

9245

ORIGINAL

Diag. Cht. No. 5101-4.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-5-2-71 Office No. H-9245

LOCALITY

State California

General locality Gulf of Santa Catalina  
~~Southern California Coast~~

Locality Oceanside Harbor

19 71

CHIEF OF PARTY

Capt. Roger F. Lanier

LIBRARY & ARCHIVES

DATE

3-8-74

*Chart*  
*5101*

9245

11-60 12-60 13-60 14-60 15-60 16-60 17-60 18-60 19-60 20-60 21-60 22-60 23-60 24-60 25-60 26-60 27-60 28-60 29-60 30-60 31-60 32-60 33-60 34-60 35-60 36-60 37-60 38-60 39-60 40-60 41-60 42-60 43-60 44-60 45-60 46-60 47-60 48-60 49-60 50-60 51-60 52-60 53-60 54-60 55-60 56-60 57-60 58-60 59-60 60-60 61-60 62-60 63-60 64-60 65-60 66-60 67-60 68-60 69-60 70-60 71-60 72-60 73-60 74-60 75-60 76-60 77-60 78-60 79-60 80-60 81-60 82-60 83-60 84-60 85-60 86-60 87-60 88-60 89-60 90-60 91-60 92-60 93-60 94-60 95-60 96-60 97-60 98-60 99-60 100-60

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

REGISTER NO.  
  
H-9245

HYDROGRAPHIC TITLE SHEET

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.  
  
RA-5-2-71

State CALIFORNIA

General locality Gulf of Santa Catalina  
Southern California Coast

Locality Oceanside Harbor

Scale 1:5,000 Date of survey 3, 4 and 12 November 1971

Instructions dated 20 August 1971 Project No. OPR-411-RA-71

Vessel NOAA Ship RAINIER Launch RA-3

Chief of party Capt. R. F. Lanier

Surveyed by Lt. (jg) M.L. Adams, Ens. J.R. Faris, Lt. (jg) W.F. Turnacliff

Soundings taken by echo sounder, hand lead, ~~and~~ DE-723, No. 253

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified Matthew Sanders Automated plot by PMC - Gerber Digital Plotter

Soundings ~~checked~~ verified by Matthew Sanders

Soundings in ~~meters~~ feet at ~~MLLW~~ MLLW

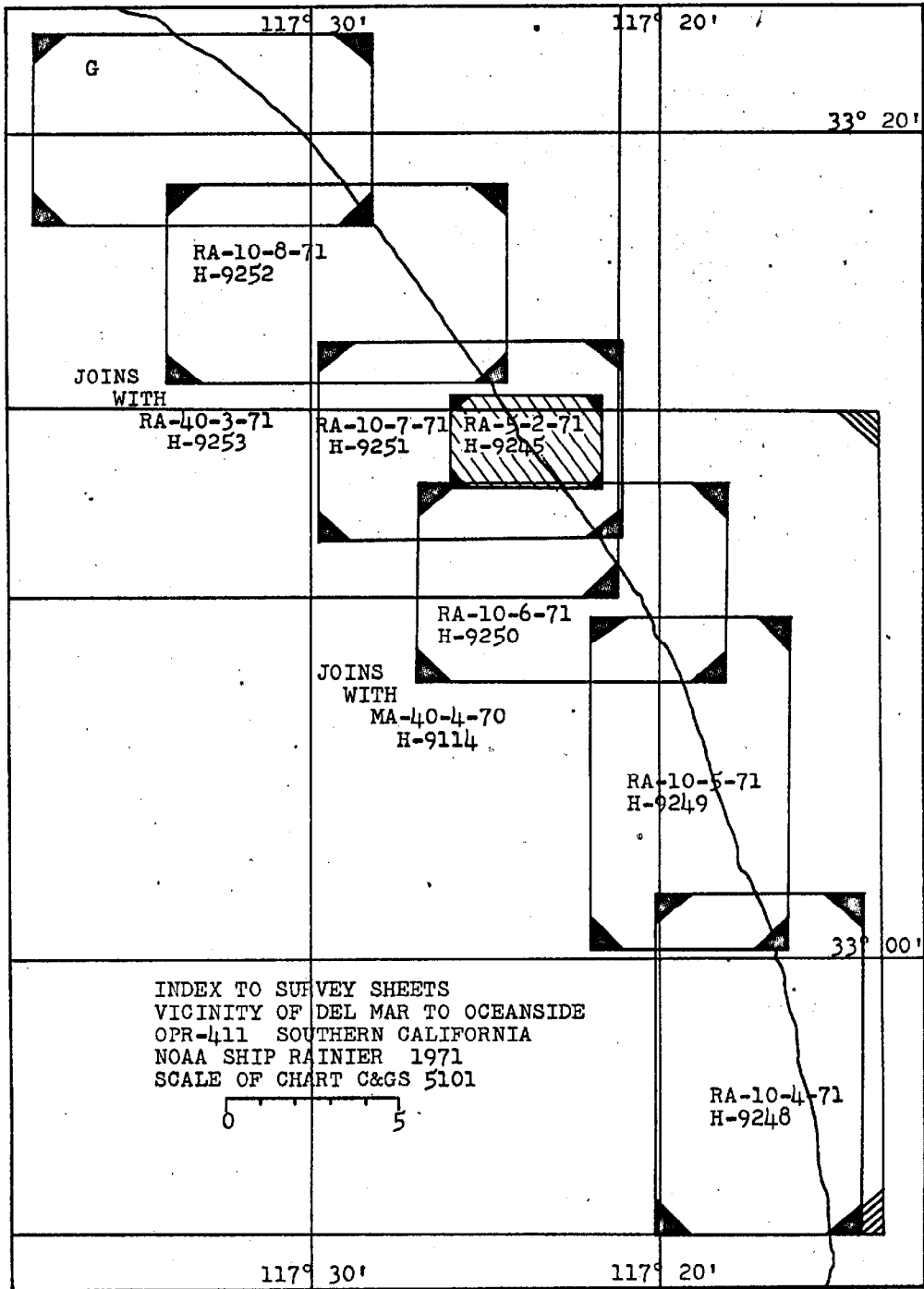
REMARKS: Survey H-9245 (RA-5-2-71) was plotted on the PDP8/ Hydroplot/Hydrolog System using AM 205 and visual data.

Chart  
5101 Sound

Applied to std 6/13/74  
CAF

Exam for critical Corr - to Aids  
ADP

Area 5



117° 30'

117° 20'

G

33° 20'

RA-10-8-71  
H-9252

JOINS  
WITH

RA-10-3-71  
H-9253

RA-10-7-71  
H-9251

RA-10-2-71  
H-9245

RA-10-6-71  
H-9250

JOINS  
WITH  
MA-40-4-70  
H-9114

RA-10-5-71  
H-9249

33° 00'

INDEX TO SURVEY SHEETS  
VICINITY OF DEL MAR TO OCEANSIDE  
OPR-411 SOUTHERN CALIFORNIA  
NOAA SHIP RAINIER 1971  
SCALE OF CHART C&GS 5101



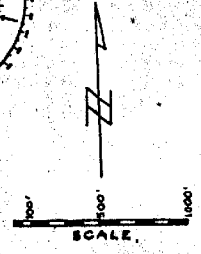
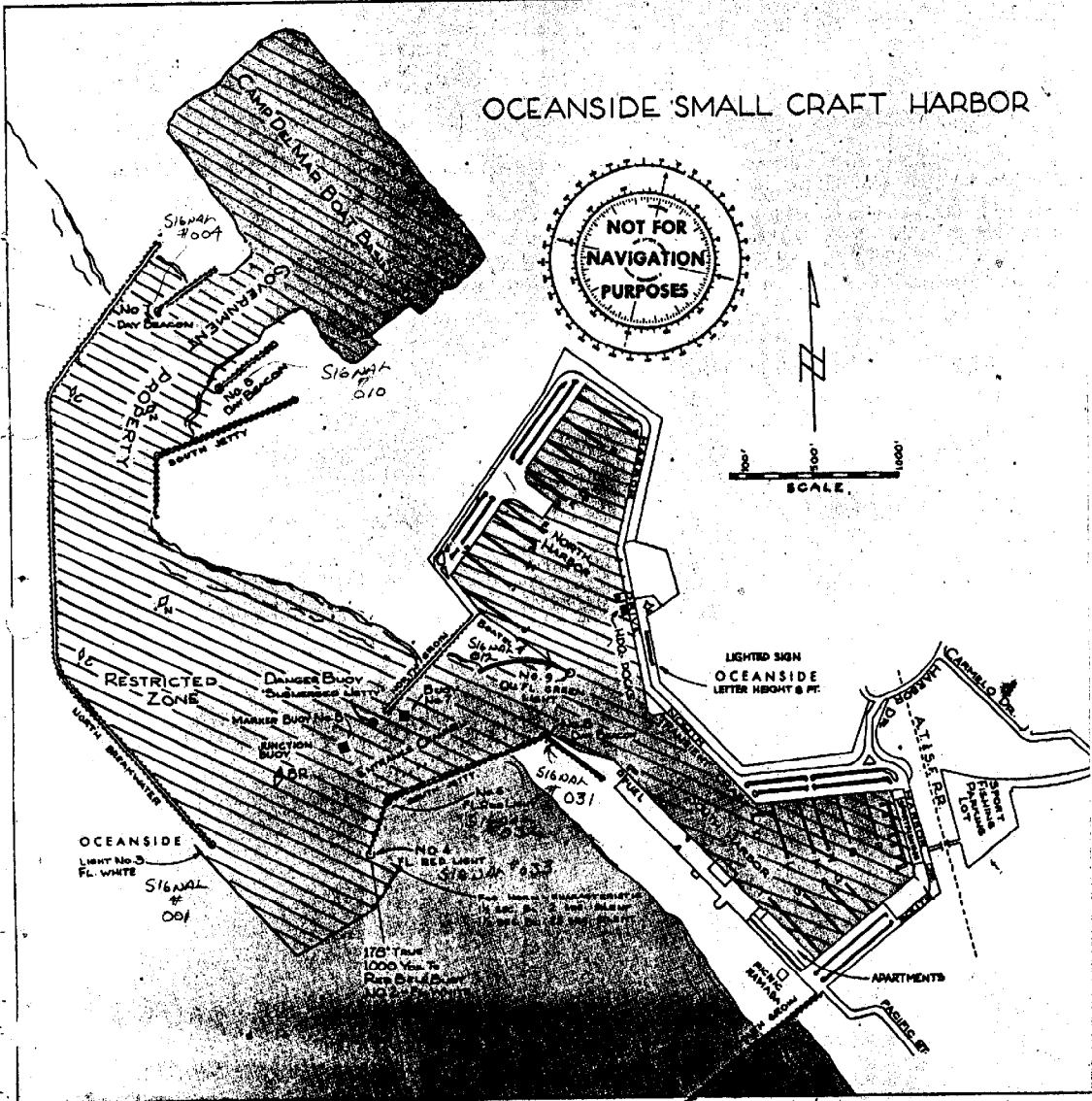
RA-10-4-71  
H-9248

