

8978

Diag. Cht. No. 5101-3.

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. DA-10-1-68 Office No. H-8978

LOCALITY

State California

General locality San Diego

Locality Approaches to San Diego Bay

1968

CHIEF OF PARTY

K. W. Jeffers

LIBRARY & ARCHIVES

DATE 10/13/72

USCOMM-DC 37022-P66

8268
8978

HYDROGRAPHIC TITLE SHEET

H-8978

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.

DA-10-01-68

State California

General locality ~~Southern California~~ San Diego

Locality ~~San Diego~~ Approaches to San Diego Bay

Scale 1:10,000

Date of survey Feb. 16 to May 8, Spring 1968

Instructions dated Jan. 4, 1968

Project No. OPR-411

Vessel Launch DA-1 & II

Chief of party LCDR K. William Jeffers

Surveyed by Ship's Personnel

Soundings taken by echo sounder, ~~hand lead, pole~~ XXXXXXXXXX

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified

~~checked~~ by F.L. Rosario

Automated plot by PMC Gerber Plotter

verified

Soundings ~~checked~~ by F.L. Rosario

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

REMARKS:

*Applied to Sta 10/30/72
CAR*

✓ A. PROJECT

This survey was accomplished according to PROJECT INSTRUCTIONS, OPR-411, SOUTHERN CALIFORNIA, dated 4 January 1968 and Change Number 1: AMENDMENT TO INSTRUCTIONS, dated 27 March 1968.

B. AREA SURVEYED

The area surveyed is the approach to San Diego Harbor, the bottom is regular and most of the coastal coastline is sand beach, with the exception of Pt. Loma, on the western side of the survey, which has high bluffs and is rock-strewn. The survey is bounded by Long. 117°16'45" on the west, Lat. 32°37'30" N. on the south, Lat. 32°41'30" N. on the north, and by the shore on the east. The survey was done from 16 February 1968 to 8 May 1968 inclusive. The survey junctions with contemporary survey DA-20-1-68 (H-8979), 1968.

✓ C. SOUNDING VESSEL

Both DAVIDSON Launches were used for the survey. The color for DA-1 was Red and DA-2 Green.

✓ D. SOUNDING EQUIPMENT

Ratheon DE-723 Fathometers were used in depths from 3-190 feet. DA-1 used Fathometer #1284 and DA-2 used #919. Leadline soundings were used for DP's. Echo sounding corrections were determined by daily bar checks on the launches and temperature and salinity observations made from the ship at the beginning, middle, and end of the season.

✓ E. SMOOTH SHEET

The smooth sheet will be plotted by the Processing Division of Pacific Marine Center.

F. CONTROL

The survey was controlled by visual three-point fixes. All signals were located by photogrammetry or standard hydrographic methods. The following advance manuscripts were used for transfer of signals:

Sheet No.	Print Date	Revisions from photos of
T-11882 (25-853)	16 Jan. 1967	Aug 7, 1966
T-11881 (25-850)	9 Jan. 1967	" "
T-11879 (25-857)	23 Mar. 1967	" "
T-11878 (25-856)	21 Mar. 1967	" "

✓ G. SHORELINE

Shoreline for the survey was taken from the photogrammetric compilations listed in Section F. Shoreline has been verified. The low water line was not defined by soundings due to heavy surf throughout the area surveyed. ✓

✓ H. CROSSLINES

Crosslines were run to the extent of 4% of regular sounding lines. Spacing for X-lines was 1000 meters. Agreement at crossings was good. ✓

✓ I. JUNCTIONS *see Review Report.*

The survey made junction with contemporary survey DA-20-1-68 (H-8979)⁽¹⁹⁶⁸⁾. Soundings of junctions agreed closely. ✓

J. COMPARISON WITH PRIOR SURVEYS

There were several pre-survey review items included in the survey. Due to time shortage, most of the items needing development did not receive proper attention.

No. 11. The 2-fm. 3-ft. depth charted in Lat. 32° 41'.19 N., Long. 117°15.'94 W. and the 6 fm. 3-ft. sounding about 420 meters to the SSW in Lat. 32°40.'98 N., Long. 117°16.'04 W.

A 2 fm. 4 ft. side echo was found 30 meters south of the charted 2 fm. 3 ft. sounding. The 6 fm. 3 ft. sounding was found ~~50~~³⁰ meters south of the charted position. *The 2fm. 4ft. side echo was reduced to 13 feet during review. A depth of 37 feet, 180 meters south of the charted 39 (6fm. 3ft.) was established during Review. See Review.*

No. 12. The sunken wreck ED charted in Lat. 32°40.'96 N., Long. 117°16.'22 W. was not found. *see Review.*

No. 15. The 25 foot depth charted in Lat. 32°40' 57" N., Long. 117°15'29" W. was not found. *see Review.*

The dash-circled 10 foot depth in Lat. 32°41'00" N., Long. 117°15'16" W. was not found, ~~but~~ a 12 foot sounding was found about 70 meters from the charted 10 foot depth. *a depth of 10 feet was est. established during verification in approximately the charted position. See Review.*

J. COMPARISON WITH PRIOR SURVEYS - Continued

The dash-circled 15 foot depth in Lat. ^{10.5} 32°40'12" N., Long. 117°15'02" W. was ~~not found~~, ^{disproven by} but a 16 foot sounding, was found 60 meters @ 246° T. from the charted 15 foot depth. ^{See Review.} A 14 foot depth was established in the vicinity during Review.

The dash-circled 15 foot depth in Lat. 32°39'34" N., Long. 117°14'34" W. was not found ~~and~~ ^{has been carried forward from H-5666 (1934)}

No. 16. The 20 foot depth charted in Lat. 32°39'31.5" N., Long. 117°14'22" W. was not found. ^{and has been retained from H-2185 (1893-94)} All of the preceding items are located in heavy kelp growth.

