9105

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-10-1-70 *Office No.* H-9105

LOCALITY

State California

General locality San Diego

Locality Coronado Cays to Mexican Border

19 70

CHIEF OF PARTY

R. E. Moses

LIBRARY & ARCHIVES

DATE 2-1-72

USCOMM-DC 37022-P66

9105

FORM C&GS-537 (6-66)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9105 (1)

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-10-1-70

State: California

General locality: San Diego. ~~Southern California~~

Locality: ~~San Diego~~ Coronado Cays to Mexican Border

Scale: 1:10,000 Date of survey: 5 Feb - 12 Mar 1970

Instructions dated: 15 Dec 1969 Project No.: OPR-411

Vessel: DA-1, DA-2 (DAVIDSON)

Chief of party: CDR Ray E. Moses

Surveyed by: ENS Taguchi, ENS Herz, LTJG tornberg, LTJG Fisher, CST Luceno

Soundings taken by echo sounder, ~~hand lead, pole~~ Raytheon DE-723, Nos 214 & 1286

Graphic record scaled by: Ship's Personnel

Graphic record checked by: ENS Taguchi, ENS Herz, LTJG Tornberg, LTJG Fisher

Positions Verified ~~Protracted~~ by: V.F. Flor Automated plot by: PMC, ~~Seattle~~ Gerber Digital Plotter

Soundings verified ~~penciled~~ by: V.F. Flor

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

REMARKS:

Applied to chts 2-23-72
[illegible]

(2)

DESCRIPTIVE REPORT

To AccompanY

HYdrographic SurveY H-9105, DA-10-1-70

OPR-411

Southern California

Scale 1:10,000

USC&GSS DAVIDSON

RaY E. Moses

CDR, USESSA

Commanding Officer

1970

(3)

DESCRIPTIVE REPORT

DA-10-1-70

H-9105

A. PROJECT

This survey was accomplished according to Project Instructions: OPR-411, Southern California, dated 15 December 1969.

B. AREA SURVEYED

The survey covered the south end of San Diego, from the U.S. - Mexico Border to ~~Imperial Beach~~ Coronado Cays, San Diego, between the latitudes 32 32' 00"N and 32 38' 00"N, and from the shoreline out to a depth of 80 feet.

Work was accomplished between 5 February and 12 March 1970. The survey makes a junction with the following surveys: DA-10-1-68 (H-8978), and DA-20-1-68 (H-8979).

C. SOUNDING VESSEL

The following vessels were used to obtain soundings on this survey:

VESSEL	POSITION NUMBER COLOR
Launch 1	Blue
Launch 2	Red

Bottom samples were taken by both vessels.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used:

Launch 1	#214
Launch 2	#1286

Deep water velocity corrections were determined by Nansen casts of the ship DAVIDSON on DA-40-1-70. Shallow water echo sounder corrections were determined from bar checks taken daily by the launches. The fathometers were initialed at 1.0, requiring draft corrections for their soundings. These draft corrections are included along with velocity corrections in the Modified Velocity Correction tape (Tables 5 and 6). All soundings are in feet. Differences between actual and assumed initial values are compensated for with a TRA corrections (TC/TI) tape. Since both launches were used simultaneously on this sheet, a separate TC/TI tape was logged for each launch. Abstracts of initial and velocity corrections are attached. There are no phase corrections to be applied on

this sheet. See Corrections to Echo Sounders Report, OPR-411, DAVIDSON, 1970, for a complete discussion of these corrections. *This report was not available at time of Hydrographic Survey Review.*

✓ E. SMOOTH SHEET.

The smooth sheet will be constructed and plotted by the Processing Division, Pacific Marine Center, Seattle, Washington.

✓ F. CONTROL

Visual three-point fixes were used for control in the survey. There were two types of signals used: topographic and photo-hydro. Photo-hydro signals were plotted by the ship's officers. Topographic signals were cut in with a T-2 Theodolite. An abstract ofssignals and manuscripts is included in the appendix.

✓ G. SHORELINE *See Review Report.*

The shoreline was taken from manuscripts and photographs of the area. Shoreline was transferred onto the boat sheet by the ship's officers. The low water line was not determined because of high surf conditions. Waves averaged from two to six feet throughout the survey, thereby limiting the launches to the area outside the breaker zone. The shoreline was inspected by R.B. Melby and is described in his report, "Field Edit Report, Chart Topography, Mexico to Dana Point, Feb. 1970, Project PH-6702". *No items pertinent to present survey*

✓ H. CROSSLINES

The percentage of crosslines run was 6.6% (17.35 miles). There is good agreement at crossing.

✓ I. JUNCTIONS *See Review Report.*

Junctions were made with the following sheets:

DA-10-1-68	H-8978 *(1968)*
DA-20-1-68	H-8979 *(1968)*

There is good agreement at the junctions.

✓ J. COMPARISON WITH PRIOR SURVEYS *See Review Report.*

Comparison was made with the following surveys:

H-1889	(20,000 - 1889)
H-4258	(40,000 - 1922-23)
H-5679	(10,000 - 1934)

(5)

In general there is a plus or minus two feet discrepancy between the prior surveys and this survey. This can be attributed to two causes: 1. sedimentation of the area, and 2. the interpretation of fathograms. As mentioned earlier, swells averaged from two to six feet throughout the survey, thereby forming peaks and deeps on the fathograms. The average of these peaks and deeps was taken as the actual sounding. This interpretation alone could account for the discrepancies abtained. See Review Report.