117° 30'

117° 20'

AREA OF HYDROGRAPHY

OCEANSIDE SMALL CRAFT HARBOR



NOT AOBG 10  
11/6/17/10

DESCRIPTIVE REPORT  
To Accompany Hydrographic Survey  
H-9245 (Field No. RA-5-2-71)

Scale 1:5,000

1971

NOAA Ship RAINIER

Roger F. Lanier, Commanding

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#### A. PROJECT

This survey was conducted in accordance with PROJECT INSTRUCTIONS: OPR-411-RA-71 dated 20 August 1971, giving special attention to Section 17 concerning the entrance to Oceanside Harbor.

Subsequent changes to these instructions do not affect this survey.

#### B. AREA SURVEYED

Survey H-9245, covers the immediate area of Oceanside Harbor, Camp Pendleton Boat Basin and the connecting channel on the Southern California Coast. In addition, the survey extends Southward from the harbor entrance to Latitude  $33^{\circ} 12' 15''$ N where it junctioned with contemporary survey H-9251 (1:10,000, RA-10-7-71).

The survey was conducted on 3, 4 and 12 November 1971.

#### C. SOUNDING VESSEL

The sounding vessel for the entire survey was NOAA Ship RAINIER's Bertram Launch RA-3. In addition, hand leadline soundings were taken in conjunction with detached positions by a survey party in a 16-foot skiff. All depths from detached positions were applied to the boat-sheet by hand in black ink.

#### DOUNDSOUNDING EQUIPMENT

More than 95% of the soundings were recorded on Raytheon DE-723 fathometer number 253 which performed well throughout the survey. The remaining soundings were recorded from leadline observations at the ends of slips or other detached positions.

Fine arc and A-F checks were made at frequent intervals during the operation of the fathometer. The Transducer Correction (TRA) was obtained by summing the initial, draft and phase corrections. Initial corrections were scanned from the fathograms and an abstract of correctors was prepared. A draft correction of 2.0 feet was applied for the Bertram Launch.

Phase corrections were zero as no scale changes were necessary during the survey. All correctors were merged into the Transducer Correction/Table Indicator (TC/TI) tape for automated processing (see Appendix).

Velocity Corrections were computed from bar checks obtained in the working area. The resulting velocity table was entered on tape and referenced in the TC/TI tape (see Appendix).

All leadline soundings were read directly to the nearest 0.1 fathoms in the field, and later converted to feet by the PDP-8/e System for plotting.

For further sounding correction information, see Special Report, Corrections to Echo Soundings, OPR-411, NOAA Ship RAINIER, 1971.

#### E. SMOOTH SHEET

The smooth sheet will be mechanically produced at PMC on a flatbed plotter from automated processing tapes provided by this vessel.

The boat sheet was mechanically produced aboard the RAINIER by the PDP-8/e Hydroplot/Hydrolog System and is a Modified Transverse Mercator Projection with the central meridian located at  $118^{\circ} 25' 00''$ W and the control latitude at 3,500,000 meters N. The projection was checked by comparison with manuscript T-11870(2) and showed excellent agreement. Positions were applied to the launch sheet at the end of each working day by the System's Complot Model DP-3-5-plotter and later smoothed where necessary before plotting on the final copy of the boat sheet. Two separate overlays were produced: One clarifying the location of all detached positions and the second showing the soundings associated with those positions. Selected detached position soundings were transferred to the final boat sheet copy by hand, in black ink.

#### F. CONTROL

This survey was controlled by three point sextant fixes on visual objects. Ground survey methods were used to augment existing geodetic control in the area, providing the thirty-three hydrographic signals used on the survey (See Separates Following Text). No signal established for use on this survey had an error of position greater than 0.6 ft. or 0.03 mm at the scale of the boat sheet.

For additional information, see Special Report, Oceanside Visual Control, to accompany H-9245 (RA-5-2-71), OPR-411, NOAA Ship RAINIER, 1971.

#### G. SHORELINE

The shoreline shown on this survey was obtained from manuscript T-11870 (2). Shoreline details were transferred directly from a 1:5,000 scale enlargement of the harbor area as shown on the 1:10,000 scale manuscript. Several discrepancies in the Oceanside Harbor area of the above manuscript were noted and are enumerated in a memo to the Processing Division, PMC, dated 4 January 1972 (memo appended). Visual three point fixes were used to establish the locations of facilities in the harbor area and the resulting positions are shown on the position overlay. All finger piers were re-compiled to reflect the correct number of slips available. Changes to the T-sheet shoreline compilation are shown in red on the boat sheet. Information provided by local authorities indicated that the jetty in Latitude  $33^{\circ} 12' 09''$ N, Longitude  $117^{\circ} 23' 29''$ W has been extended 500 feet seaward, but the exact limit of this extension has not been verified. One T-sheet discrepancy was noted in the Camp Pendleton Boat Basin in that all dolphins shown on the T-sheet have been removed and no trace of them could be found on the fathogram records. Three new dolphins were located near the northwest edge of the basin, position numbers 598 to 600.

In many cases, the low water line in the harbor could not be verified due to steep incline of the riprap in the area.



#### H.  CROSSLINES

More than 13% of the total miles run on this survey are crosslines. Comparisons of soundings at crossings are excellent and no adjustments are necessary. The largest discrepancy at a crossing is 2 feet and most crossings agree within a foot.

#### I.  JUNCTIONS

At the junction with contemporary survey H-9251 (1:10,000), RA-10-7-71), soundings agree within 0.3 fm. While this discrepancy appears significant on the 1:5,000 scale survey sheet where soundings are plotted in feet, it is believed to be due to the application of predicted tides and will be resolved by the application of actual tides. No adjustments are necessary at the junction.

#### J.  COMPARISON WITH PRIOR SURVEYS

Prior surveys were performed before extensive dredging and construction in the survey area. Therefore, comparisons with prior surveys would not be valid.

#### K.  COMPARISON WITH CHART

Naval Chart HO-5179, 1:5,000, was used for comparison with survey H-9245. The comparison reveals significant discrepancies between the chart projection and this survey projection amounting to more than a 2 mm error in 1.5 miles at the 1:5,000 scale. In addition, large discrepancies are evident in the compilation of shoreline features. The position indicated for Oceanside Harbor Entrance Light "4" at the end of the new jetty extension is approximately 2 cm SSW of the position established by ground control techniques during this survey. The position established during this survey has been checked and can be no more than 0.03 mm in error at the scale of the survey.

The inset covering the survey area on C&GS Chart 5101 is of too small a scale and lacks enough detail to make a meaningful comparison.

L. ADEQUACY OF SURVEY

The survey should be considered complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

Several discrepancies exist between the aids to navigation as charted (updated NM 25, 26 June 1971) and the modifications enumerated by the local Harbor Patrol (See Appendix). They are as follows:

1. Oceanside Approach Lighted Buoy 2 is a Bell Buoy and not a Whistle Buoy (in error on C&GS 5101 and in CG-162, Light List, Vol. III, Pacific Coast 1971).
2. South Jetty Light 4 should have a charted visibility of 10 mi. on the 1:20,000 scale inset of C&GS 5101 (Reference, Corrections to C.G. Light List, Vol. III, Pacific Coast, 1971).
3. South Jetty Light 4 (Fl. R5 Secs 26 ft 10 M "4") should replace Oceanside Breakwater Light 3 (Fl 4 Sec 50 ft 8 M "3") on C&GS 5101, scale 1:234,000 due to its greater charted visibility.
4. The junction buoy near the harbor entrance is a black over red horizontally banded can buoy (In error on inset of C&GS 5101).
5. Proposed buoy renumbering in the Camp Pendleton Channel has not occurred as indicated in Section 1, Notice to Mariners 16(1470)71. Changes have been implemented as follows:

- 2(d) Buoy "3" No change
- 2(e) Buoy "5" Black can established 730 yards 340° from Oceanside Breakwater Light "1".
- 2(f) Buoy "4" Renumbered "2"
- 2(g) Buoy "4" Red nun established 680 yards 350° from ~~Oceanside Breakwater Light "1"~~.