No. 19. The area marked shoal in five places along the east shore of Pt. Loma in about Lat. 32°40'40" N., Long. 117°14'10" W. was adequately developed for charting. Concur. RBS. Note: The shoal notes were not ^{longer} charted at the time of this Review.

No. 20. The pile charted in Lat. 32°40'21" N., Long. 117°13'50.5" W. was not searched for. ^{To be retained on the chart as submerged until disproven.}

No. 21. The dolphin charted in Lat. 32°41'03" N., Long. 117°13'55.5" W. was used for a signal. The pile charted in Lat. 32°40'58" N., Long. 117°13'54" W. was not searched for. ^{To be retained on the chart until disproven.}

Both piles in Items #20 and 21 were searched for and not found in 1967. It was suggested that wire drag or sweep be utilized for a search in 1968, but time was not available for such an operation. ^{Presently charted as submerged piles.}

No. 22. The obstruction area charted in about Lat. 32°38'55" N., Long. 117°09'15" W. was run with line spacing of about 50 meters and no trace of an obstruction was found, nor was the 20 foot charted depth. ^{obstruction not disproven}

The dash outlined one fathom curve on Zuniga Shoal in about Lat. 32°40'41" N., Long. 117°13'07" W., has shifted about 250 meters @ 344° T. ^{See review.}

Additional Item No. 1. A visible wreck reported in Lat. 32°40'53" N., Long. 117°14'04" W. in May 1967 by the Ship PATHFINDER was located at that position by the survey. At the time of investigation the only visible part of the wreck was a 1-1/2 inch pipe protruding 2 feet above the water surface. About 3 ft. of this pipe should be visible at MLLW. ^{Shown as sunken wreck & "Masts"}

No comparisons were made with any prior surveys.

✓ K. COMPARISON WITH THE CHART *See Review.*

The survey was compared with chart C&GS 5107, 28th. Ed., April 8, 1968, 1:20,000. General agreement between the survey and the chart was good. All features noted as "Reported", "ED", or "PD" were discussed in Section J. The controlling depth for the channel found by the survey was the same as that charted. The general configuration of the depth curves is the same for the survey and the chart, but the survey shows them further offshore indicating some filling of the area. ✓

✓ L. ADEQUACY OF SURVEY *See Review.*

The survey is complete and adequate to supersede prior surveys with the exception of those pre-survey review items discussed in Section J. ✓

✓ M. AIDS TO NAVIGATION *See Review.*

Position of Floating Aids to Navigation in the San Diego Channel located by the survey were compared with the Light List and C&GS 5107. Position agreement was good. The aids adequately serve the purpose for which established. ✓

N. STATISTICS

Vessel	No. Pos.	Sndg. line No. Mile	No. B.S.
DA-1	4402	528.7	0
DA-2	1983	182.0	74

6385 — Does not reflect actual position on smooth sheet, many were rejected during verification.
Total area of the survey was 18.4 sq. nautical miles. ✓

✓ O. MISCELLANEOUS

In the area around Pt. Loma there is a very heavy bed of kelp that extends about 1 mile offshore and to the northern limit of the survey. The area is leased by and the kelp cultivated by CALCO, a commercial kelp company.

Kelp limits or areas of kelp were not determined by the survey. See Review.

P. RECOMMENDATIONS

It is recommended that those pre-survey review items not investigated by the survey (discussed in Section J.) be investigated at some later date. ✓

✓ Q. REFERENCES TO REPORTS

Reference should be made to the corrections to echo sounders report for OPR-411, Ship DAVIDSON, 1968. ✓

Respectfully submitted,

David McCall

David McCall
LTJG, USESSA

FORM 64-10
(11-65)
(PRES. BY
A.C. 20-10)

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Coast and Geodetic Survey

TO : Commanding Officer
USC&GSS DAVIDSON

FROM : Chief, Datum Planes Section
Oceanography Division

SUBJECT: Tidal data, OPR-411

DATE: January 16, 1968

In reply refer to:
C3311-9-CSS

In reply to your memorandum of January 11, 1968, there are listed below the corrections to be applied to tide predictions in connection with hydrography along the California coast.

In the vicinity of El Segundo (Chart 5101) use Los Angeles predictions with +0 10 minutes time correction and zero height correction.

In the vicinity of Point Loma (Chart 5020) use San Diego predictions with -0 10 minutes time correction and 0.9 range ratio.

L. C. Wharton
L. C. Wharton



BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

TIDE NOTE

Tide station: San Diego, Calif.
Lat. 32°43'N
Long. 117°10'W

Plane of reference: MLLW

Time meridian 120W

Tide gage is standard type installed at
Broadway pier, San Diego.

LIST OF VISUAL SIGNAL POSITIONS

PROJECT: OPR 411
 SHEET: DA-10-1-68 H-8978 (1968)
 USC&GSS DAVIDSON CSS-31
 SAN DIEGO, CALIF.