Several pre-survey review items were investigated (all depths reduced with predicted tides):

(1) Item 22; 32° 38' 55"N, 117° 09' 15"W.
The obstruction was not investigated because it was located in close proximity to the wave breaker zone. No evidence of the wreck could be seen from outside this zone. —This item falls outside the survey area. Item 23; lat 32°34'18", long 117°08'11", a wreck with 16 feet rep was the intended Pre-Survey Review Item. See Review Report.

(2) Sounding of 48 feet at 32° 35' 19"N, 117° 09' 27"W. — SMOOTH
Comparable soundings (50-51 feet) were found in a development of the area (see ~~boat~~ sheet).

(3) Sounding of 2½ feet at 32° 34' 36"N, 117° 09' 03"W. See Review Report.
Soundings in this area ranged from ~~31~~ 32 to ~~36~~ 38 feet. No shoal sounding of 2½ feet was found.

(4) Sounding of 43 feet at 32° 37' 15"N, 117° 09' 16"W. — Concur. RDS
Deeper soundings (~~45-46~~ 44-47 feet) were found in a development of this area (see ~~boat~~ SMOOTH sheet).

K. COMPARISON WITH THE CHART See Review Report.

Comparison of this survey with C&GS chart # 5060, 3rd Ed., January 13, 1969, and C&GS chart # 5107, 3rd Ed., April 11, 1970, is generally good. This present survey shows greater refinement of the depth curves.

L. ADEQUACY OF SURVEY See Review Report.

This survey is complete and adequate to supersede prior surveys.

M. AIDS TO NAVIGATION

There are no aids to navigation in the area covered by this survey. There are three unlighted mooring buoys in the area covered by this survey:

Latitude	Longitude
32° 36' 44"N	117° 10' 13"W
32° 36' 50"N	117° 10' 04"W
32° 36' 54"N	117° 10' 15"W

(6)

N. STATISTICS

	Positions	Sounding Lines (NM)	Bottom Samples	Detached Positions
Launch 1	1,710	183.70	5	3
Launch 2	656	80.75	35	
	2,366			

The total area surveYed is 9.5 square nautical miles. There are 15 sounding volumes for this surveY. Volume 11 has bottom samples and soundings. DP's are included in the regular sounding volumes. The standard tide gauge at La Jolla, California will serve as the reference station. The soundings on the boat sheet were reduced using predicted tides for Point Loma, California. The time meridian used for this surveY was 120°W. No development overlaYs were made for this sheet. There are three position - sounding tapes: two for launch 1 and one for launch 2. There are two velocitY correction tables, Table 5 for launch 1 and Table 6 for launch 2, on the velocitY correction tape. There is a TC/TI tape for each launch. The tide correction tape is to be used also for DA-40-1-70, DA-10-2-70, (H-9106) and DA-10-3-70. (H-9107)

O. MISCELLANEOUS

A dual indicator format was used for logging of this surveY. Both positions and soundings are on the same tape. A sample of the format is included in the appendix. An HUL logger was used with BCD code.

P. RECOMMENDATIONS

The area directlY off the ~~Tijuana~~ Tijuana River should be marked foul with breakers since the breaker zone extends farther out than the mouth of the river. Also, the surf is generallY bigger and verY unpredictable. The boundaries of this area are: The note: "breakers" has been added to several holiday areas on the smooth sheet.

32° 33' 00"N to 32° 33' 54"N

117° 08' 00"W to 117° 08' 24"W

Q. REFERENCES TO REPORTS

Corrections to Echo Sounders Report, OPR-411, DAVIDSON, 1970 (submitted with this report).

Geographic Names Report, OPR-411, DAVIDSON, 1970 (transmittal #DA-67-70).

Field Edit Report, Chart TopographY, Mexico to Dana Point, FebruarY 1970, Project PH-6702, submitted bY R.B. MelbY.

Respectfully submitted,

Warren K. Taguchi

Warren K. Taguchi
LTJG, USESSA

LIST OF MANUSCRIPTS

T-11892

T-11893

T-11882

(9)

LIST OF STATIONS ON DA-10-1-70 H-9105

Signal Number	Origin of Signal
101	T-11893
102	"
103	"
104	T-11893 (3 pt. theodolite fix)
105	T-11893 (3 pt. theodolite fix)
106	T-11892
107	"
108	"
109	"
110	"
111	"
112	"
113	"
114	"
115	"
116	"
117	"
118	"
119	"
120	"
121	T-11882
122	"
123	"

BOAT SHEET "BW" MEXICO TO SILVER STRAND STATION DESCRIPTIONS

STATION #	DESCRIPTION
101	NW corner of building near the US-MEX border corner covered with red cloth.
102	SW gable of building (a small metal house)
103	Northern ~~most~~ of two black poles - red wrap
104	Red cloth signal
105	Red wrap on lone pole
106	SW corner of southern most building
107	Red brick chimney on N side of house
	OPEN LOT BETWEEN THESE SIGNALS
108	Red brick chimney on ocean side of house
109	Higher of two gables on front of house
110	SW corner of pier
111	NW corner of pier
112	NW corner of Surfside 6 Motel
113	SW CORNER of 3 story apartment house (this is the last tall building before the Navy radio station)
114	Square cooler on top of block building
115	Red and white stripe pole on top of bunker
116	NW corner of concrete slab - red cloth signal
117	Corner of highway-offset-at pavement change
118	Signal on fence - RED CLOTH SIGNAL
119	Signal on fence - RED CLOTH SIGNAL
120	NW corner of southern most bath house in park
121	Center of life guard tower
122	NW corner of northern most bath house in park
123	Lone black pole with red cloth wrap