CAMP PENDLETON OUTER BAY  
WATER LIGHT 1, 1961

Is 5411 a Whistle Buoy Per Mr. Bill Brewster C.G. Hwy Wash, D.C. District 11 7h 6/10/74

2(h) Buoy "7" Discontinued

2(i) Buoy "8" Renumbered "6"

In addition, local authorities indicated that "note D" on C&GS 5101 concerning the uncertainty of buoy positions is still applicable and the survey verified that several buoys in the Camp Pendleton Channel were out of position when the survey was conducted. It is recommended that buoy positions shown on the NM 25 June 26, 1971 update to C&GS 5101, as modified by the indicated corrections (No. 5 above), be retained for charting and that "Note D" be continued as a warning of their uncertain positions.

#### N. STATISTICS

<u>VESSEL</u>	<u>MILES HYDRO</u>	<u>NO. POSITIONS</u>	<u>SQ. MILES</u>
RA-3	14.7	376	0.34
16' Skiff	----	136	----
Total	14.7	512	0.34

Six bottom samples were obtained (See Appendix for log sheet).

#### O. MISCELLANEOUS - DATA PROCESSING

Raw data was recorded in the field in three separate sounding volumes. The data was later hand logged and converted to master tape format using program AM 330, on the PDP8/e Hydroplot/Hydrolog System. After the initial plot, data tapes were edited to remove rejected data and corrector tapes were prepared using the standard PDP8/e corrector tape format to correct soundings, include peaks and deeps, and correct errors in recorded angles or signal numbers.

Separate master tapes and corresponding corrector tapes were prepared for each day number. Detached positions have been separated from the basic hydrographic data and are covered by a separate set of master and corrector tapes.

Standard Formats as specified in the Instruction Manual, Automated Hydrographic Surveys, were used for the TC/TI and Velocity Correction tapes. Note: TRA corrector values and velocity table numbers shown on the Hydroplot/Hydrolog tapes are to be ignored for processing at PMC. The correct data is listed on the TC/TI tape.

Hourly heights and time and height differences will be furnished to the Pacific Marine Center's Electronic Data Branch by the Tides Branch in Rockville. In accordance with the PMC OPORDER, the tide reducer tape will be made by EDAT.

Soundings displayed on the boat sheet have been reduced for predicted tides and launch draft only.

#### P. RECOMMENDATIONS

1. It is recommended that the problems with H.O. Chart 5179, which were discussed in Section K, be brought to the attention of the Navy Oceanographic Office.
2. It is recommended that the National Ocean Survey publish a chart of the Oceanside Harbor/Camp Del Mar Boat Basin at a considerably larger scale than the inset presently shown on C&GS 5101. A scale of 1:7,500 is suggested.

#### Q. REFERENCES TO REPORTS

1. Corrections to Echo Soundings, OPR-411, NOAA Ship RAINIER, 1971.
2. Field Edit Report, OPR-411, NOAA Ship RAINIER, 1971.
3. Oceanside Visual Control, to Accompany H-9245 (RA-5-2-71), OPR-411, NOAA Ship RAINIER, 1971.
4. Tide Report, OPR-411, NOAA Ship RAINIER, 1971.

Respectfully submitted,

*J. Richard Faris*

J. Richard Faris  
Ens, NOAA

APPROVAL SHEET

H-9245 (RA-5-2-71)

OPR-411-RA-71

Oceanside Harbor, California

In producing this sheet, hydrographic procedures were observed and the data was examined daily during the execution of the survey.

The boat-sheet and the accompanying records have been examined by me and are considered complete and adequate and are approved.

Roger F. Lanier  
CAPT, NOAA

The rough draft and the accompanying data of this report were examined by CAPT Roger F. Lanier prior to his transfer. CAPT Lanier was unavailable for signature at this date. The final copy of this report and the accompanying records are approved for forwarding.

*G. E. Haraden*

G. E. Haraden  
CAPT, NOAA  
3/18/72  
date

TIDE NOTE

H-9245

RA-5-2-71

The primary tide station at San Diego, California (Latitude  $32^{\circ} 43' N.$ , Longitude  $117^{\circ} 10' W.$ ), will be used to control this survey. Hourly heights and time and height differences are being furnished by the National Ocean Survey Tides Branch, Rockville, Md. This gage operated on time meridian  $120^{\circ} W.$  For further information on tides refer to: Tide Report, OPR-411, NOAA Ship RAINIER, 1971.

Predicted tides for the Point Loma subordinate station (No. 425, Latitude  $32^{\circ} 40' N.$ ,  $117^{\circ} 14' W.$ ) were used to reduce boat sheet soundings and were obtained from the 1971 Tide Tables for the North American Coast. The predicted tide correctors were conveniently obtained through the use of Digital Equipment Corporation PDP8/e computer and programs AM 500 and AM 504.

GEOGRAPHIC NAMES

Survey No. H-9245

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
<del>DEL</del> DEL MAR BOAT BASIN (CAMP PENDLETON)											1
OCEANSIDE HARBOR											2
GULF OF SANTA CATALINA											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Approved  
 Chas E. Harrington  
 Staff Geographer - C51x2  
 30 Sept. 1975



CORRECTIONS TO ECHO SOUNDINGS

- a. TC/TI Tape
  - b. Velocity Table
-

Sheet RA-5-2-71

Fathometer # 253  
(FEET)

Launch RA-3

Time	Phase	Initial	Draft	Total	IND. TAB.	JD			
085000'	0'	0'	2.0'	2.0'	0053'	307'			
084815'	0'	0'	2.0'	2.0'	0053'	308'			
SHEET RA-5-2-71 LEADLINE SKIFF									
085000'	0'	0'	0'	0'	0000'	307'			
084300'	0'	0'	0'	0'	0000'	308'			
10000'	0'	0'	0'	0'	0000'	316'			

212 000 1971  
OPR-411  
TC/TI TAPE  
RA-5-2-71

	TIME	TRA	VEL. 770. 110.	DAY		
RA-3	085000	0 0020	0053	307	000000	000000
	084815	0 0020	0053	308	000000	000000

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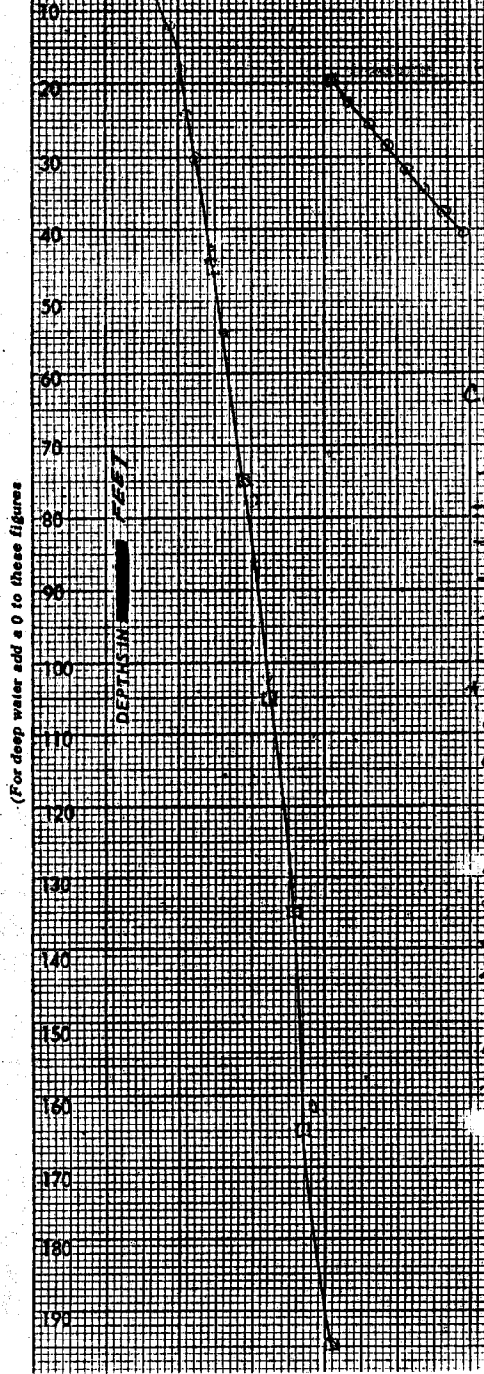
RAINIER DATA IDENTIFICATION		
OPR. <u>411 SKIFF</u>		
SHEET - RA. <u>5-2-71</u>		
TYPE OF DATA <u>TC/TI</u>		
FLEXOWRITER..... TELETYPE <input checked="" type="checkbox"/>		
DAY	FROM POS.	TO POS.
REMARKS: <u>FOR D.P.'S</u>		

L  
001 085000 0 0000 0000 317 000000 000000  
002 064300 0 0000 0000 308 000000 000000  
003 140000 0 0000 0000 316 000000 000000  
\*  
P  
\*

NOTE: YOU ALREADY HAVE OTHER TC/TI TAPE

Feet  
 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET



(For deep water add a 0 to these figures)