	<i>Meters</i>	<i>Meters</i>
101	32 37 1295	117 08 0559
102	32 37 1699	117 08 0671
103	32 38 0283	117 08 0862
104	32 38 1272	117 08 1322
105	32 39 0703	117 09 0278
106	32 39 1052	117 09 0480 ✓
107	32 39 1586	117 09 0990
108	32 40 0452	117 09 1458
110	32 40 1514	117 10 0998 ✓
111	32 40 1545	117 10 0867
112	32 40 1809	117 11 0035
113	32 41 0542	117 11 0851
114	32 41 0503	117 12 0197
115	32 41 0572	117 12 0682
116	32 41 0543	117 12 1048
117	32 40 1679	117 13 0563
118	32 41 0327	117 13 1431
119	32 40 0535	117 14 0206 ✓
120	32 40 0584	117 14 0633
121	32 40 0134	117 14 0299
122	32 39 1665	117 14 0794 ✓

LIST OF VISUAL SIGNAL POSITIONS

	<u>Yr</u>	<u>Lat</u>	<u>Long</u>
123	68	32°39'1798m	117°14' 878m
124	68	32°40' 80m	117°14' 968m
125	68	32°40'1238m	117°14'1193m
126	68	32°41' 16m	117°14'1380m
127	68	32°41' 962m	117°15' 222m
128	68	32°41'1008m	117°15' 134m
129	68	32°41'1447m	117°15' 230m
130	68	32°41' 126m	117°13' 519m
131	68	32°41' 223m	117°13' 293m
132	68	32°41' 82m	117°13'1434m
133	68	32°41' 183m	117°13' 632m
134	68	32°40' 532m	117°14'1013m
135	68	32°40' 993m	117°14'1159m

LIST OF SIGNALS

DA-10-1-68 H-8978 (1968)

<u>Signal No.</u>	<u>Origin of signal</u>
101	T-11882
102	"
103	"
104	"
105	Hydrographic, DA-1, Vol II, 1 Mar 1968
107	T-11882
108	"
110	Coronado Tower, 1887-1889 ⁹
111	Coronado Hotel Chimney, 1916 -
112	T-11882
113	T-11879
114	North Island NAS Officers Beach Lifeguard Stand, 1960
115	T-11879
116	North Island NAS Shoran Tower, 1960
117	T-11881
118	San Diego Bay Ballast Point Light, 1963
119	Bluff, 1899 -
120	- Pt. Loma Light House(Old), 1904 -
121	T-11881
122	- Point Loma Light(New), 1892 -
123	T-11881
124	"
125	"
126	"
127	T-11878
128	"
129	"
130	Hydrographic, DA-1, Vol II, 21 Feb 1968
131	" " " "
132	T-1181
133	Hydrographic, DA-2, Vol II, 6 Mar 1968
134	" , DA-1, Vol XIX, 15 Apr 1968
135	" " "

11/17/68

TRIANGULATION PLOTTER CARDS

H-NO. -

101

32 37 42.04 117 08 21.44

LATITUDE LONGITUDE

X

Y

H-NO.				X	Y		
08978	102	68	32375516	117082574	15033	01622	102
08978	103	68	32380919	117083307	14832	02076	103
08978	104	68	32384129	117085072	14348	03114	104
08978	105	68	32392282	117091067	13802	04457	105
08978	106	68	32393415	117091848 ⁰	13590	04824	106
08978	107	68	32395149	117093799	13054	05384	107
08978	108	68	32401467	117095596	12562	06134	108
08978	110	68	32404915 ³	117103831	11403	07249	110
08978	111	68	32405016 ⁸	117103328	11541	07282	111
08978	112	68	32405873	117110134	10773	07559	112
08978	113	68	32411759	117113267	09916	08169	113
08978	114	68	32411633	117120756	08962	08128	114
08978	115	68	32411857	117122618	08453	08200	115
08978	116	68	32411763	117124023	08069	08170	116
08978	117	68	32405451	117132161	06937	07422	117
08978	118	68	32411068 ¹	117135488 ¹	06025	07943	118
08978	119	68	32401737 ⁶	117140791 ⁰	05670	06221	119
08978	120	68	32401898 ⁴	117142488 ¹	05222	06272	120
08978	121	68	32400435	117141148	05572	05800	121
08978	122	68	32395405	117143047 ⁶	05052	05467	122
08978	123	68	32395837 ⁷	117143370	04964	05607	123
08978	124	68	32400260	117143715	04870	05743	124
08978	125	68	32404019	117144579	04634	06959	125
08978	127	68	32413123	117150852	04013	08610	127
08978	128	68	32413272	117150514	04105	08658	128
08978	130	68	32410409	117131992	06933	07732	130
08978	131	68	32410724	117131125	07220	07834	131
08978	132	68	32410266	117135504	06022	07686	132
08978	133	68	32410594	117132426	06854	07792	133
08978	134	68	32401727	117143888	04823	06218	134
08978	135	68	32403224	117144448	04670	06702	135
08978	129	68	32414697	117150883	04005	09119	129
08978	126	68	32410052	117145297	04438	07616	126

0000

12
11
10
9
8
7
6
5
4
3
2

ABSTRACT OF CORRECTIONS ✓
 TO ECHO SOUNDERS
 DA-10-1-68 H-8978 (1968)
 Lch. DA-P

<u>Corr.(ft.)</u>	<u>To depth(ft.)</u>
-1.6	1.5
-1.4	33.5
-1.2	5.5
-1.0	8.0
-0.8	19.0
-0.6	27.5
-0.4	35.5
-0.2	43.0
0.0	50.5
0.2	58.0
0.4	66.0
0.6	73.5
0.8	81.5
1.0	89.0
1.2	97.0
1.4	105.0
1.6	113.0
1.8	121.0
2.0	130.0
2.2	139.0
2.4	148.5
2.6	157.5
2.8	167.5
3.0	177.0
3.2	187.0
3.4	197.5
3.6	213.0

~~TWO (2) FEET HAS BEEN ADDED TO CORRECTORS ON THE TAPE~~

Tapes recut @ EDAT 12/69

*The above abstract is as
 applied to Vef correctors,
 105.*

ABSTRACT OF CORRECTIONS
TO ECHO SOUNDERS
DA-10-1-68 H-8970 (1968)
Lch. DA#2

<u>Corr.(ft.)</u>	<u>To depth(ft.)</u>
-0.4	2.5
-0.2	8.0
0.0	13.5
0.2	19.0
0.4	24.5
0.6	30.0
0.8	36.0
1.0	42.0
1.2	49.0
1.4	56.5
1.6	63.5
1.8	72.0
2.0	89.5
2.2	87.5
2.4	95.5

~~TWO (2) FEET HAS BEEN ADDED TO ALL CORRECTORS ON THE TAPE.~~

The above list of corrections are correct and correspond to the printouts.