ABSTRACT OF POSITIONS (Volume no. in parentheses)

Day	Launch 1	Launch 2	DP's	Bottom Samples
36		001-096 (1)		
37		097-146 (1)		
40		147-207 (2)		
42	3001-3086 (3)			
43	3087-3173 (3)			
44	3174-3366 (4)			
47	3367-3458 (5)			
48	3459-3621 (5, 6)			
49	3622-3845 (6)			
50	3846-4023 (7)			
51	4024-4081 (8)			
55		209-370 (9)		
56		371-598 (10)		
57		599-604 (11)		
58	4082-4186 (12)			
62	4187-4199 (13)			
63	4200-4354 (13)			
68	4360-4483 (14)	611-656 (11)		*8001-8035 (11)
70	4484-4633 (11, 14, 15)		**4631-4633 (15)	**8036-8040 (11)
71	4633-4710 (15)			

* Launch 2
** Launch 1

GEOGRAPHIC NAMES ON SMOOTH SHEET - See Form 197 (Geographic Names)

EMPERIAL BEACH

PACIFIC OCEAN

PENINSULA OF SAN DIEGO

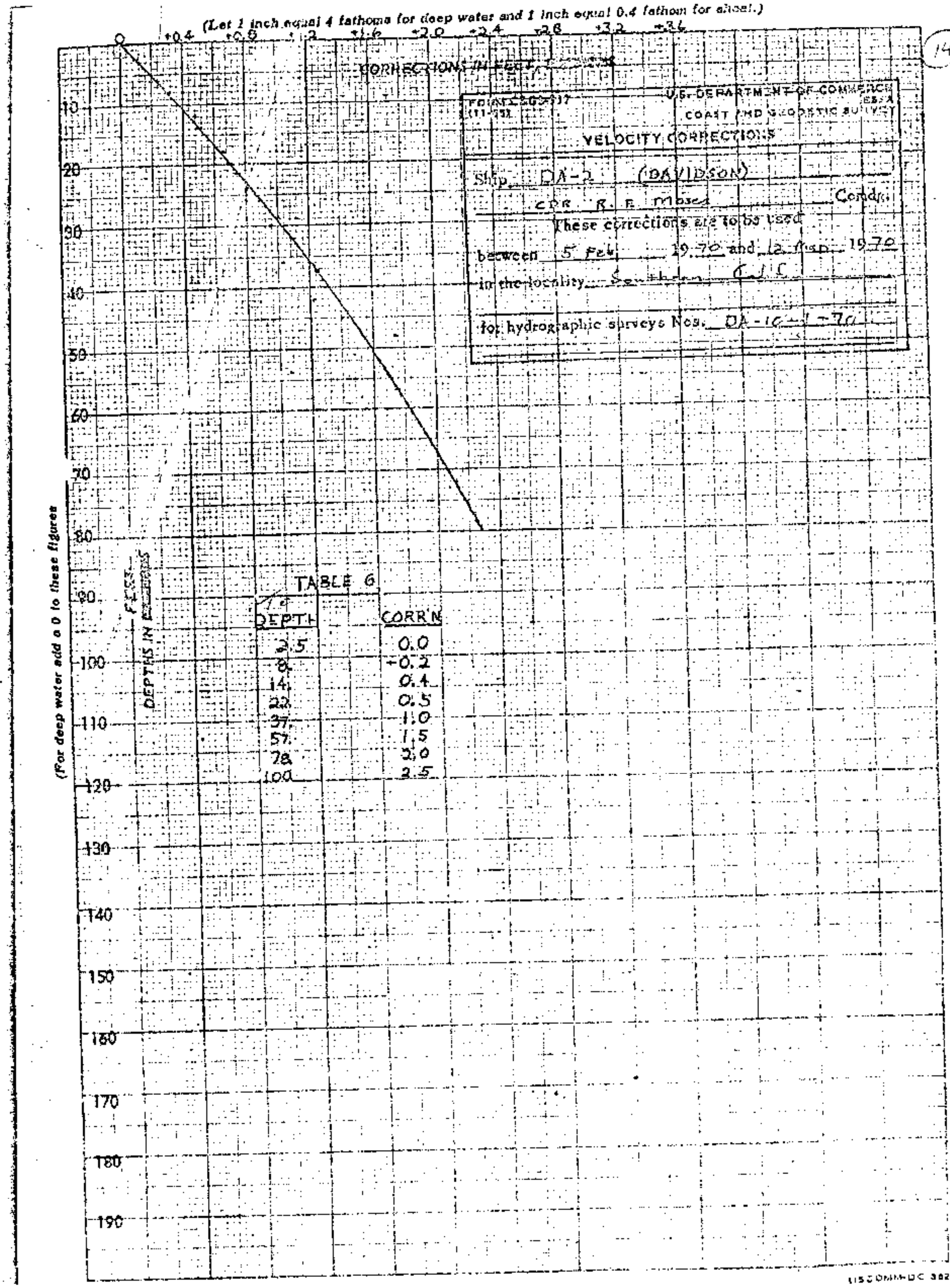
SAN DIEGO BAY

SILVER STRAND STATE PARK

TIDE NOTE (FIELD)
OPR-411
H-9105
DA-10-1-70

Standard Station	Scripps' Pier, La Jolla, Calif.
Latitude	32° 52.0' N
Longitude	117° 15.4 ' W
Datum	4.1 ft. below MLLW
Time Mer.	120° W
Time Corr'n	0
Range Ratio	1.0