NOV 1971	U.S. DEPARTMENT OF COMMERCE
11798	NAVY AND GEODETIC SURVEY
VELOCITY CORRECTIONS	
Ship RA-3	DE-723 #253
R. F. LOWIE	Comdr.
These corrections are to be used	
between 3 Nov 1971 and 4 Nov 1971	
in the locality Southern California	
Coast - Oceanside Harbor	
for hydrographic surveys Nos. RA-5-2-71	

TABLE #55

Corrections to Depth

0.0 ft	0.0 ft
0.2	1.5
0.4	3.4
0.6	7.9
0.8	11.4
1.0	13.0
1.2	18.4
1.4	25.4
1.6	29.9
1.8	38.9
2.0	55.9
2.2	74.9
2.4	92.9
2.6	113.9
2.8	172.0
3.0	212.0
3.2	275.0
3.4	338.0
3.6	382.0

From Eng. Check and Table #20

TABLE VALUES

212 000 1971  
OPR-411  
VELOCITY CORRECTOR TAPE  
SOUTHERN CALIFORNIA COAST

DEPTH	VEL CORR.	VEL. TABLE NO.				
000015	0	0000	0006	000	000000	000000
000050	0	0001				
000087	0	0002				
000130	0	0003				
000210	0	0004				
000324	0	0006				
000439	0	0008				
000649	0	0010				
000954	0	0015				
001275	0	0020				
001625	0	0025				
000030	0	0000	0020	000	000000	000000
000075	0	0001				
000110	0	0002				
000220	0	0004				
000325	0	0006				
000440	0	0008				
000560	0	0010				
000675	0	0012				
000800	0	0014				
000925	0	0016				
001010	0	0018				
001280	0	0020				
001500	0	0025				
002180	0	0030				
002920	0	0040				
003730	0	0050				
004680	0	0060				
005590	0	0070				
000039	0	1001	0043	000	000000	000000
000079	0	0000				
000115	0	0001				
000179	0	0002				
000278	0	0004				
000389	0	0006				
000511	0	0008				
000717	0	0010				
001034	0	0015				
001374	0	0020				
000015	0	0000	0015	000	000000	000000

001374 0 0030  
000015 0 0000 0015 000 000000 000000  
000056 0 0001  
000094 0 0002  
000144 0 0003  
000244 0 0004  
000324 0 0006  
000439 0 0008  
000624 0 0010  
000955 0 0015  
000004 0 0000 0053 000 000000 000000  
000015 0 1002  
000034 0 1004  
000099 0 1006  
000114 0 1004  
15.0' 000130 0 1002  
22.0' 000184 0 0000  
28.0' 000254 0 0002  
000299 0 0004  
000389 0 0005  
000559 0 0010  
000749 0 0015  
000929 0 0020  
001139 0 0025  
001720 0 0030  
002150 0 0040  
002750 0 0050  
000010 0 0000 0016 000 000000 000000  
000031 0 1002  
000081 0 1004  
000134 0 1002  
000200 0 0000  
000264 0 0002  
000309 0 0004  
000407 0 0005  
000559 0 0010  
000749 0 0015  
000929 0 0020  
001139 0 0025  
001719 0 0030  
002149 0 0040  
002749 0 0050  
003379 0 0060  
003849 0 0070

212 000 1971  
OPR-411  
VELOCITY CORRECTION TAPE  
SAN CLEMENTE ISLAND

000015 0 0000 0023 000 000000 000000  
000044 0 1001  
000076 0 0000  
000110 0 0001  
000173 0 0002  
000275 0 0004  
000440 0 0006  
000729 0 0010  
001084 0 0015  
001600 0 0020  
002350 0 0030  
003200 0 0040  
000017 0 1002 0003 000 000000 000000  
000047 0 1001  
000079 0 0000  
000117 0 0001  
000179 0 0002  
000279 0 0004  
000389 0 0006  
000504 0 0008  
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001600 0 0020  
002350 0 0030  
003170 0 0040  
000009 0 0000 0014 000 000000 000000  
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000059 0 0000  
000102 0 0001  
000159 0 0002  
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003100 0 0040  
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000099 0 0001  
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000380 0 0006  
000499 0 0008  
000724 0 0010  
001077 0 0015  
001650 0 0020  
002400 0 0030  
003250 0 0040  
000010 0 0000 0005 000 000000 000000  
000054 0 0002  
000099 0 0004  
000160 0 0006  
000205 0 0008  
000250 0 0010  
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000709 0 0025  
000959 0 0030  
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002069 0 0050  
002699 0 0060  
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000280 0 1002  
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000512 0 0005  
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000899 0 0015

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000417 0 0008  
000631 0 0010  
000971 0 0015  
001529 0 0020  
002420 0 0030  
003250 0 0040  
004090 0 0050  
000030 0 0000 0010 000 000000 000000  
000060 0 0001  
000100 0 0002  
000205 0 0004  
000310 0 0006  
000420 0 0008  
000540 0 0010  
000665 0 0012  
000800 0 0014  
000940 0 0016  
001090 0 0018  
001345 0 0020  
001800 0 0025  
002300 0 0030  
003100 0 0040  
004000 0 0050  
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000439 0 0008  
000649 0 0010  
000954 0 0015  
001275 0 0020  
001625 0 0025

NUMERICAL LISTING  
OCEANSIDE VISUAL CONTROL

NO.	LATITUDE	LONGITUDE	REFERENCE
001	33 12 2240	117 24 0708	CAMP DEL MAR OUTER BREAKWATER LIGHT 1, 1961
002	33 12 3934	117 24 1720	GROUND SURVEY *
003	33 12 5295	117 24 1344	GROUND SURVEY *
004	33 12 5424	117 24 0863	CAMP DEL MAR NORTH GROIN LIGHT 9, 1961
005	33 13 0519	117 24 0858	GROUND SURVEY *
006	33 13 1040	117 23 5964	GROUND SURVEY *
007	33 13 0234	117 23 5063	GROUND SURVEY *
008	33 12 5722	117 23 4332	GROUND SURVEY *
009	33 12 4977	117 23 5559	GROUND SURVEY *
010	33 12 4942	117 24 0475	CAMP DEL MAR SOUTH GROIN LIGHT 10, 1961
011	33 12 4210	117 24 0993	CAMP DEL MAR INNER BREAKWATER LIGHT 6, 1961
012	33 12 3136	117 23 4175	OCEANSIDE HARBOR TURNING BASIN LIGHT, 1962
013	33 12 3921	117 23 4781	GROUND SURVEY *
014	33 12 4155	117 23 4664	GROUND SURVEY *
015	33 12 4442	117 23 4393	GROUND SURVEY *
016	33 12 4773	117 23 4081	GROUND SURVEY *
017	33 12 4555	117 23 3476	GROUND SURVEY *
018	33 12 4206	117 23 3572	GROUND SURVEY *
019	33 12 3872	117 23 3678	GROUND SURVEY *
020	33 12 3489	117 23 3652	GROUND SURVEY *
021	33 12 3244	117 23 3613	GROUND SURVEY *
022	33 12 3112	117 23 3590	GROUND SURVEY *
023	33 12 2708	117 23 3364	GROUND SURVEY *
024	33 12 2355	117 23 2847	GROUND SURVEY *
025	33 12 2372	117 23 2422	GROUND SURVEY *
026	33 12 2388	117 23 2006	GROUND SURVEY *
027	33 12 1827	117 23 1832	GROUND SURVEY *
028	33 12 1704	117 23 2016	GROUND SURVEY *
029	33 12 1954	117 23 3206	GROUND SURVEY *
030	33 12 2357	117 23 3643	GROUND SURVEY *
031	33 12 2761	117 23 4386	GROUND SURVEY *
032	33 12 2451	117 23 5480	OCEANSIDE HARBOR ENTRANCE SOUTH JETTY LIGHT 8, 1962
033	33 12 2110	117 23 5544	GROUND SURVEY *

\* FOR FURTHER INFORMATION SEE "OCEANSIDE VISUAL CONTROL, TO ACCOMPANY H-9245 (RA-5-2-71), OPR 411, NOAA SHIP RAINIER, 1971"

PARAMETER TAPE LISTINGS

OPR-411-RA-71

RA-5-2-71

L

001 FEST=119000  
002 CLAT=3500000  
003 CMER=118/25/0  
004 GRID=15  
005 PLSC=5000  
006 PLAT=33/11/59  
007 PLON=117/25/00  
008 MLAT=33/34/08.845  
009 MLON=117/50/00.744  
010 SILAT=32/53/45.353  
011 SILON=118/27/44.128  
012 S2LAT=32/42/22.995  
013 S2LON=117/15/14.958  
014 Q=1799.6  
015 VESNO=2123  
016 YR=71

\*

POSITION ABSTRACT

<u>Vessel</u>	<u>J.D.</u>	<u>Pos. Numbers</u>
RA-3	307	1-186
RA-3	308	187-376
D.P. Party	307	500-522 524-547
D.P. Party	308	549-561 562-605 610-618
D.P. Party	316	620-624 625-635



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
NOAA Ship RAINIER MSS 21

Date: 4 January 197~~2~~<sup>2</sup>

Reply to  
Attn of: Commanding Officer

Subject: Changes to Manuscripts, T-11869 - T-11876

To: Director, Pacific Marine Center, ATTN: CPM3

The following corrections to manuscripts T-11869 through T-11876 are submitted in accordance with CHANGE NO 1, dated 7 September 1971 to PROJECT INSTRUCTIONS: OPR 411-RA-71, dated 20 August 1971.