JDS

ABSTRACT OF TRA CORRECTORS /
LAUNCH 1

TIME	CORRECTOR	DAY
094400	00 0000 0001	047 0 000000 000000
090030	00 1001 0001	052 0 000000 000000
102300	00 1002	
104500	00 1003	
112415	00 1004	
122000	00 0000	
133200	00 0005 0001	053 0 000000 000000
151700	00 0002	
085600	00 0000 0001	058 0 000000 000000
000000	00 0000 0001	059 0 000000 000000
000000	00 0000 0001	061 0 000000 000000
000000	00 0000 0001	064 0 000000 000000
000000	00 0000 0001	065 0 000000 000000
000000	00 0000 0001	071 0 000000 000000
000000	00 0000 0001	072 0 000000 000000
084800	00 0002 0001	073 0 000000 000000
091600	00 0000	
000000	00 0000 0001	074 0 000000 000000
103400	00 0002 0001	078 0 000000 000000
090800	00 0000 0001	079 0 000000 000000
000000	00 0000 0001	080 0 000000 000000
000000	00 0000 0001	094 0 000000 000000
000000	00 0000 0001	096 0 000000 000000

TIME	LAUNCH 1 CORRECTOR	DAY
102430	00 1006 0001 100 0	000000 000000
122515	00 0000	
092700	00 0010 0001 101 0	000000 000000
103400	00 1003	
091000	00 0000 0001 102 0	000000 000000
123030	00 1003	
083100	00 0000 0001 103 0	000000 000000
122000	00 0003	
092300	00 0000 0001 106 0	000000 000000
000000	00 0000 0001 108 0	000000 000000
000000	00 0000 0001 109 0	000000 000000
000000	00 0000 0001 110 0	000000 000000
000000	00 0000 0001 114 0	000000 000000
000000	00 0000 0001 115 0	000000 000000
000000	00 0000 0001 116 0	000000 000000
000000	00 0000 0001 117 0	000000 000000
000000	00 0000 0001 127 0	000000 000000
180000	00 0000 0001 128 0	000000 000000

ABSTRACT OF TRA CORRECTORS ✓

LAUNCH 2

TIME CORRECTOR DAY

080000 00 0000 0002 064 0 000000 000000
000000 00 0000 0002 067 0 000000 000000
000000 00 0000 0002 071 0 000000 000000
000000 00 0000 0002 072 0 000000 000000
000000 00 0000 0002 073 0 000000 000000
000000 00 0000 0002 075 0 000000 000000
000000 00 0000 0002 079 0 000000 000000
000000 00 0000 0002 080 0 000000 000000
080000 00 1010 0002 094 0 000000 000000
000000 00 1010 0002 095 0 000000 000000
000000 00 1010 0002 099 0 000000 000000
080000 00 0000 0002 101 0 000000 000000
000000 00 0000 0002 102 0 000000 000000
000000 00 0000 0002 107 0 000000 000000
000000 00 0000 0002 108 0 000000 000000
000000 00 0000 0002 114 0 000000 000000
180000 00 0000 0002 115 0 000000 000000

} Initial down 1 ft.

72.