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



FORM 603 (11-55)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship DA-2 (DAVIDSON)

CDR R. E. Moses Comdg.

These corrections are to be used

between 5 Feb 19 70 and 12 Mar 19 70

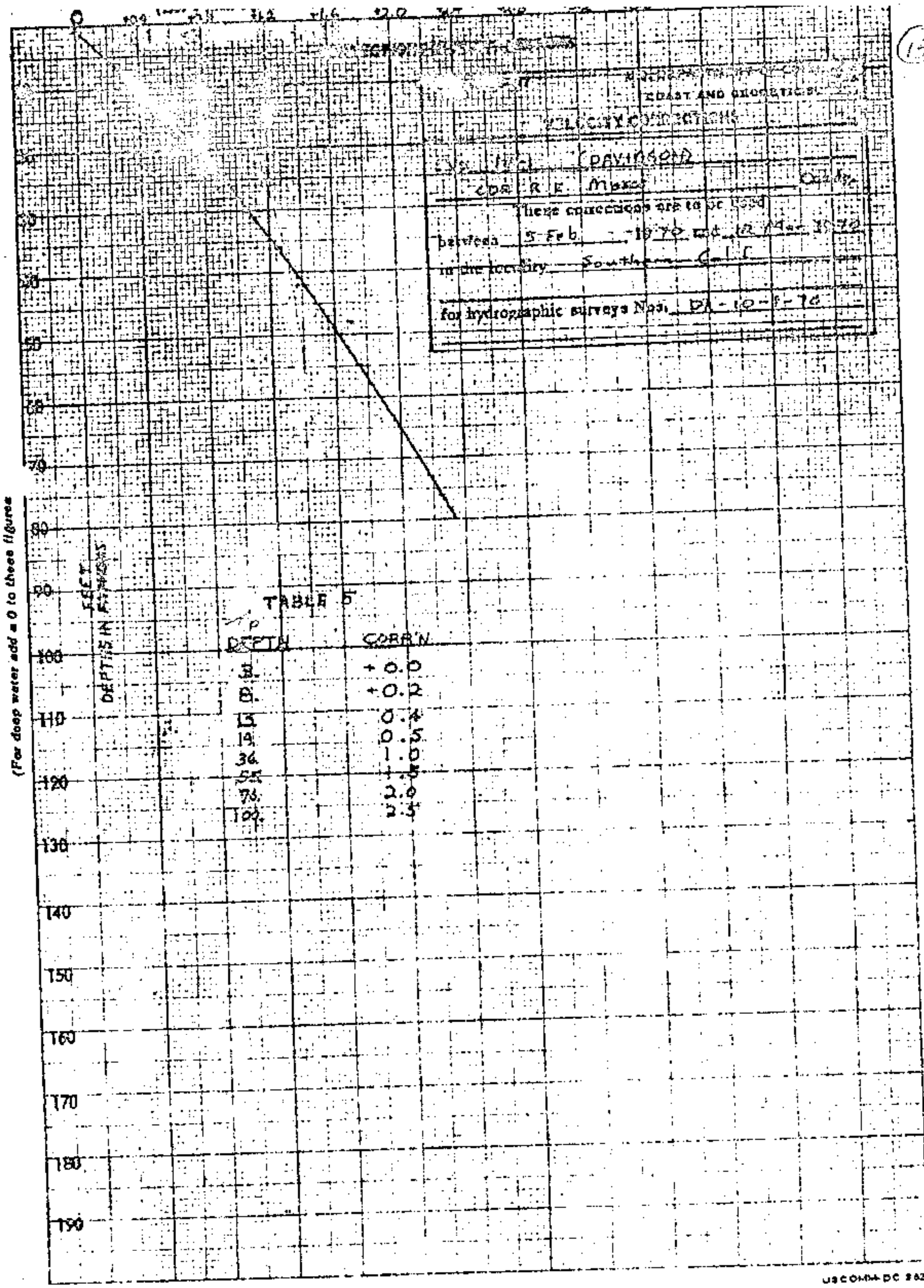
in the locality Southern Cal C

for hydrographic surveys Nos. DA-10-1-70

TABLE 6

DEPTH	CORR'N
2.5	0.0
8	+0.2
14	0.4
22	0.5
37	1.0
57	1.5
78	2.0
100	2.5

(15)



COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

USC&GS DAVIDSON

CDR R. E. Moses, Comdg.