T-11870 (Oceanside Harbor). The changes listed below are noted in red ink on the boat sheet of H-9245 (RA-5-2-71).

1. The breakwater at 33° 12' 09", 117° 23' 29.25" has been extended 500 feet in a southwesterly direction.
2. The jetty has been extended 350 feet in a south-south-westerly direction from Oceanside Harbor Entrance South Jetty Light 2, 1962.
3. All piers in Oceanside Harbor have been revised in regard to the number of boat slips present. The existing compilation of actual boat slips was found to be inaccurate. The four south-west piers in the northwest section of Oceanside Harbor have been extended with a proportional increase in the number of boat slips. Additional piers with boat slips have been constructed along the northeast and southeast quay wall in the central section of the Oceanside Harbor.
4. The high water line between the breakwater at the north end of Oceanside Harbor Turning Basin and triangulation station CAMP DEL MAR INNER BREAKWATER LIGHT 6, 1961 has been redrawn to reflect its present location.

T-11872 VAILETTA POINT 2, 1933 was searched for and not found; probably destroyed. You may wish to remove this station from the manuscript.

T-11875 The projection is in error with the meridians and parallels plotting short of true distance.

NOAA Forms 76-40, Fixed Aids and Landmarks for Charts, are being submitted for all the above manuscripts.

*Roger F. Lanier*  
Roger F. Lanier  
CAPT, NOAA

**THESE PROPOSED CHANGES  
HAVE ~~AND~~ BEEN IMPLEMENTED**

**PROPOSED AIDS TO NAVIGATION SYSTEM  
OCEANSIDE/CAMP DEL MAR**

EXISTING

PROPOSED

Oceanside Approach Lighted  
Whistle Buoy OCN (LLNR 360.10)

Relocate and change to Oceanside  
Lighted Bell Buoy 2, 173°T, 100  
yards from Oceanside Breakwater  
Light 1, flashing white every  
2.5 seconds.

Oceanside Breakwater Light 1  
(LLNR 360.15)

Change to Oceanside Breakwater  
Light 3, flashing white every  
4 seconds; remove fog horn.

Oceanside Harbor South Jetty  
Light 2 (LLNR 360.25)

Change to Oceanside South Jetty  
Light 4, flashing red every 5  
seconds (high-intensity rotating  
beacon); install fog horn removed  
from Oceanside Breakwater Light 1

Camp del Mar Junction Buoy  
(LL PG 29)

Change to Oceanside Junction  
Buoy, black and red horizontally  
banded can.

Oceanside Harbor South Jetty  
Light 4 (LLNR 360.31)

Change to Oceanside Light 6,  
quick flashing red.

None

Establish Oceanside North Groin  
Danger Buoy off end of submerged  
groin.

Oceanside Harbor Buoy 3  
(LL PG 29)

Rename Oceanside Buoy 5.

Oceanside Harbor Buoy 5  
(LL PG 29)

Rename Oceanside Buoy 7.

Oceanside Harbor Light 6  
(LLNR 360.35)

Change to Oceanside Daybeacon 8.

Oceanside Harbor Light 7  
(LLNR 360.40)

Rename Oceanside Light 9.

Camp del Mar Buoy 3 (LL PG 29)

~~Rename Camp del Mar Buoy 1~~

Camp del Mar Buoy 4 (LL PG 29)

Rename Camp del Mar Buoy 2.

Camp del Mar Inner Breakwater  
Light 6 (LLNR 361)

Discontinue.

None

Establish Camp del Mar Buoy 15  
abeam of Camp del Mar Inner  
Breakwater Light 6.

**No Change**

PROPOSED AIDS TO NAVIGATION SYSTEM  
OCEANSIDE/CAMP DEL MAR

EXISTING

None

Camp del Mar Buoy 7  
(LL PG 29)

Camp del Mar Buoy 8  
(LL PG 29)

Camp del Mar North Groin  
Light 9 (LLNR 361.10)

Camp del Mar South Groin  
Light 10 (LLNR 361.15)

PROPOSED

Establish Camp del Mar Buoy  
4 abeam of Camp del Mar Light  
Breakwater Light 6.

~~Camp del Mar Buoy 7~~  
*Discontinue*

Rename Camp del Mar Buoy 6.

Change to Camp del Mar  
Daybeacon 7.

Change to Camp del Mar  
Daybeacon 8.





**HYDROGRAPHIC SURVEY STATISTICS**  
**HYDROGRAPHIC SURVEY NO. H-9245**

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO		1	BOAT SHEETS		1 2	
DESCRIPTIVE REPORT		1	OVERLAYS		6 2	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES	3					
BOXES			1-Containing fathograms & printouts.			
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		505		
POSITIONS REVISED		2		
DEPTH SOUNDINGS REVISED		8		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		7		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control		8		
Verification of Positions		8		
Verification of Soundings		57		
Smooth Sheet Compilation		48		
ALL OTHER WORK		16		
<b>TOTALS</b>		<b>137</b>		
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Matthew G. Sanders</i> Matthew G. Sanders	4 Sept. 1973		15 Feb. 1974	
REVIEW BY	BEGINNING DATE		ENDING DATE	

VERIFIER'S REPORT

H-9245

OPR-411

RA-5-2-71

This sheet was constructed and plotted at Pacific Marine Center, Seattle, Washington. Information relating to this will be noted under the heading by the number and letter as on the Verifier's Report, C&GS Form 946A.

PART II SHORELINE AND SIGNALS

4. The smooth sheet shoreline noted in red, was obtained from the boatsheet, the balance was derived from a 1:5,000 enlargement of manuscript T-11870 (2) attached.

1:10,000 SCALE  
A major shoreline discrepancy exists between the boatsheet and manuscript in the jetty area ( $33^{\circ} 12' 09''$  N/ $117^{\circ} 23' 29''$  W), where the boatsheet shoreline is displaced approximately 150 ft. to the east. The purported 500 ft. jetty extension is not substantiated in manuscript/boatsheet dimension comparison.

PART III JUNCTIONS

10. Survey H-9251 has not been processed. Depth curves in junction area are in pencil.

PART VII CURVES

23. The smooth sheet was plotted at a scale of 1:5,000, in feet. Depth curves consist of 3, 6, 12, 18, 24, and 30 feet. The 3 and 24 foot curves are supplemental. Six bottom samples were plotted, along with one D.P. (rock), three dolphins, and a submerged jetty.

The depth curves were inspected and adjusted prior to inking by Mr. Richard Lynn, Cartographic Technician.

PART VIII AIDS TO NAVIGATION

26. The 1971 Light List identification number is in pencil where applicable, the signal name is in red ink. Descriptive Report, paragraph M5, (G) should read "350° from Camp Del Mar Outer Breakwater Light 1, 1961".

At the time of survey, the North Basin was titled "Camp Del Mar Boat Basin" as opposed to "Camp Pendleton Boat Basin".

PART IX BOATSHEET

28. Positions 584 - 585 are noted in red on the boatsheet, do not appear on the manuscript, and are noted in pencil on the smooth sheet.

Areas of shoreline riprap are not delineated on the smooth sheet.

PART X GENERAL

30. Basic pier layout was extracted from manuscript T-11870 (2), boat slips were not delineated. At the time this survey was being accomplished, the entire area was under reconstruction.

PART XI NOTES TO THE REVIEWER

36. Positions and soundings were verified and the smooth sheet compiled by Howard Clark, Cartographic Technician, in training status, under supervision of Matthew Sanders.

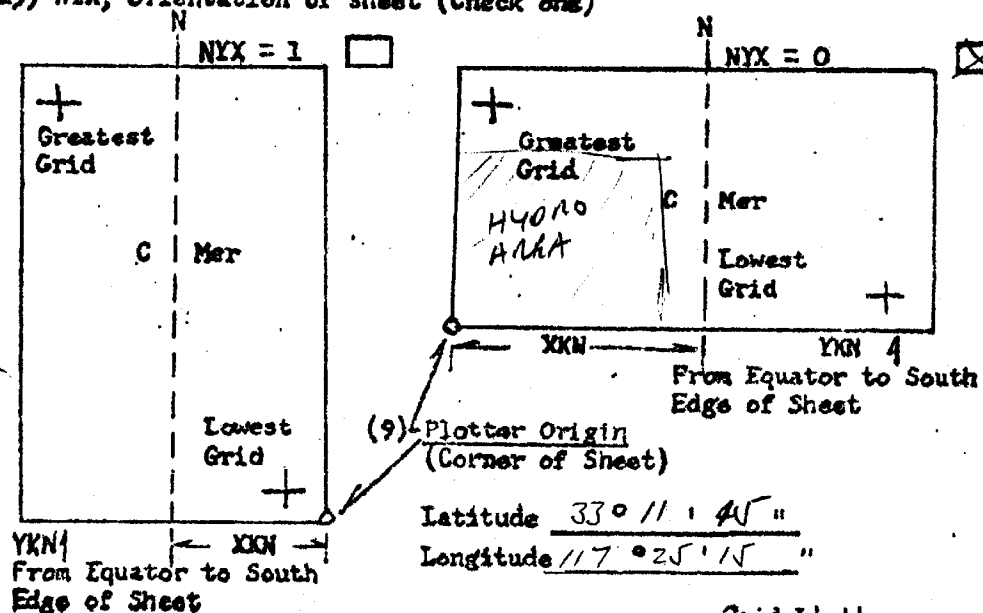
Respectfully submitted,



Matthew G. Sanders  
Cartographic Technician

FORM # 2  
 PARAMETERS FOR DIGITAL COMPUTING  
 POLYCONIC PROJECTION

- (1) Project No. OPR-411 (4) Requested by \_\_\_\_\_  
 (2) H No. 9245 (5) Ship or Office \_\_\_\_\_  
 (3) Field No. RA-5-2-71 (6) Data Required \_\_\_\_\_  
 (7) Visual  **Ft. (0)** or Fathoms (1)  (8) Electronic  (fill out form #3)  
 (10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) \_\_\_\_\_ Meters  
 (11) YKN (SP 241) Distance from Equator to South Edge of Sheet. (Origin) 3,571,215.240 Meters  
 (12) Central Meridian 117° 24' 00"  
 (13) Survey Scale 1:5,000  
 (14) Size of Sheet (Check one) 36x60  42x60  36" x 30"  
 (15) NYX, Orientation of sheet (Check one)