03138

31038
DA-10-1-68

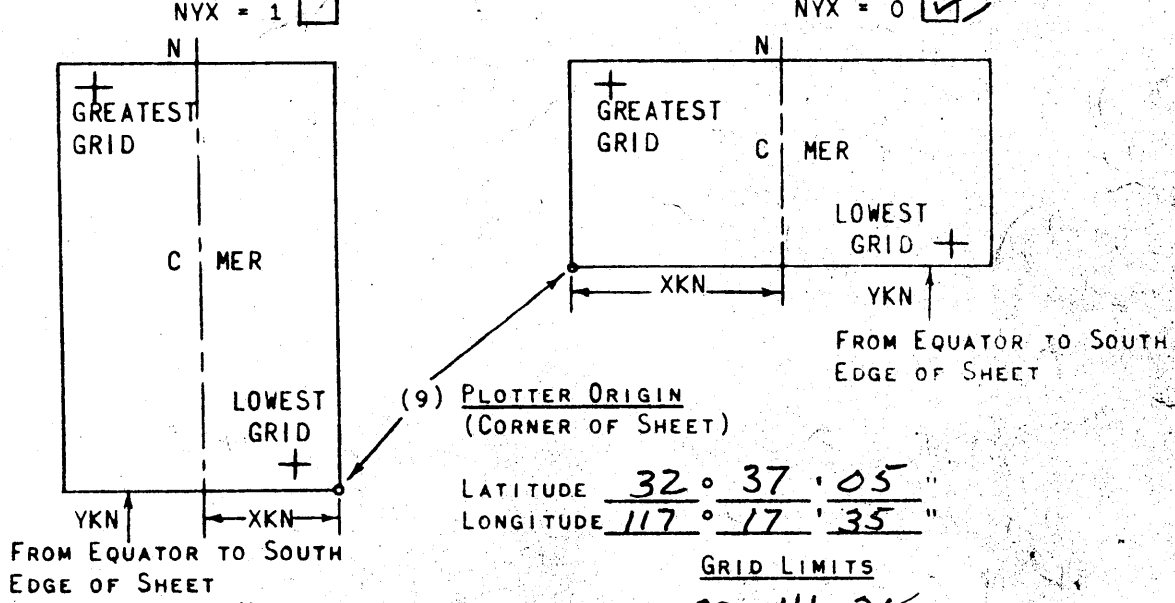
FORM # 1

FIG. 15

EOAT 03138

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) PROJECT No. OPR-411
- (2) H No. 8978
- (3) FIELD No. bv DA-10-1-68
- (4) REQUESTED BY K. William Jeffers
- (5) SHIP OR OFFICE DAVIDSON
- (6) DATE REQUIRED 1-18-68
- (7) VISUAL
- (8) ELECTRONIC (FILL OUT FORM #3)
- (10) XKN (SP 5) DISTANCE FROM CMER TO EAST EDGE (NYX = 1) OR WEST EDGE (NYX = 0). 7951.64 METERS
- (11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 3,610,200.10 METERS
- (12) CENTRAL MERIDIAN 117° 12' 30"
- (13) SURVEY SCALE 1:10,000
- (14) SIZE OF SHEET (CHECK ONE) 36x54 42x60 OTHER 36x60
- (15) NYX, ORIENTATION OF SHEET (CHECK ONE) NYX = 1 NYX = 0



(9) PLOTTER ORIGIN (CORNER OF SHEET)
 LATITUDE 32° 37' 05"
 LONGITUDE 117° 17' 35"

GRID LIMITS

- (16) GREATEST LATITUDE 32° 41' 30" (PROJECTION LINE)
- (17) LOWEST LATITUDE 32° 37' 30" INTERVAL, PAGE 4
- (18) DIFFERENCE 0° 4' 00" HYDRO MANUAL
- (19) 0.30
- (20) 8 - YSN
- (21) GREATEST LONGITUDE 117° 17' 30"
- (22) LOWEST LONGITUDE 117° 07' 30"
- (23) DIFFERENCE 0° 10' 00"
- (24) 0.30
- (25) 20 / XSN

LIST G.P. OF ALL STATIONS TO BE PLOTTED ON THIS PROJECTION ON THE BACK OF THIS FORM. (DEG., MIN., METERS)

CWJ
DV

LIST OF GEOGRAPHIC NAMES

(DA-10-1-68) H-89 78 (1968)

BALLAST PT.

NORTH ISLAND

PACIFIC OCEAN

POINT LOMA

SILVER STRAND

ZUNIGA PT

ZUNIGA SHOAL

See form 137 following.

*Lightfoot -
use this symbol*

✓ APPROVAL SHEET

OPR-411, Southern California
DA-10-1-68 H-8978 (1968)

The field work accomplished on this survey was under my immediate supervision. Inspections were made of the boat sheet and other records during the survey.

The survey is complete with the exception of those pre-survey items discussed in section J of this report.

K. William Jeffers
K. William Jeffers
LCDR, USESSA
Commanding Officer
USC&GSS DAVIDSON

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 13, 1969

~~Nautical Chart District~~ Pacific Marine Center

Plane of reference approved ~~in~~
~~volume of sounding records~~ for

HYDROGRAPHIC SHEET 8978 & 8979

Locality: San Diego, California

~~Chief of Party:~~ Year: 1968

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

San Diego, California

Height of Mean High Water above Plane of Reference is as follows:

5.0 feet

Remarks

Tide reducers for days 127 and 128 have been revised in red and verified.

J. M. Symons
Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8978

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		9	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	0					1
CAHIERS	2					
VOLUMES	36					
BOXES			1			
T-SHEET PRINTS (<i>List</i>)						
SPECIAL REPORTS (<i>List</i>)						

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				5746
POSITIONS CHECKED		5746	11	
POSITIONS REVISED		412	3	
DEPTH SOUNDINGS REVISED		1943	204	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		78	16	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		18	16	
JUNCTIONS		83	32	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		526	2024	
SPECIAL ADJUSTMENTS			64	
ALL OTHER WORK		441	141	
TOTALS		1068	277	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>F. L. Rosario</i> F.L. Rosario, Cart. Tech.	9-24-69		9-15-72	
REVIEW BY <i>R. D. Sanchez</i>	15 April 1974		20 June 1974	

Insp. Carstens 50 hrs 7/25/74

Reg. No. _____

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:

H-8978

Items for Future Pre-Survey Reviews

The survey area in the vicinity of the entrance channel to San Diego is subject to natural and artificial change. The remaining area inside the 30 foot curve is subject to severe natural changes with the exception of the area offshore of Point Loma and beyond 30 foot depths which is relatively stable.

Numerous items considered in the chart comparison which have not been adequately resolved by this survey should be investigated by future surveys in the area.

Resurvey Cycle Information

<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>
323	1171	4	2	25 Years
323	1172	5	4	25 Years
324	1172	5	4	25 Years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8978

FIELD NO. DA-10-1-68

California, San Diego, Approaches to San Diego Bay

SURVEYED: February 16 - May 8, 1968

SCALE: 1:10,000

PROJECT NO.: OPR-411

SOUNDINGS: Raytheon DE-723 Depth Recorder

CONTROL: Sextant fixes on
Shore Signals

Chief of Party K. W. Jeffers
Surveyed by D. F. Blanchard
..... K. A. Domoto
..... D. L. Graves
..... C. W. Hayes
..... D. McCall
..... B. N. Mandelkern
..... D. L. Vanniewenhoven
Automated plot by Gerber Digital Plotter (PMC)
Verified by F. L. Rosario
Reviewed by R. D. Sanocki
Date: June 28, 1974
Inspected by R. H. Carstens

1. Description of the Area

This survey covers an area along the Pacific Ocean coast of California in the approach to San Diego Bay. The survey limits extend alongshore from approximately two miles north of Point Loma to approximately six miles southeast from Point Loma along the Silver Strand. Survey depths range from zero to maximum depths of 198 feet offshore.