These corrections are to be used

between 5 Feb. 1970 and 12 Mar. 1970

in the locality Southern Calif.

for hydrographic surveys Nos. DA-10-5-70

TABLE 5

DEPTH	CORR'N
3.	+0.0
8.	+0.2
13	0.4
19	0.5
36	1.0
55	1.5
76.	2.0
109.	2.5

USCOMM-DC 36203-P

(16)

"INITIAL" CORRECTIONS DA-1 DA-10-1-70 H-9105

DAY	TIME	CORRECTION
042	100000	0.0 ft.
043	100000	0.0
044	100000	0.0
047	103400	-0.1
	112200	0.0
	132900	-0.2
	145400	0.0
048	091800	0.0
	105400	-0.1
	123200	-0.3
	125500	-0.4
	144400	+0.2
	153500	0.0
049	085800	-0.3
	090100	-0.2
	093500	-0.1
	103500	0.0
	131300	-0.1
	132300	0.0
	141200	-0.1
050	093000	0.0
051	093000	0.0
058	091100	0.0
	110100	-0.2
	114700	0.0
	115700	-0.2
	134830	0.0
062	083400	0.0
063	083700	0.0
	120200	-0.1
	131200	0.0
	150300	-0.2
	160500	-0.2

"Initial" Corrections, DA-1
DA-10-1-70

(17)

DAY	TIME	CORRECTION
068	084000	0.0 ft.
	145200	-0.3
	145400	-0.1
	151100	0.0
070	093700	0.0
071	091100	0.0

(18)

"INITIAL" CORRECTIONS DA-2 DA-10-1-70 H-9105

DAY	TIME	CORRECTION
036	100000	0.0 ft.
037	113000	0.0
040	110000	+0.1
	124500	-0.2
	124700	0.0
055	091600	0.0
	092100	-0.2
	101700	0.0
	105200	-0.2
	110400	-0.2
	113500	0.0
	131500	-0.2
	140700	0.0
056	090500	0.0
	095100	-0.1
	105500	0.0
	125400	-0.2
	140500	0.0
	154900	-0.2
	161900	-0.2
057	090300	0.0
068	080000	+1.0
	163200	+1.0

[redacted] INDICATOR

POSITION-SOUNDING TAPE

Time	Ind	Sndg	Pos Num	Day	Ft/Fm	LA	RA	LO	CO	RO
111230	01	0015	1878	101	1	040150	012580	0201	204	206
111245	01	0020								
111300	01	0016								
111315	01	0011								
111330	01	0010	1879	101	1	045400	014140	0201	204	206

Time	Hour, min., sec.
Ind	Indicator: 00 Soundings in whole units 01 Soundings in units and tenths
Sndg	Depth in feet or fathoms
Pos Num	Position number
Day	Julian day number
Ft/Fm	Indicator: 0 Feet 1 Fathoms
LA	Left angle
RA	Right angle
LO	Left object
CO	Center object
RO	Right object

72. 03158

EDAT 31058

EDAT # 03159

FORM # 1 FIG. 15

(20)

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

(1) PROJECT NO. OPR-411
(4) REQUESTED BY K. Williams Jeffers
(2) H NO. 9105
(5) SHIP OR OFFICE DAVIDSON
(3) FIELD NO. 64 DA-10-1-70
(6) DATE REQUIRED 1-19-68
(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). 4958.93 METERS

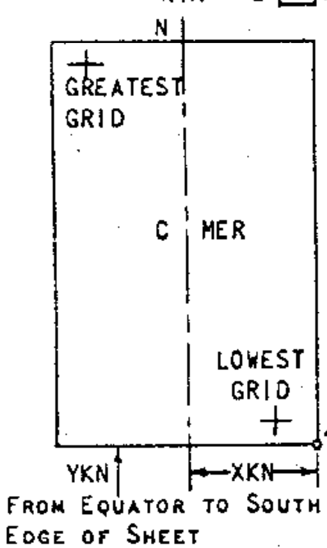
(11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 3,599,110.77 METERS

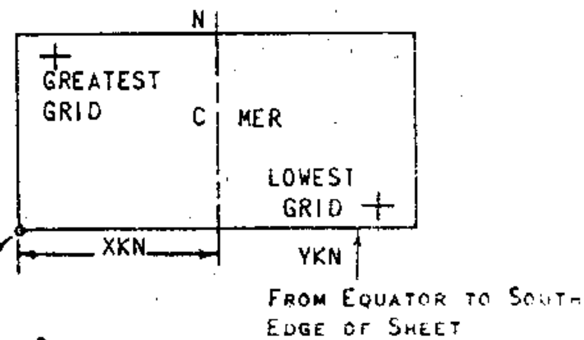
(12) CENTRAL MERIDIAN 117° 09' 30"

(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° 31' 05"
LONGITUDE 117° 06' 20"

GRID LIMITS

(16) GREATEST LATITUDE 32° 39' 00" (PROJECTION LINE INTERVAL, PAGE 4 HYDRO MANUAL)
(17) LOWEST LATITUDE 32° 31' 30"
(18) DIFFERENCE ° 7' 30"
(19) 0' 30"
(20) 15 YSN

(21) GREATEST LONGITUDE 117° 12' 00"
(22) LOWEST LONGITUDE 117° 06' 30"
(23) DIFFERENCE ° 5' 30"
(24) 0' 30"
(25) 11 XSN

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

32° 32' 00 7828.7
(5') MEAS. 7833.8

32° 37' 00 7821.4
(5') MEAS. 7825.2

*32° 32' TO 32° 37' 9241.1
MEAS. 9238.5

DIA. OK.