Grid Limits	
(16) Greatest Latitude	<u>33° 13' 30"</u> (Projection Line Interval Page 4 Hydro Manual)
(17) Lowest Latitude	<u>33° 12' 00"</u>
(18) Difference	<u>1' 30"</u>
(19)	<u>0' 15"</u>
(20)	<u>06 YSN</u>
(21) Greatest Longitude	<u>117° 25' 00"</u>
(22) Lowest Longitude	<u>117° 22' 45"</u>
(23) Difference	<u>2' 15"</u>
(24)	<u>0' 15"</u>
(25)	<u>09 XSN</u>

Field No. 9045 PH-E-2-71  
 Date \_\_\_\_\_

PARAMETER CARD II

Point major axis of the earth	6.378,206.4	PCMA	1	2	3	4	5	6	7	8	9	10
Y Constant - Distance from central meridian to origin of plotter SP 5		PCYX	11	12	13	14	15	16	17	18	19	20
Y Constant - Distance from equator to origin of plotter SP 21		PCY2	21	22	23	24	25	26	27	28	29	30
Central Meridian of Projection	117° 24' 00" 00"	PCMR	31	32	33	34	35	36	37	38	39	40
Plotter Scale/Survey Scale	1:1000 1:20498.6876	PCSA	41	42	43	44	45	46	47	48	49	50
North/south axis of sheet - to correspond to (Y axis - 0)		PCNY										51
Feet/Fathom indicator	0 - feet 1 - fathom	PCFI										52
H Identification No.		PCJN										53
		PCJR										54

PGF - 1

*MARK THIS CHANGE*  
*0000*  
*20*

PARAMETER CARD III

Lowest Lat. Intersection	32° 15'	PCST	1	2	3	4	5	6	7	8	9	10
Lowest Long. Intersection	177° 00'	PCSL	11	12	13	14	15	16	17	18	19	20
Difference between Grid		PCDIF	21	22	23	24	25	26	27	28	29	30
Interval (Long)		PCXSI										31
Interval (Lat)		PCYSI										32

Computed \_\_\_\_\_  
 Punched \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Date \_\_\_\_\_

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

2/28/73

Processing Division: Pacific Marine Center

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): San Diego, California

Period: Oct. - Nov. 1971; March 1-29, 1972

HYDROGRAPHIC SHEET: H-9245, H-9249

OPR: 411

Locality: Ocean Side, southern California

Plane of reference (mean lower low water): 3.5 ft.

Height of Mean High Water above Plane of Reference is 5.0 ft.

Remarks: Zoning instructions. Staff readings at Ocean Side were erratic, use San Diego hourly heights with the following corrections:

<u>Time</u>	<u>Height</u>
LW	HW
-6 min.	x0.92 ratio

*Robert A. Combs*  
Chief, Tides Branch

RANIER  
RA-5-2-71  
H-9245  
TIME MERIDIAN # 120 WEST  
SAN DIEGO GAGE  
YEAR - 1971  
CORRECTIONS IN FEET  
MLLW CORRECTION # 3.5 FEET  
TIME SHIFT # -06 MINUTES  
RANGE RATIO # 00.92

060000 00 1055 0000 307 0 055400 000000  
060500 00 1056  
061100 00 1057  
061700 00 1058  
062300 00 1059  
063000 00 1060  
063700 00 1061  
064500 00 1062  
065400 00 1063  
070400 00 1064  
071700 00 1065  
080600 00 1066  
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084300 00 1062  
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085500 00 1060  
090100 00 1059  
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091300 00 1057  
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092300 00 1055  
092800 00 1054  
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093700 00 1052  
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094600 00 1050  
095100 00 1049  
095500 00 1048  
095900 00 1047  
100300 00 1046  
100700 00 1045  
101100 00 1044  
101500 00 1043  
101900 00 1042  
102300 00 1041

*Receiver - false  
with pointouts*



102700 00 1043  
103100 00 1039  
103400 00 1036  
103800 00 1037  
104200 00 1036  
104500 00 1035  
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110600 00 1029  
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111300 00 1027  
111600 00 1026  
120000 00 1025  
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112700 00 1023  
113000 00 1022  
113300 00 1021  
113700 00 1020  
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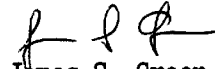
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130400	00	1007			
130700	00	1006			
131000	00	1005			
131400	00	1004			
131800	00	1003			
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133600	00	0001			
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172500	00	0001			
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175300	00	1004			
180000	00	1005			
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145800 00 1032  
151300 00 1033  
152900 00 1034  
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173300 00 1039

APPROVAL SHEET

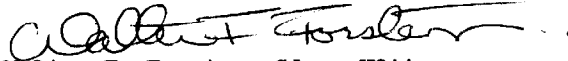
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green  
Supervisory Cartographic Technician

Approved and forwarded,



Walter F. Forster, Cdr., NOAA  
Chief, Processing Division  
Pacific Marine Center

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey **Oceanside Visual Control**  
To Accompany  
Field No. **RA-5-2-71** Office No. **H-9245**

### LOCALITY

State **California**  
General locality **So. California Coast**  
Locality **Oceanside Harbor**

1971

CHIEF OF PARTY

**CAPT Roger F. Lanier**

LIBRARY & ARCHIVES

DATE

OCEANSIDE HARBOR VISUAL CONTROL  
OCEANSIDE, CALIFORNIA  
TO ACCOMPANY  
H-9245 (Field No. RA-5-2-71)

Scale 1:5,000

31 October - 1 November 1971

NOAA Ship RAINIER

Roger F. Lanier, Cmdg.

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**A. PROJECT**

In accordance with PROJECT INSTRUCTIONS: OPR-411-RA-71, Southern California, dated 20 August 1971, Section 7, control for 1:5,000 scale surveys on the above project was required by ground survey methods. The ground support described herein was performed to provide control for H-9245 (RA-5-2-71).

**B. AREA SURVEYED**

The survey was conducted on the lands surrounding Oceanside Harbor and Camp Del Mar Boat Basin near Oceanside, California. Control was extended throughout the area from Triangulation Intersection Station CAMP DEL MAR INNER BREAKWATER LIGHT 6 USN, 1961. All work was accomplished on 31 October and 1 November 1971.

**C. STARTING CONTROL**

All extension of control in the area was based on the published position of CAMP DEL MAR INNER BREAKWATER LIGHT 6 USN, 1961. The published position was verified by local observations and resection of the station from VORTAC OCEANSIDE OCN, 1961; CAMP PENDLETON WATER TANK, 1956-1961; and SAN DIEGO GAS AND ELECTRIC CO ENCINO PLANT CENTER STACK, 1962 as well as from other local control. The light and supporting structure above the station have been removed but the foundation and the brass disk set in it remain and were used as the station location. The resection computation checked with the published position within four thousandths of a second in latitude and longitude.

**D. FIELD PROCEDURES**

All angular measurements were made with Wild T-2 theodolites and lineal measurements with either Tellurometers or steel tape. Angular measurements were made on each local object using three plate settings and a single reading of the micrometer. All Tellurometer observations were completed using four Cavity Tune settings distributed over the normal 100 unit range and results were meaned in the normal manner. No meteorological corrections were necessary over the distances involved. All short distances were taped in both feet and meters to minimize the possibility of error. No permanent marks were set.

#### E. COMPUTATION AND ADJUSTMENT

Signals 5 through 9 were located by radial traverse from Base Point A at CAMP DEL MAR INNER BREAKWATER LIGHT 6 USN, 1961. Angular and lineal measurements were made from Base Point A to each signal location and the results were checked by observations at signal 5 to the remaining signals. All checks agreed within two thousandths of a second in latitude and longitude. Signal 31 was located in a similar manner from Base Point B with a check by intersection from Base Point A.

The remaining signals were located by intersection from Base Points established by a loop traverse. The traverse was extended from Base Point A through Base Point C to Base Point E and back to Base Point A. Azimuth checks were completed and the resulting angular error distributed through the traverse azimuths. The resulting traverse computation closed with no error. Base Points B, Q, and D were established along the traverse legs to provide a check on all intersected positions (sketch appended). All signals were observed from three Base Points and yielded side checks ranging from 1:3,100 to 1:1,290,000. No signal had an error of position greater than 0.6 ft. or 0.03 mm. at the scale of the boatsheet.

All computations were performed in State Plane Coordinates (California zone 0406) on the PDP/8e computer. During the course of the work, a software computational error was discovered in the Intersection Station program (AM 406) resulting in miscomputation of positions when the azimuth of an intersecting line-of-sight approached 180°. As a result, Signals 16 and 23 position computations were performed using triangle computations from Baselines ABC and CQDE respectively. In these cases, the error of position was commensurate with that mentioned above.