The bottom is generally even except in the vicinity of Point Loma. Irregularities in the natural bottom configuration, consisting of rocky pinnacles, occur offshore of Point Loma and northward. In addition, this area offshore abounds with commercially cultivated kelp. A dredged channel is maintained at the entrance to San Diego Bay.

The bottom is characterized primarily by sand, mud, pebbles, shells, and rock.

2. Control and Shoreline

The control is adequately described in the Descriptive Report.

The shoreline originates with revision surveys RS-856 (T-11878), RS-857 (T-11879), RS-858 (T-11881), and RS-859 (T-11882) all of 1966 supplemented by details from planetable survey T-6222b (1934) shown in brown.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated, except for the low water line and other depth curves near the shore where existing surf conditions made passage dangerous. Supplementary and brown depth curves were added to emphasize certain bottom features and depths.

C. The development of the bottom configuration and the investigation of least depths are considered adequate with the following exceptions:

(1) Pre-Survey Review items were not adequately disposed of. Further discussion of specific items is made in the "Comparison with Charts" of this review.

(2) Numerous indications of shoaling and pinnacles were not investigated for least depth.

(3) Limits of kelp areas were not delineated.

4. Condition of the Survey

The survey records, automated plotting, the Descriptive Report, and the verification are adequate and conform to the requirements of the Hydrographic Manual, as amended by the Instruction Manual-Automated Hydrographic Surveys except as follows:

A. One set of distortion points were plotted within the area of hydrography.

B. A table required by the Instruction Manual-Automated Hydrographic Surveys, cross referencing position numbers, day numbers, and vessel used was not filed in the Descriptive Report.

C. Descriptive Report Data Record and Time Sheet as required by the Instruction Manual-Automated Hydrographic Surveys, were not included in the Descriptive Report.

D. Questionable traces not resolved during verification were not itemized in the Verifier's Report.

E. Numerous bottom samples were shown incorrectly on the smooth sheet.

F. Field depth scanning on several important features was poorly done. The least depth, on the 21-foot shoal in lat. $32^{\circ}40.34'$, long. $117^{\circ}15.75'$ had been scanned at 33 feet. The 28 in depths of 40 feet in lat. $32^{\circ}40.17'$, long. $117^{\circ}15.72'$ had also been omitted in the field scanning. These least depths were added during review. In addition, numerous depths on pinnacles omitted during field scanning were added during verification.

5. Junctions

Junctions with H-9105 (1970) to the south and H-9106 (1970) to the north are considered in the reviews of those surveys. Adequate junctions were effected with H-8979 (1968) to the west and with H-9108 (1970) to the northwest. There is no contemporary survey at the entrance to San Diego Bay in the north central area of the present survey; however, the present survey is in harmony with the charted depths in this area.

6. Comparison with Prior Surveys

A. H-268 (1:10,000) 1851	H-2185 (1:10,000) 1893-1894
H-289 (1:380,000) 1851	H-2407 (1:10,000) 1898-1899
H-564 (1:10,000) 1856	H-2561 (1:5,000) 1902
H-566 (1:10,000) 1856	H-3918 (1:10,000) 1916-1917
H-567 (1:10,000) 1856	H-4258 (1:40,000) 1922-1923
H-1420 (1:10,000) 1878	H-4265 (1:10,000) 1922-1923
H-1889 (1:20,000) 1888-1889	H-4810 (1:20,000) 1928

These prior surveys taken together comprise the earliest coverage of the present survey area. The 25 charted in lat. $32^{\circ}39.19'$, long. $117^{\circ}14.21'$ from H-2185 has been revised in position on that survey and should be charted in its revised position 80 meters to the northwest. Several soundings were brought forward from H-564 (1856) and H-2185 (1893-1894) to supplement the present survey. Except as noted soundings from these surveys have been compared with and are superseded in the common area by the subsequent surveys listed in paragraph 6B below and do not require further consideration.

B. H-4258 (1:40,000) 1922-1923	H-5678 (1:20,000) 1934
H-5666 (1:10,000) 1934	H-5679 (1:10,000) 1934-1935
H-5677 (1:10,000) 1934	

These prior surveys taken together cover the area of the present survey. A detailed comparison between the prior and present surveys reveals a general agreement in the bottom configuration in depths greater than 30 feet. Differences of 2 to 3 feet are attributed largely to the different survey methods employed.

In depths less than 30 feet differences are attributed to littoral drift, scouring, and dredging activities in the government maintained channel to San Diego Bay. The 15-ft. shoal in lat. $32^{\circ}39.45'$, long. $117^{\circ}13.1'$ on the present survey shifted from a position on H-5666 about 200 meters to the southwest. Although little change in the high-water line has occurred in the Point Loma area, the high-water line along the Silver Strand has accreted as much as 100 meters at the southern limit of the survey to 200 meters at the northern limit with corresponding changes in inshore depths since the 1934 survey.

Several soundings from H-5666 such as the 9 in lat. $32^{\circ}39.97'$, long. $117^{\circ}14.05'$ and the 31 in lat. $32^{\circ}39.68'$, long. $117^{\circ}14.8'$ are discredited by present depths and should be disregarded.

In comparison the following items are also noted:

- (1) In the vicinity of Point Loma prior survey soundings which were not considered disproved were brought forward to the present survey to supplement the present survey depths.
- (2) A shoal area in the vicinity of lat. $32^{\circ}41.2'$, long. $117^{\circ}15.9'$ was supplemented by prior survey depths to further define its extent.
- (3) In the vicinity of lat. $32^{\circ}40.3'$, long. $117^{\circ}15.8'$ a depth 10 feet less than previously determined was found by the present survey.
- (4) A depth of 13 feet in lat. $32^{\circ}41.16'$, long. $117^{\circ}15.94'$ occurs in the vicinity of a previously reported depth of 17 feet.
- (5) Rocky bottom characteristics from prior survey H-5677 (1934) were brought forward in the vicinity of Point Loma to supplement present survey information.