GFT

DV

APPROVAL SHEET

OPR-411
H-9105
DA-10-1-70

SAN DIEGO

Southern California

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

for
Ray E. Moses
CDR USESSA
Commanding Officer
USC&GSS DAVIDSON

U.S. DEPARTMENT OF COMMERCE
Environmental Science Services Administration
COAST AND GEODETIC SURVEY
Rockville, Md. 20852

Date: June 24, 1970

Reply to Attn of: C331W-172-CSS

Subject: Tidal Data, California Coast

To: Commanding Officer
USC&GSS DAVIDSON

In reference to your memorandum of May 21, 1970, there are enclosed hourly heights for La Jolla, California. La Jolla has been substituted due to the poor tide record at San Diego. Datum is 4.1 feet below mean lower low water.

Listed below are the Hydrographic Sheets and the corrections to apply to the La Jolla hourly heights.

Sheet No.	Time Correction	Range Ratio
9108	0	1.0
9107	0	1.0
9106 (outside)	0	1.0
" (inside)	+0 10	1.1
9105 (outside)	0	1.0
" (inside)	0	1.1

L C Wharton

L. C. Wharton
Tides & Currents Branch
Oceanography Division

Enclosures

USC&GSS DAVIDSON RECEIVED
CFS 231.13
JUN 27 1970
By Name.....
Location..... Via.....

FWD

FORM C&GS-712
(8-9-64)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

December 29, 1970

~~Nautical Chart Division~~: Pacific Marine Center

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

HYDROGRAPHIC SHEET H9105 and H9106

Locality: Southern California

~~Chief of Party~~: Year: 1970

Plane of reference is mean lower low water

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

La Jolla, California

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

4.5 feet

Remarks

For L. C. Whaston

Chief, Tides and Currents Branch

USCOMM-DC 6680-P64

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-9105

Name on Survey	A On Chart No.	B On previous survey No.	C On U.S. quadrangle U.S.G.S. Maps	D From local information	E On local Maps	F P.O. Guide or Map	G Rand McNally Atlas	H U.S. Light List	K	
✓BAJA CALIFORNIA										1
✓CALIFORNIA										2
✓IMPERIAL BEACH										3
✓MEXICO										4
✓PACIFIC OCEAN										5
✓PENINSULA OF SAN DIEGO										6
✓SILVER STRAND STATE PARK										7
✓SOUTH SAN DIEGO BAY										8
✓UNITED STATES										9
~~TIA JUANA RIVER~~										10
TIJUANA RIVER			✓							11
CORONADO CAYS										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
APPROVED BY						PREPARED BY				22
A. J. Wright						Chas. E. Harrington				23
CHIEF GEOGRAPHER						CARTOGRAPHER				
						2-28-1974 C-3-74				
										26
										27

FORM C&GS-946
(REV. 11-65)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-15)

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

(25)

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9105

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS 1 - PNO TRACING PAPER; 1 - MYLAR PNO; 1 - EXCESS A & B; 1 - PRELIM. SO.	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1		Tide Printouts for H-9105 & H-9106			
VOLUMES	15					
BOXES			1			

T-SHEET PRINTS (List) T-11882; T-11892; T-11893

SPECIAL REPORTS (List)
1- Cahier of Tide Correctors (9105 & 9106 Combined)

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		2312	16	
POSITIONS REVISED		54	3	
DEPTH SOUNDINGS REVISED		217	82	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	12	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		21	24	
JUNCTIONS		23	16	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		197	24	
SPECIAL ADJUSTMENTS		—	-	
ALL OTHER WORK		110	62	
TOTALS		351	126	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY Vincent F. Flor	Dec. 16, 1970	Oct. 22, 1971
REVIEW BY R. D. Sanocki	28 Jan 74	28 Feb 74

G.K. Myers Carstens — 34 hrs 16 hr 6/25/74 7/5/74 Insp. [illegible]

USCOMM-DC 36271-P65

(26)

Reg. No. H-9105

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 9-28-82 TIME REQ'D _____ INITIALS JHC

REMARKS:

H-9105

Items for Future Pre-Surveys Reviews

The bottom in the survey area is relatively stable except for some changes within the 30 foot depth curve and accretion in the shoreline north of Imperial Beach.

Resurvey Cycle Information

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
323	1171	4	2	25 Years
323	1172	2	4	50 Years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9105 FIELD NO. DA-10-1-70

California, San Diego, Coronado Cays to Mexican Border

SURVEYED: February 5 - March 12, 1970

SCALE: 1:10,000 PROJECT NO.: OPR-411

SOUNDINGS: Raytheon DE-723 Depth Recorder and Handlead CONTROL: Sextant Fixes on Shore Signals

Chief of Party ..... R. E. Moses
Surveyed by ..... G. H. Endrud
..... B. W. Fisher
..... H. W. Herz
..... W. K. Taguchi
..... G. F. Tornberg
Automated Plot by ..... PMC-Gerber Digital Plotter
Verified and inked by ..... V. F. Flor
Reviewed by ..... R. D. Sanocki
Date: Feb. 28, 1974
Inspected by ..... R. H. Carstens

1. Description of the Area

This survey covers a sloping bottom area of the Pacific Ocean along the coast about 2 miles south of the San Diego Bay entrance. Here, survey limits extend from Coronado Cays southward to the United States-Mexican border. The survey extends seaward to approximately the 60-foot depth curve and in the northwestern portion to depths of about 80 feet.