Respectfully submitted,

*J. Richard Faris*

J. Richard Faris  
ENS, NOAA

APPROVAL SHEET

OCEANSIDE VISUAL CONTROL REPORT  
TO ACCOMPANY  
H-9245 (RA-5-2-71)

OPR-411 SOUTHERN CALIFORNIA

The Oceanside Visual Control Report is approved as  
submitted.

*Roger F. Lanier*

Roger F. Lanier  
CAPT, NOAA  
Commanding

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APPENDIX

Contents

1. Sketch - Visual Control, Oceanside Harbor.
  2. Geographic Positions Oceanside Harbor.
-



GEOGRAPHIC POSITIONS OCEANSIDE HARBOR

NO	LATITUDE	LONGITUDE
001	33 12 2240	117 24 0708
002	33 12 3934	117 24 1720
003	33 12 5295	117 24 1344
004	33 12 5424	117 24 0863
005	33 13 0519	117 24 0858
006	33 13 1040	117 23 5964
007	33 13 0234	117 23 5063
008	33 12 5722	117 23 4332
009	33 12 4977	117 23 5559
010	33 12 4942	117 24 0475
011	33 12 4210	117 24 0993
012	33 12 3136	117 23 4175
013	33 12 3921	117 23 4781
014	33 12 4155	117 23 4664
015	33 12 4442	117 23 4393
016	33 12 4773	117 23 4081
017	33 12 4555	117 23 3476
018	33 12 4206	117 23 3572
019	33 12 3872	117 23 3678
020	33 12 3489	117 23 3652
21	33 12 3244	117 23 3613
022	33 12 3112	117 23 3590
023	33 12 2708	117 23 3364
024	33 12 2355	117 23 2847
025	33 12 2372	117 23 2422
026	33 12 2388	117 23 2006
027	33 12 1827	117 23 1832
028	33 12 1704	117 23 2016
029	33 12 1954	117 23 3206
030	33 12 2357	117 23 3643
031	33 12 2761	117 23 4386
032	33 12 2451	117 23 5480
033	33 12 2110	117 23 5544

CAMP DEL MAR OUTER BREAKWATER LIGHT 1, 1961

CAMP DEL MAR NORTH GROIN LIGHT 9, 1961

CAMP DEL MAR SOUTH GROIN LIGHT 10, 1961

CAMP DEL MAR INNER BREAKWATER LIGHT 6, 1961

OCEANSIDE HARBOR TURNING BASIN LIGHT, 1962

OCEANSIDE HARBOR ENTRANCE SOUTH JETTY LIGHT 2,  
1962

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

2/28/73

Processing Division: Pacific Marine Center

Hourly heights are approved for

Tide Station Used (NOAA form 77-12): San Diego, California

Period: Oct. - Nov. 1971; March 1-29, 1972

HYDROGRAPHIC SHEET: H-9245, H-9249

OPR: 411

Locality: Ocean Side, southern California

Plane of reference (mean lower low water): 3.5 ft.

Height of Mean High Water above Plane of Reference is 5.0 ft.

Remarks: Zoning instructions. Staff readings at Ocean Side were erratic, use San Diego hourly heights with the following corrections:

<u>Time</u>	<u>Height</u>
LW -6 min.	HW x0.92 ratio

*Robert A. Cunningham*

Chief, Tides Branch

18714 Applied by Killen 1978

18740 No corr Hamilton 5-10-79  
(5101) 5/17/79 RC

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TO BE CHARTED  
 TO BE DELETED

ORIGINATING LOCATION  
**NOAA SHIP RAINIER**

DATE  
**12-21-71**

STATE: **California**  
SURVEY NUMBER  
**T-11870**  
TP-**TP**

DATUM  
**North American 1927**

METHOD AND DATE OF LOCATION  
(See instructions on reverse of this form)

ORIGINATING ACTIVITY  
 FIELD INSPECTION  
 FIELD EDIT  
 COMPILATION  
 FINAL REVIEW  
 QUALITY CONTROL AND REVIEW  
(See reverse for responsible personnel)

CHARTING NAME	DESCRIPTION	LATITUDE		LONGITUDE		FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
		0 /	PARAMETERS	0 /	PARAMETERS				
Light #3	Oceanside Breakwater Flashing white every 4 sec	33°12'	22.399	117°21'	07.082	Triang. Rec. 10-71	001		C&GS 5101
Light #4	F1. R. every 4 secs. Foghorn: 2 blasts every 20 secs.	33°12'	21.10	117°23'	55.444	F.3.a. 10-71	033		C&GS 5101
Daybeac #8	Red triangular daymark	33°12'	27.61	117°23'	43.89	F.3.a. 10-71			C&GS 5101
Light #9	Ok. Fl. Green Black square daymark	33°12'	31.356	117°23'	41.752	Triang. Rec. 10-71	012		C&GS 5101
Light #6	Ok. Fl. Red 4 secs. Red triangular daymark	33°12'	24.511	117°23'	54.801	Triang. Rec. 10-71	032		C&GS 5101
Daybeac #7	Black square daymark Red reflector	33°12'	54.237	117°24'	08.632	Triang. Rec. 10-71	004		C&GS 5101
Daybeac #8	Red triangular daymark Red reflector	33°12'	49.416	117°24'	04.751	Triang. Rec. 10-71	040		C&GS 5101
Lighted tower	Similar to lighthouse beige with black roof approx. 60' high	33°12'	17.04	117°23'	20.16	F.3.a. 10-71			C&GS 5101
VORTAC	Top of conical antenna cover of air navigation building.	33°14'	26.15	117°25'	0.65	Triang. Rec. 10-71			C&GS 5101
CGN			805.7		16.8				C&GS 5101

Checked by: WLS

TYPE OF ACTION		RESPONSIBLE PERSONNEL	
		NAME	TITLE
1. Objects inspected from seaward		J. Richard Farris, ENS. NOAA	<input checked="" type="checkbox"/> FIELD INSPECTOR <input type="checkbox"/> FIELD EDITOR
2. Positions determined and/or verified		J. Richard Farris, ENS. NOAA	FIELD INSPECTOR
3. Forms originated by Quality Control and Review Group and final review activities			FIELD EDITOR COMPILER <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

**INSTRUCTIONS FOR 'METHOD AND DATE OF LOCATION' SECTION**

**NOTE:** 'Photogrammetric Positions' are dependent entirely, or in part, upon control established by photogrammetric methods. 'Field Positions' are determined by field observations based entirely upon ground control.

**COLUMN TITLE**

**COMPILATION**

Applicable to office identified and located objects only. Enter the number and date of the photograph used to identify the object.

**FIELD INSPECTION AND FIELD EDIT**

1. New Position Determined—Enter the applicable data by symbols as indicated below:

- F - Field
  - 1. Triangulation
  - 2. Traverse
  - 3. Intersection
  - 4. Resection
    - a. Theodolite
    - b. Planetable
    - c. Sextant
- P - Photogrammetric
  - 1. Field identified
  - 2. Theodolite
  - 3. Planetable
  - 4. Sextant

**EXAMPLES:**

- F. 3.c
- P. 2

Immediately beneath the data described above, enter the following:

- a. For 'Field Positions' enter the date of location.
- b. For 'Photogrammetric Positions' enter the date of field work; and, if a photograph was used in locating the object or the object was identified on a photograph, enter the number of the photograph used.
- 2. Triangulation Station Recovered - Enter 'Triang. Rec. mo/day/yr.'
- 3. Position Verified - Enter 'Verif. mo/day/yr.'



RESPONSIBLE PERSONNEL		TITLE
TYPE OF ACTION	NAME	
1. Objects inspected from seaward	J. Richard Paris, ENS. NOAA	<input checked="" type="checkbox"/> FIELD INSPECTOR <input type="checkbox"/> FIELD EDITOR
2. Positions determined and/or verified	J. Richard Paris, ENS. NOAA	FIELD INSPECTOR
3. Forms originated by Quality Control and Review Group and final review activities		FIELD EDITOR COMPILER <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

**INSTRUCTIONS FOR 'METHOD AND DATE OF LOCATION' SECTION**

NOTE: 'Photogrammetric Positions' are dependent entirely, or in part, upon control established by photogrammetric methods. 'Field Positions' are determined by field observations based entirely upon ground control.

**COLUMN TITLE**

**TYPE OF ENTRIES**

**COMPLILATION**

Applicable to office identified and located objects only. Enter the number and date of the photograph used to identify the object.

**FIELD INSPECTION**

1. New Position Determined—Enter the applicable data by symbols as indicated below:

**AND**

**FIELD EDT**

**F - Field**

1. Triangulation
2. Traverse
3. Intersection
4. Resection
  - a. Theodolite
  - b. Plane table
  - c. Sextant

**P - Photogrammetric**

1. Field identified
2. Theodolite
3. Plane table
4. Sextant

**EXAMPLES:**

F. 3.c

P. 2

Immediately beneath the data described above, enter the following:

- a. For 'Field Positions' enter the date of location.
- b. For 'Photogrammetric Positions' enter the date of field work; and, if a photograph was used in locating the object or the object was identified on a photograph, enter the number of the photograph used.