With the addition of supplementary soundings from the above prior surveys the present survey is considered adequate to supersede the prior surveys in the common area.

C. F.E. 1, 1954 (1:20,000)

This field examination is a reconnaissance-type survey. The high water line of the present survey has receded from 30 to 70 meters and differences in inshore depths have resulted from this change. Elsewhere, differences of 1 to 3 feet in depths were found; however, the general character of the bottom is the same. The 20 probable obstruction plotted in lat. $32^{\circ}38.85'$, long. $117^{\circ}09.25'$ was not investigated on the present survey and is not considered disproved. It has been carried forward to supplement present depths. With this addition, the present survey is adequate to supersede the field examination within the common area.

7. Comparison with Chart 5060, 6th Ed., December 29, 1973
 Chart 5105, 19th Ed., June 19, 1973
 Chart 5107, 34th Ed., May 19, 1973
-

A. Hydrography

The charted hydrography in the area of the present survey originates with the previously discussed prior surveys supplemented by partial applications from the boat sheet and smooth sheet of the present survey. In addition U. S. Army Corps of Engineers surveys were applied in the vicinity of the government maintained dredged channel.

Attention is directed to the following:

(1) A 2-fathom 3-foot sounding (Pre-Survey Review Item #11) charted in lat. $32^{\circ}41.19'$, long. $117^{\circ}15.94'$, originates with a $17\frac{1}{2}$ foot sounding in lat. $32^{\circ}41.19'$, long. $117^{\circ}15.93'$ on H-2185 (1893-94). A lesser depth of 13 feet was obtained in lat. $32^{\circ}41.16'$, long. $117^{\circ}15.94'$ 75 meters southward on the present survey.

(2) A sunken wreck, E.D. (Pre-Survey Item #12) charted in lat. $32^{\circ}40.96'$, long. $117^{\circ}16.22'$, originates with H.O. Notice to Mariners 51 of 1964. Depths of 77 to 105 feet occur in this area of the present survey and no evidence of the wreck was found by the hydrographer. In view of the deep depths in the area, the steep slope of the bottom and the proximity to a rocky shoal, it is recommended that the wreck be deleted from the chart.

(3) The 25-foot sounding (Pre-Survey Review Item #15) charted in lat. $32^{\circ}40.95'$, long. $117^{\circ}15.50'$ originates with H-2185 (1893-1894). The sounding was misplotted on a turn and in its correct position, it is in agreement with present depths.

(4) A 20-foot sounding (Pre-Survey Review Item #16) charted in lat. $32^{\circ}39.53'$, long. $117^{\circ}14.36'$, originates with H-2185 (1893-94). The charted depth has not been disproved by the present survey and should be retained as charted.

(5) The submerged pile (Pre-Survey Review Item #20) charted in lat. $32^{\circ}40.34'$, long. $117^{\circ}13.84'$, originates as a pile on T-11881 (1960-63). The present survey has not confirmed or disproved its existence and the pile should remain as charted.

(6) The dolphin (Pre-Survey Review Item #21) charted in lat. $32^{\circ}41.05'$, long. $117^{\circ}13.92'$, originates with T-11881 (1960-63) where it is shown as a platform on piling. It is recommended the feature remain as charted.

(7) The submerged pile (Pre-Survey Review Item #21) charted in lat. $32^{\circ}40.97'$, long. $117^{\circ}13.90'$, originates with T-11881 (1960-63). The present survey has not confirmed or disproved its existence and the pile should remain as charted.

(8) The obstruction (Pre-Survey Review Item #22) charted in the vicinity of lat. $32^{\circ}38.85'$, long. $117^{\circ}09.25'$, originates with H.O. Notice to Mariners No. 11 of 1953 and F.E. 1 (1954). The area was not investigated on the present survey and the possibility of other wreckage still exists. The obstruction should remain as charted.

(9) a 15-foot sounding (dashed circle Pre-Survey Review Item) charted in lat. $32^{\circ}39.58'$, long. $117^{\circ}14.57'$, originates with H-5666 (1934). It is not considered disproved by the present survey and should be retained on the chart.

(10) A 40-foot sounding charted in lat. $32^{\circ}38.78'$, long. $117^{\circ}13.82'$ originates apparently with the boat sheet application of H-8978 (1968). The present survey discredits the 40 with depths of 53 to 55 feet in the area. It is recommended the 40-foot depth be disregarded.

(11) The charted delineation of kelp areas in the area of the present survey originates with the previously mentioned prior surveys and should be retained as charted. The kelp area limits were not determined on the present survey and apparently extend about one mile offshore from Point Loma to the northern limit of the survey.

(12) A submerged concrete pipe approximately 10 feet in diameter extending from lat. $32^{\circ}40.84'$, long. $117^{\circ}14.84'$ to offshore limits has been delineated by the present survey. A cautionary note reflecting the aforementioned should be added to the chart.

(13) A barge uncovering 6 feet at MLLW charted in lat. $32^{\circ}40.46'$, long. $117^{\circ}10.34'$, originates with T-5372 (RS-500) of 1953 (Bp-52991). Its existence has not been confirmed or disproved by the present survey and it should be retained on the chart.

The following items originate subsequent to the present survey and should be retained as charted until disproved:

(14) Obstruction with a depth of 9 feet, charted in lat. $32^{\circ}40.72'$, long. $117^{\circ}13.90'$ from Chart Letter 385 (1970).

(15) A 30-foot reported depth charted in lat. $32^{\circ}39.03'$, long. $117^{\circ}12.80'$ from Chart Letter 628 (1970).

