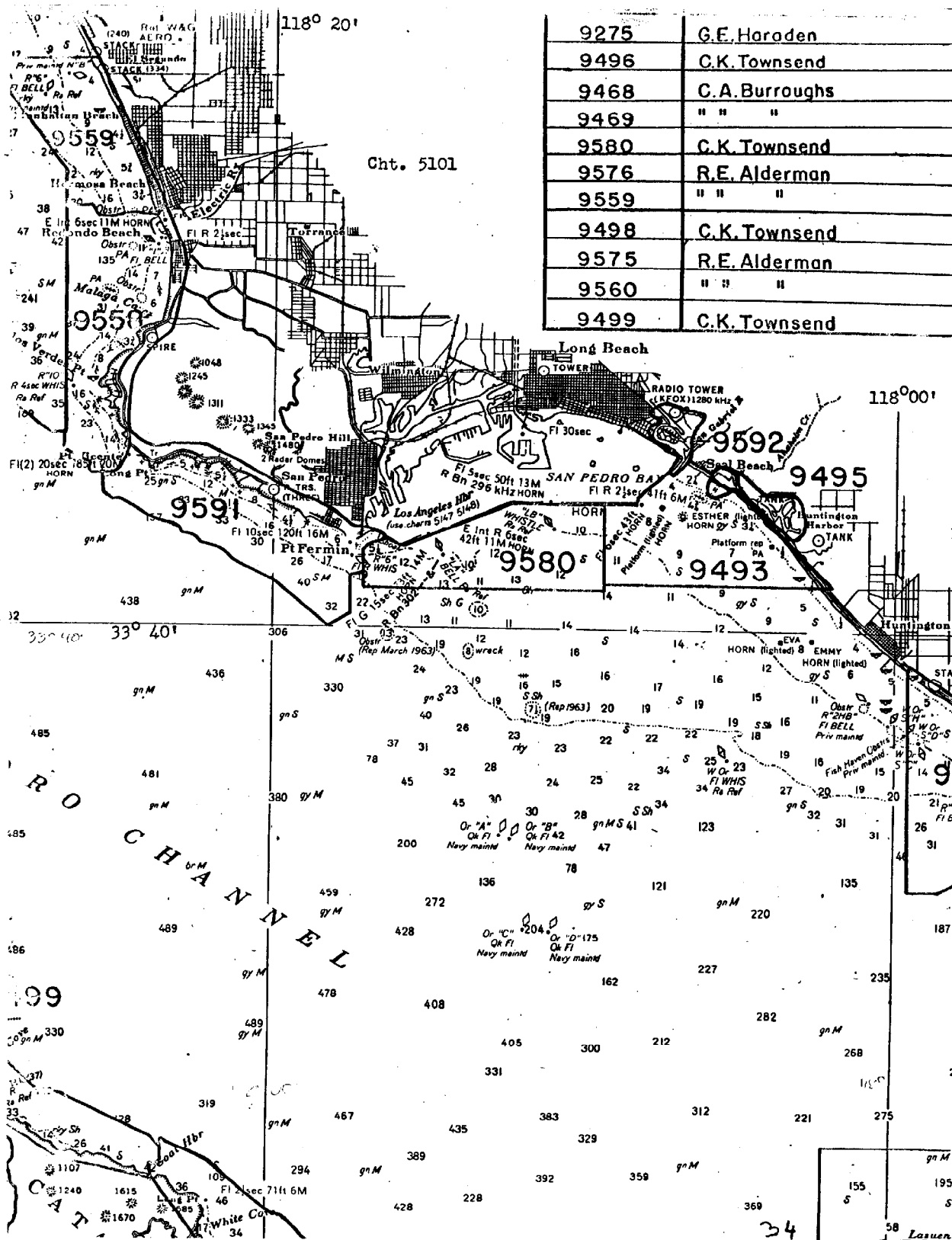


6. Development would have been desirable to ascertain the existence of any remains of the two stone jetties and a rock awash in the immediate entrance to the turning basin in latitude $33^{\circ}44.07'$, longitude $118^{\circ}05.07'$ and latitude $33^{\circ}44.03'$, longitude $118^{\circ}05.06'$. Present survey soundings do not support their existence but it is recommended these features be charted as submerged until proper authority warrants removal. 

7. The low water area charted in latitude $33^{\circ}44.92'$, longitude $118^{\circ}05.3'$ is disproved by present depths and should be deleted from the chart. 

8. A subm dol charted in latitude $33^{\circ}44.24'$, longitude $118^{\circ}05.65'$ originating from a U.S. Navy survey of 1965 (Bp-68262) has not been disproved by the present survey and should be retained as charted. 

cc:
C351



9275	G.E. Haroden
9496	C.K. Townsend
9468	C.A. Burroughs
9469	" " "
9580	C.K. Townsend
9576	R.E. Alderman
9559	" " "
9498	C.K. Townsend
9575	R.E. Alderman
9560	" " "
9499	C.K. Townsend

Chrt. 5101

34
58
Losuen

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9495

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

- 1. Letter all information.
- 2. In "Remarks" column cross out words that do not apply.
- 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
18749	12-7-78	Maryann B. Timm	Full Part Before After Verification Review Inspection Signed Via
(5148)	2-9-79	B.C. Larson	Drawing No. 40 Revised numerous depth curves & ^{recapitulated} ndgs. Extended (2) pier in ruins.
18749	1-7-81	R. A. Lillis	Full Part Before After Verification Review Inspection Signed Via
Inset			Drawing No. 50 "I"
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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