2. Triangulation Station Recovered - Enter 'Triang. Rec. mo/day/yr.'

3. Position Verified - Enter 'Verif. mo/day/yr.'

TYPE OF ACTION	RESPONSIVE PERSONNEL NAME	TITLE
1. Objects inspected from seaward	J. Richard Paris, ENS. NOAA	<input checked="" type="checkbox"/> FIELD INSPECTOR <input type="checkbox"/> FIELD EDITOR
2. Positions determined on/or verified	J. Richard Paris, ENS. NOAA	FIELD INSPECTOR
		FIELD EDITOR
3. Forms originated by Quality Control and Review Group and final review activities		COMPILER
		<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR 'METHOD AND DATE OF LOCATION' SECTION

NOTE: 'Photogrammetric Positions' are dependent entirely, or in part, upon control established by photogrammetric methods. 'Field Positions' are determined by field observations based entirely upon ground control.

COLUMN TITLE

TYPE OF ENTRIES

COMPILATION

Applicable to office identified and located objects only. Enter the number and date of the photograph used to identify the object.

FIELD INSPECTION AND FIELD EDIT

1. New Position Determined—Enter the applicable data by symbols as indicated below:

- |                  |                            |                  |
|------------------|----------------------------|------------------|
| <b>F - Field</b> | <b>P - Photogrammetric</b> | <b>EXAMPLES:</b> |
| 1. Triangulation | 1. Field identified        |                  |
| 2. Traverse      | 2. Theodolite              | F. 3.c           |
| 3. Intersection  | 3. Planetable              |                  |
| 4. Resection     | 4. Sextant                 | P. 2             |
| a. Theodolite    |                            |                  |
| b. Planetable    |                            |                  |
| c. Sextant       |                            |                  |

Immediately beneath the data described above, enter the following:

- For 'Field Positions' enter the date of location.
- For 'Photogrammetric Positions' enter the date of field work; and, if a photograph was used in locating the object or the object was identified on a photograph, enter the number of the photograph used.

2. Triangulation Station Recovered - Enter 'Triang. Rec. mo/day/yr.'

3. Position Verified - Enter 'Verif. mo/day/yr.'

VERIFIER'S REPORT  
HYDROGRAPHIC SURVEY, H. 9245

**INSTRUCTIONS** - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

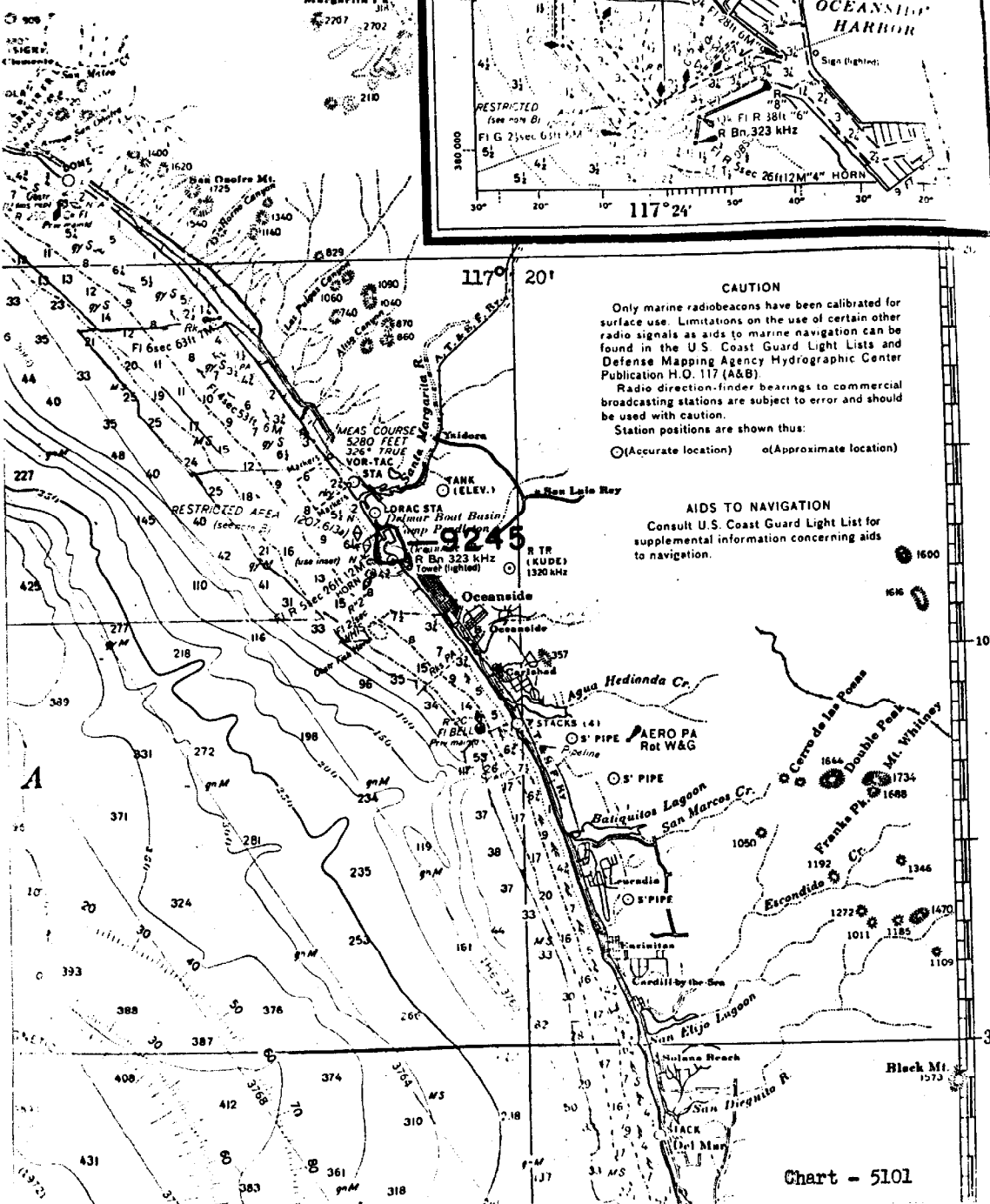
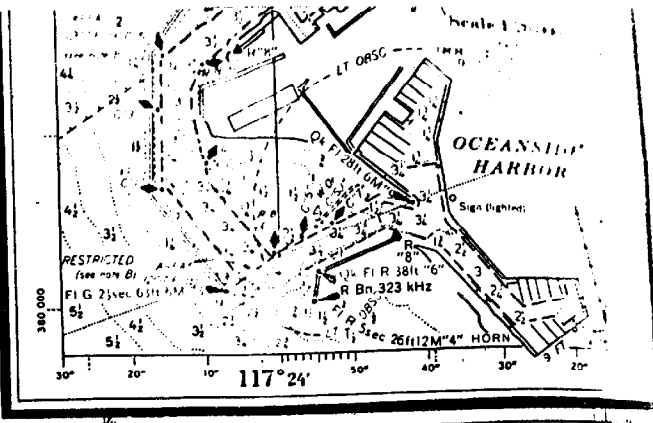
**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	X		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of <b>Butt</b> junctions and areas which are <b>SUPERSEDED</b>.</p>		X
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	X		<p><b>Part IV - VOLUMES</b></p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>	X	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	X				
<p><b>Part II - SHORELINE AND SIGNALS</b></p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys</p> <p>a. Give earliest and latest dates of photographs</p> <p>b. Field inspection date</p> <p>c. Field Edit date</p> <p>d. Reviewed-Unreviewed</p>		X	<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:</p> <p>(a) rocks</p> <p>(b) line turns</p> <p>(c) position values of beginning and ending of lines</p> <p>(d) bar check or velocity correctors</p> <p>(e) time recording</p> <p>(f) notes or markings on fathograms</p> <p>(g) was reduction of soundings accurately done?</p> <p>(h) was scanning accurate?</p> <p>(i) were peaks at uneven intervals missed?</p> <p>(j) were stamps completed?</p> <p>(k) references to adjacent features</p>		
<p>The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>	X				
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	X				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>	X		<p><b>Part V - PROTRACTING</b></p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	X	
<p><b>Part III - JUNCTIONS</b></p> <p><b>Note:</b> Make a cursory comparison preliminary to making soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	X		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	X	
<p>9. The notation in slanted lettering "JOINS H---- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	X		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	X	

Part V - PROTRACTING (Continued)		CL	R	Part VIII - AIDS TO NAVIGATION		CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable reploting or adjustments.		X		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.			X
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.		X		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None		X	
Part VI - SOUNDINGS				Part IX - BOATSHEET			
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None		X		28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None			X
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.		X		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.		X	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None				Part X - GENERAL			
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None		X		30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None			X
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.		X		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None		X	
Part VII - CURVES				32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None		X	
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.			X	33. The bottom characteristics are adequately shown. Remarks Required: -- None		X	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None <i>Review - Incl 23-H curves D.E.</i>		X		Part XI - NOTES TO THE REVIEWER			
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.		X		34. Unresolved discrepancies and questionable soundings.		X	
				35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.		X	
				36. Supplemental information.		X	
Verified by <i>Matthew G. Sanders</i> Matthew G. Sanders						Date 15 February 1974	

and Camp Pendleton Boat Basin are  
and are subject to being shifted due  
change of channel conditions  
should obtain local knowledge before  
these channels.



**CAUTION**  
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic Center Publication H.O. 117 (A&B).  
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.  
Station positions are shown thus:  
○ (Accurate location)    ◊ (Approximate location)

**AIDS TO NAVIGATION**  
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

Chart - 5101