(16) A sunken wreck, PA charted in lat. $32^{\circ}39.12'$, long. $117^{\circ}11.99'$ from Local Notice to Mariners 19 (1972).

(17) A dolphin and platforms on dolphins charted in the vicinity of lat. $32^{\circ}41.22'$, long. $117^{\circ}13.6'$, originate with a Chart Deficiency Investigation in 1971 (Chart Letter 49 of 1972).

Except as noted above, the present survey is adequate to supersede the charted information within the common area.

B. Controlling Depths

San Diego Entrance Channel - charted controlling depths originate with U. S. Army Corps of Engineers survey data prior to the date of the present survey. The present survey indicates shoaling from 2 to 11 feet along the eastern limit in the vicinity of lat. $32^{\circ}40.0'$, long. $117^{\circ}13.52'$.

C. Aids to Navigation

The aids presently charted adequately mark the features intended.

8. Compliance with Instructions

The present survey adequately complies with the Project Instructions with the following exceptions:

(1) Leadline soundings were not obtained to verify least depths where possible hazards to navigation might exist, in accordance with para. 22 of the Project Instruction dated January 4, 1968.


(2) Features transferred to the boat sheet from photogrammetric manuscripts were not verified or disproved, in accordance with para. 28 of the Project Instructions.

(3) Pre-Survey Review items were not adequately investigated to verify or disprove their existence, in accordance with para. 33 of the Project Instructions.


9. Additional Field Work

This is an adequate basic survey; however, determination of least depths in several shoal areas and investigation of Pre-Survey Review Items not resolved as noted in Section 7, paragraph A, of this review would be desirable.

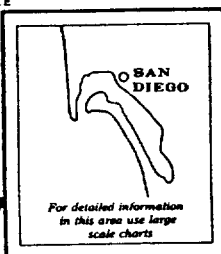
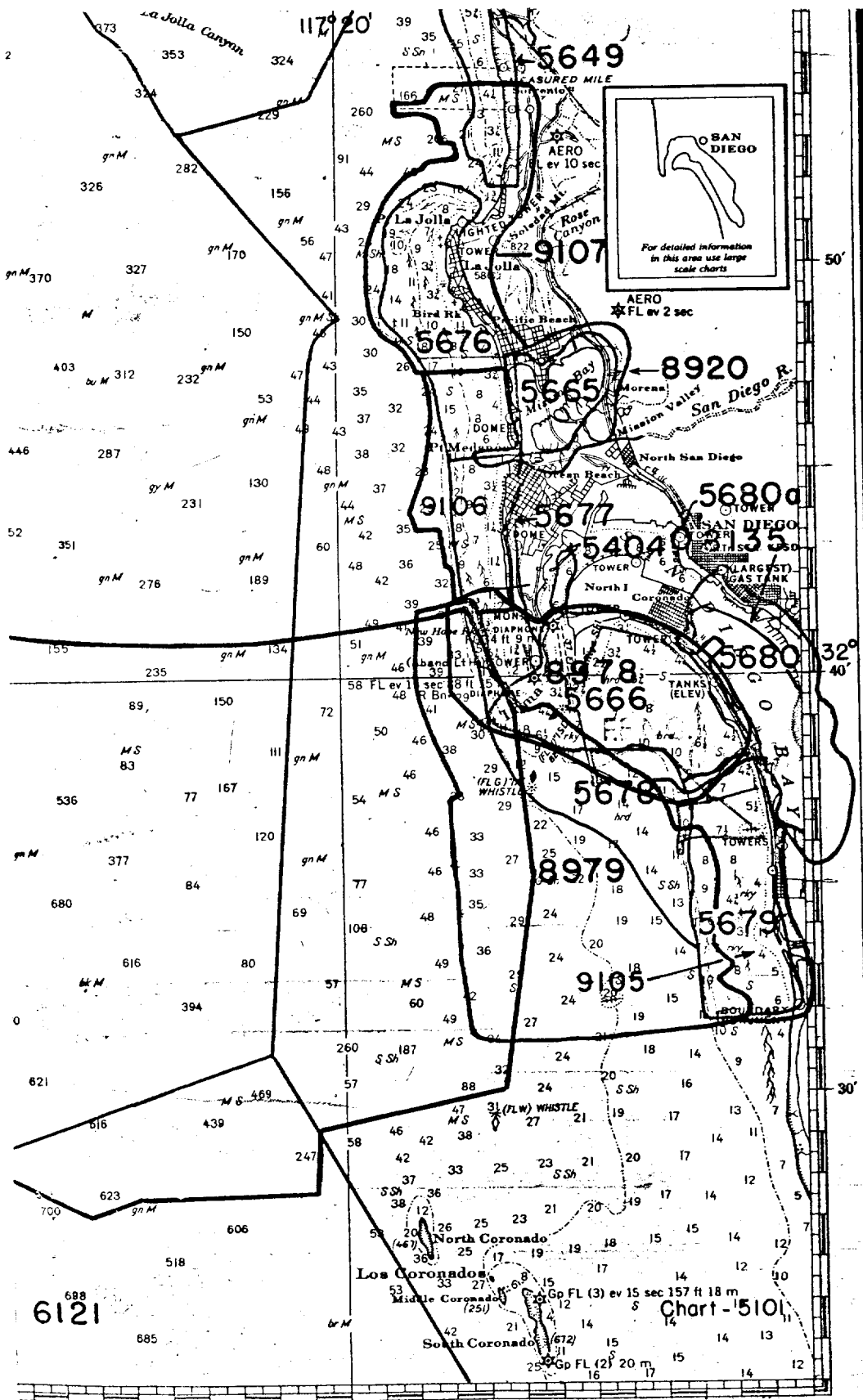
Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Marine Surveys and Maps



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Chart - 5101