The bottom generally varies from a relatively steep slope inshore to a more gradual slope offshore. At the mouth of the Tijuana River a shoal extends into deeper depths.

The bottom characteristics consist primarily of sand. However, some rocky bottom characteristics are found in the deeper water off the Tijuana River entrance.

2. Control and Shoreline

The control is adequately described in the Descriptive Report.

The shoreline originates with revision surveys RS-859 (T-11882), RS-860 (T-11892), and RS-861 (T-11893) all of 1966. Field edit corrections were applied during this review from the boat sheet. The approximate low water line was also transferred from the aforementioned manuscripts.

3. Hydrography

A. Depths at crossings are in adequate agreement.

B. The usual depth curves are adequately delineated, except for sections of the low water line, six foot, and twelve-foot depth curves in areas where existing surf conditions made passage dangerous.

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

(1) Pre-Survey Review item 23, a wreck with 16 feet of water reported in lat. 32°36'18", long. 117°08'11" in N to M 30 (1947) was not investigated. The wreck was plotted by the reviewer in lat. 32°36.23', long. 117°08.18' as covered by 11 feet from traces on the fathograms.

(2) A sounding of 4 fms. 5 feet charted in lat. 32°34'36", long. 117°09'03" from H-5679 (1934-35) was not sufficiently developed for least depth to be verified or disproved.

4. Condition of the Survey

The survey records, automatic 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:

(1) Random differences of one to three feet were detected along adjacent sounding lines. The differences were caused by rough seas and were resolved by rescanning of fathograms.

(3) Faulty operation of the plotting head of the Gerber Plotter caused some soundings to be noticeably rotated counter clockwise.

(3) One set of distortion points was not plotted on the smooth sheet.

(4) Several erroneous depths were machine plotted although the records were found to be correct. The necessary corrections were made by the reviewer.

5. Junctions

A satisfactory junction was made with H-8978 (1968) to the north. A satisfactory junction to the west with H-8979 (1968) could not be made. Soundings of H-8979 were considered to be at fault because of a lack of vertical cast comparisons to determine the instrumental correction. Differences of about two feet were apparent within the junctional area of the present survey. It was determined the conflict could best be resolved by superseding H-8979 in the area common with H-9105 (1970) on which bar checks were used to determine correctors.

The southern limit of the present survey is along the westerly extension of the U.S.-Mexico border, where contemporary surveys were not available. Present survey depths are in harmony with those charted in that area.

6. Comparison with Prior Surveys

A. H-566 (1:10,000) 1856
H-1889 (1:20,000) 1888-1889
H-4258 (1:40,000) 1922-1923

The above surveys comprise the earliest prior coverage of the present survey area. These surveys have been compared with and superseded by H-5678 (1934) and H-5679 (1934-35) in the common area of the present survey and therefore, are not considered further in this review.

B. H-5678 (1:20,000) 1934
H-5679 (1:10,000) 1934-1935

These prior surveys taken together cover the area of the present survey. The handlead soundings on the prior surveys are frequently erratic because of the heavy seas at the time of sounding and adjacent lines often differ by 2 to 3 feet. Present depths were also obtained during heavy seas and do not always reflect accurate values. In depths greater than about 36 feet differences are relatively minor.

North of Imperial Beach, a gradual accretion in the high water line with accompanying shoaling in inshore depths has occurred, reaching a maximum of 120 meters at the northern limits of the survey. South of the Tijuana River entrance scouring has occurred inshore and present depths here are 2 to 4 feet deeper than prior depths.

A 26-foot depth on H-5679 in lat. 32°33.53', long. 117°08.96' falls in present depths of 32 to 34 feet. Present depths together with the close development on the prior survey discredit the 26. The sounding is probably in error by one fathom and should be disregarded.

Several soundings and bottom characteristics off the Tijuana River entrance have been retained to supplement the present hydrography. With these additions the present survey is adequate to supersede the prior surveys in the common area.

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

This field examination is a reconnaissance-type survey. The scarcity of sounding lines in the common area of the present survey precludes a detailed comparison between prior and present depths. However, the general character of the bottom has remained the same. Inshore depths have been retained to supplement present survey information. With these additions, the present survey is adequate to supersede the field examination within the common area.

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

A. Hydrography

The charted hydrography in the area covered by the present survey originates with the previously discussed prior surveys, supplemented by applications from the boat sheets of the present survey (HP-78487) and the junctional surveys (HP-74357 and HP-74358).

The sunken wreck previously discussed in section 3 of this review should be charted as a sunken wreck covered by 11 feet of water in lat. 32°36.23', long. 117°08.18'.

The pile charted in lat. 32°33.5', long. 117°07.85' from T-11893 (1960-63) is indicated for deletion on the boat sheet of the present survey.

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

B. Aids to Navigation

There are no aids to navigation in the survey area. However, there are three mooring buoys in the vicinity of lat. 32°36.8', long. 117°10.2', whose positions were found to be charted somewhat westerly of positions located by the present survey.

8. Compliance with Instructions

The present survey adequately complies with the project instructions.

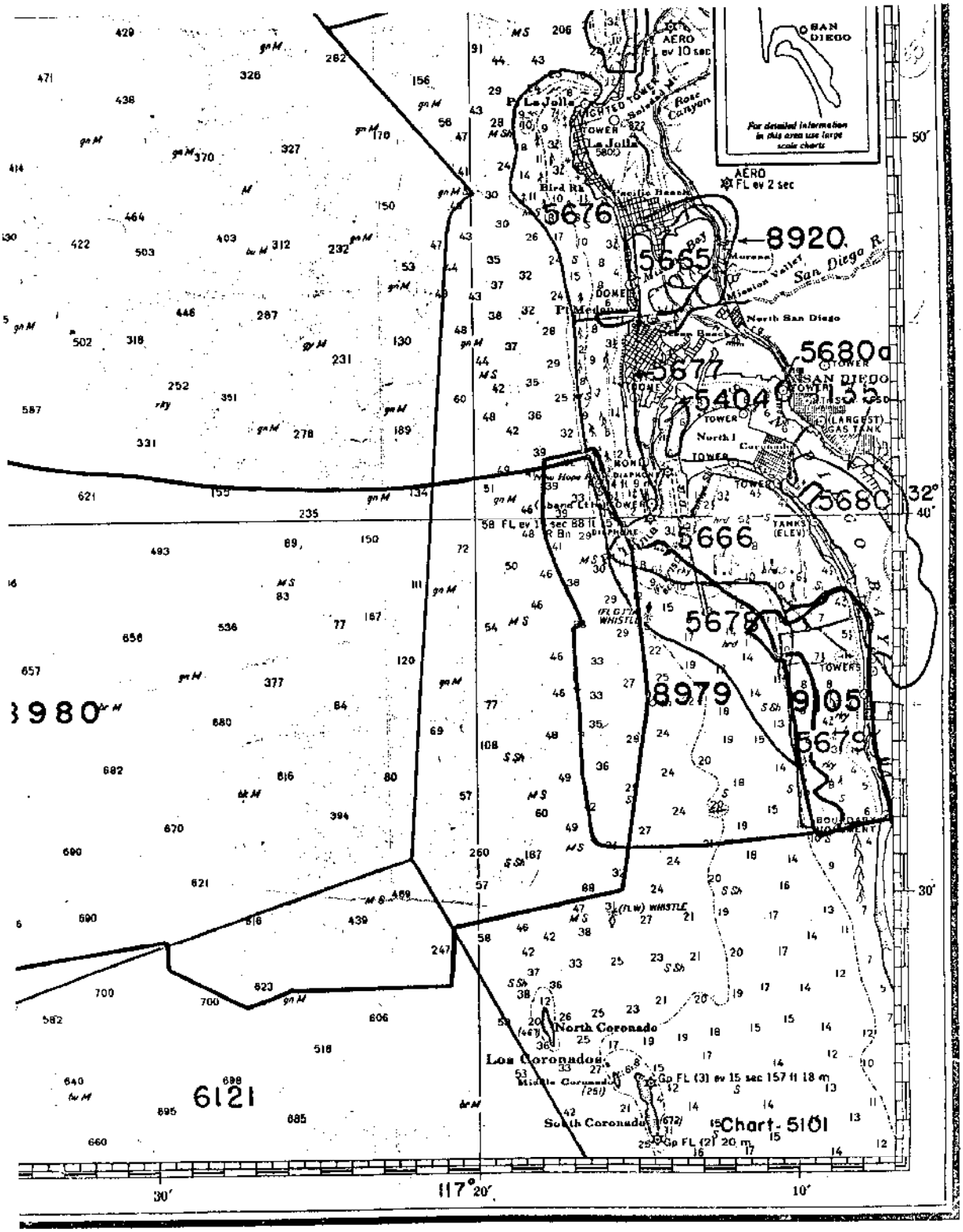
9. Additional Field Work

The present survey is considered a very good basic survey. The sunken wreck covered by 11 feet of water at lat. 32°36.23', long. 117°08.18' on the present survey should be considered for future examination.

Examined and Approved:

John A. Boyer
Chief
Marine Chart Division

Robert C. Munson
Associate Director
Office of Marine Surveys and Maps



(San Diego to Santa Rosa Island) U.S.C.&G.S. 5101

(3-25-63) NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9105 (34)

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
5107	3-8-72	J.S Stuart	[redacted] Part [redacted] After Verification Review Inspection Signed Via
18772			Drawing No.
5101	5-5-72	J.S. Stuart	[redacted] Part [redacted] After Verification Review Inspection Signed Via
18740			Drawing No.
5020	6/3/72	H.P. Dunley	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
18022			Drawing No.
5107	11-21-74	R.C. Spence	Full ~~Part Before~~ After Verification Review Inspection Signed Via
18772			Drawing No.
5060	11-25-74	RC Spence	Full ~~Part Before~~ After Verification Review Inspection Signed Via
18765			Drawing No. 8 Part thru 5107 - (Revised Hydro IN FULL),
5107	1975	James Green Jr	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via
18772			Drawing No. Reconstruction
5020	5-30-79	Hamilton	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(18022)		RA	Drawing No. 40 Thr 18740
5101	07-22-75	D.C. PEARSON	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(18740)			Drawing No. Thr. 18765 Cont'd. (5060)
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975. USCOMM-DC 8558-P63